




INDIA'S ECONOMIC "REVOLUTION": A PERSPECTIVE FROM SIX DECADES OF ECONOMIC DEVELOPMENT IN PALANPUR, A NORTH INDIAN VILLAGE



Report to Department for International
Development

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A person is standing in a field at sunset. The sun is low on the horizon, creating a warm glow. There are trees in the background and a person standing in the distance.

Introduction

The data collected for Palanpur since 1957/8 provide a unique opportunity to understand development in India through the experience of one village. There is one economic/social survey for each decade since independence covering a 100% sample of households. There is strong continuity in the research investigators. And three of the surveys involved long residency in the village (more than eight months in each of 1974/5, 1983/4, and 2008/10). Thus there is strong acquaintance not only with the household data, but with the households themselves, together with the economic, social, and political institutions of the village.

The latest data collection covers two agricultural years – it was extended beyond the one year originally planned in large part because the kharif season of 2009 was so poor that the year 2008/9 would have been strikingly unusual. The extension allowed us not only two years of data but still deeper knowledge of village affairs and still greater data quality. Whilst this delayed the completion of data collection and the start of the analysis, it has provided for the highest quality and detail of all the surveys.

The story of Palanpur over six decades had already provided interesting ideas and hypotheses for more aggregate studies for India as a whole, ideas which are already bearing fruit. An important example is the indication of the advancement of the poorest caste in the village – the Jatabs – which is consistent with and has suggested a reason for, the growth in incomes of the poorest two deciles in the NSS surveys (see our report on the growth and inclusion project).

These data represent a gold mine of opportunities for research which is probably unique in the development literature and we are very grateful to DfID for supporting the data collection and analysis. The analysis itself is still in the early stages, although is already producing striking and important results. This is the story of a village integrating into the UP and India economy over the last three decades with strong effects on incomes, assets, distribution, markets and institutions.

The report on work so far is presented as nine analytical papers: the first six papers are broadly economic and the next six papers are broadly social, although there are, as one would expect, powerful overlays and links between the two. There are also six papers by interns associated with the project – these have already been submitted to DfID (Appendix 1). These can also be found at this weblink <http://www.csh-delhi.com/programs.php?selectedcategory=5&idprog=257>. The first paper (Paper 1) sets change in Palanpur in the context of change in India and serves also as an overview of our work so far. It has an appendix describing the data. Each of the papers indicates some of the potential for further work.

We do not provide a detailed summary of the nine papers as the first of them, by Himanshu and Stern, serves that purpose. Very briefly, Paper 2 examines the change in the composition of income, in particular the rapid rise in off-farm income as Palanpur integrates into India and India starts to grow more rapidly, and the implications for diversification and poverty decline. Paper 3 examines poverty, inequality and mobility in Palanpur in some detail using a number of different metrics for the economic aspects of well-being. The fourth paper analyses the way in which households and individuals have found opportunities outside the village and how experience over time has led to further opportunities. Papers 5 and 6

cover rural India as a whole. Autonomy of women shows some advance too, but difficulties and obstacles to independent participation in the economy and society remain strong. And violence against women continues.

All the papers make use of the rich data concerning changes over time in household and individual circumstances, characteristics and opportunities and they all draw on the detailed knowledge by the investigators of village society and institutions.

The programme was led from LSE by Nicholas Stern and from India by Himanshu. Ruth Kattumuri has played a major role from LSE and Himanshu has had a strong team in India. Peter Lanjouw of the World Bank, who did a thesis on Palanpur at LSE in the late 1980s, has also been a key member of the research programme. A list of the staff involved is provided as Appendix 2. It has been a genuine India-Europe collaboration with many of the interns coming from France (particularly from the Ecole Polytechnique, and the base in Delhi being the Centre des Sciences Humaines (CSH) to whom we are very grateful. Collaborators in India are from Jawarhalal Nehru University (JNU), the Indian Statistical Institute (ISI), the Institute for Economic Growth in Delhi (IEG) and the National Council for Applied Economic Research (NCAER). We have tried to reach out to and to work with leading Indian institutions.

Dissemination is already under way with seminars have been held in New Delhi and at LSE. The Seminars in Delhi have been organised in partnership with Institute for Human Development, ISI and CSH. A list of workshops is supplied as Appendix 3.

Whilst many research papers have already been produced the wealth of the data and the extension of the period of data collection imply that we are still in the early stages of data analysis and writing. Many further articles will be necessary together with at least two books. The quality and quantity of the data, the readiness of the researchers who now know the data and village well, and the significance of the results already emerging require another two years of work to do justice to the extraordinary potential of this unique set of data.

Many of the research opportunities are identified in the attached papers. There will be a collection of papers arising from the programme (this may require two volumes). There should also be a book which stands back and examines how these data and the work on them illuminate development economics and India's development as a whole over the last six decades. Such a time-series of cross-sections and the close knowledge of one place provides a unique potential for special insights into the process and understanding of economics and social development.

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India and an Indian village:

50 years of economic development in Palanpur

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This work is based on a programme of work in Palanpur from 1974, based primarily at the LSE, and uses two previous studies from the Agricultural Economics Research Centre of the University in Delhi from 1957/8 and 1962/3. There are now six surveys of the village, one for every decade since Independence. The most recent covers 2008/9 and 2009/10 and is the most detailed and comprehensive: its collection was led by Himanshu of Jawaharlal Nehru University (JNU). The analysis of the new data is under way and will be carried out largely in Delhi and the LSE. We are very grateful to Jean Drèze, Ruth Kattumuri, Peter Lanjouw, and Naresh Sharma and all the Delhi team for guidance, advice and support. This paper is based in part on a “Distinguished Lecture” by Nicholas Stern at the University of Hyderabad on 25 October 2010. The work is supported by a grant from DFID to whom we are very grateful.

SECTION I : INDIA, PALANPUR AND A UNIQUE DATA SET

The last two decades have seen profound transformation in the economy and society of India including the increasing integration of India in to the world economy. The same is true of Palanpur, a small village in Moradabad district, and its process of integration into the Indian economy and society. Understanding each process can illuminate the other: a village of a little over 1000 people can help understand the economy of a country one million times as large and the changing nature of the country is fundamental to understanding the changes in the village.

Palanpur is not particularly unusual amongst India's half a million or so villages in its social and economic structure, although it cannot be seen as "representative" in a country of so many villages. But it is "uniquely endowed" with data and studies. It was first studied by the Agricultural Economics Research Centre (AERC) of the University of Delhi in 1957/8 and then again by the AERC in 1963/4 (there was then particular interest in some co-operative initiatives). Christopher Bliss and Nicholas Stern returned there in 1974/5 because, *inter alia*, they sought base-line data for examining some of the context, processes and impacts of the "green revolution" which was focused on wheat in North India, and for examining some theories of land tenancy and the formation of wages. Stern returned in 1983/4 for a more intensive study in which Jean Drèze and Naresh Sharma played leading roles; this had more detailed information on income; Drèze and Sharma also undertook a smaller-scale study in 1993. There was continuity with the first two studies in that S.S. Tyagi Jr, the brother of S.S. Tyagi Sr who carried out the first study, was central to the data collection in 1974/5 and continued to advise for 1983-84.

The 2008/9 and 2009/10 data collection was still more detailed than 1983/4 (see appendix on coverage). Also for the first time we have two consecutive years. It is the richest data set of the six. Its collection was led by Himanshu. Nicholas Stern has had the privilege of being directly involved in all four of the studies since 1974/5. Thus we have a detailed 100% sample study of key variables for every decade since Independence, and strong continuity of those involved.

The 1974/5 and 1983/4 studies involved residence in the village for nearly a year in the former case and more than a year in the latter. The 2008/9 and 2009/10 collection involved residence for two years. These extended periods of residence allow for much more detailed checking of data (often from 'both sides' of transactions such as land, credit, tenancy shares and wages), knowledge of the institutional and political context and direct understanding of the specific circumstances of individual households. This is surely a unique data set. One lesson we have learned is that presence in the village and constant cross-checking and subsequent verification is vital to data quality. It induces a certain amount of scepticism about the possibilities for and accuracy of data collection from short visits.

The two most detailed sets (1983/4 and 2008/10) can be compared most deeply and that is a particular focus of this paper. But there are many variables for which we have a time-series of cross-sections with data from all six surveys covering the half-century 1957-2010.

The period 1983 to 2010 is especially interesting because it was a period of such rapid change in India. And a key purpose of this paper is to begin setting out some of the characteristics of the changes in India and in Palanpur in that period and to examine some of the links, parallels and hypotheses concerning changes in India and in its villages. But we should not forget that the first three decades since Independence brought profound changes too, including democracy, zamindari abolition and the green revolution.

The collection of the data has only recently been completed. The process of careful cleaning is of great importance because of the quality of data being collected and the magnitude of the investments we have made in assembling the data. This paper reflects on initial ideas from the early examination of the data. It will, therefore, contain a number of impressions and analyses that suggest further analyses of the data and further hypotheses: it should be seen as a first pass at the data analysis. Nevertheless, it is already revealing some very interesting outcomes for and perspectives on Palanpur, particularly in relation to its integration with India and changes in India.

The first book on Palanpur (Bliss and Stern, 1982) was focused on the green revolution, tenancy and wages including related hypotheses from economic theory. The second book (eds Lanjouw and Stern, 1998), was focused on change over time within the village, particularly on income. Peter Lanjouw joined the team at the LSE in 1986 and has been closely involved ever since.

We have in these earlier works argued that there have been three particular drivers of change for Palanpur: population, agricultural change, and work opportunities outside the village. At the broad level these are still the drivers but the way they function and interact, and the balance, has shifted as India has changed and Palanpur has become more closely integrated in India. That is the main story of this paper.

The analysis of the paper begins in the next section by setting out broad economic changes in India as key context for change in Palanpur, with a particular focus on the three drivers set out above; section 3 provides a corresponding description on these dimensions for Palanpur. The fourth section examines agriculture and tenancy. It looks at cultivation, assets and outputs in agriculture. And it provides a snapshot of changes in tenancy over the last 25 years, including comparisons of productivity on tenanted and non-tenanted land. Changes in tenancy structures seem to reflect a growing integration into the broader economy. In section 5, we provide an early analysis of that integration of Palanpur into the Indian economy, focusing on work outside Palanpur and the radical change in the share of non-farm income in overall income in Palanpur over the last 25 years. The sixth section provides an initial discussion of health, nutrition and gender and the seventh a preliminary examination of institutions and politics in Palanpur. In conclusion we indicate how, based on this early analysis, further work can proceed.

SECTION 2 : A CHANGING GIANT

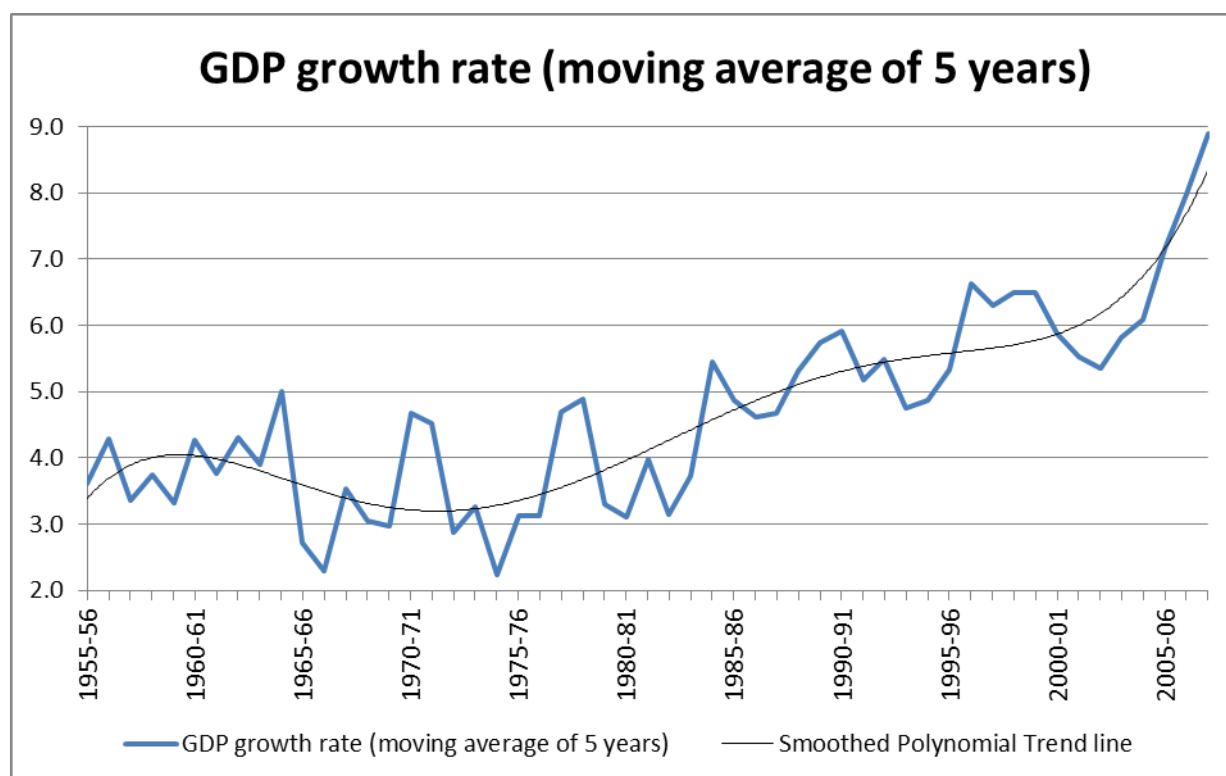
India's transformation over the last half-century has had a profound effect on Palanpur. This includes rapid population growth for much of the period, zamindari abolition in the 1950s, the expansion of irrigation and the green revolution in the 1960s and 1970s, and the acceleration of the overall growth rate, together with the liberalisation and opening of the economy in the last two decades.

The last three decades in particular have seen a recasting of the structure and growth of the Indian economy. The "Hindu" rate of growth of 3.5%, together with a population growth rate of over 2%, over the period 1950-80, has long gone, with growth rates of the economy moving to 6% per annum in the 1980s and the 1990s and the annual population growth rate now down to 1.4% and falling. The biggest acceleration in economic growth occurred in the post 2003-04 period with growth rates averaging more than 9% making India the second fastest growing country after China. While the opening up of the economy in the early 1990s was

surely a catalyst, the subsequent growth in the present decade is also driven by the surge in investment rates¹. What is also remarkable is the resilience shown by the Indian economy in sustaining a strong rate of growth, despite the severe global slowdown. The break in trend in growth rates in the early 2000s does not look like an aberration: the underlying drivers suggest a sustained movement towards a higher growth trajectory.

The analysis of the reasons for the break in the trend growth rate, although useful and relevant, is not the subject matter of this paper. From the perspective of Palanpur, it is important to understand the sectoral composition of the growth rate and the possible linkages with the changes in Palanpur both in terms of giving insights into this national growth process from a very micro level and also understanding the changes in Palanpur.

Figure 1



Source: National Accounts of India

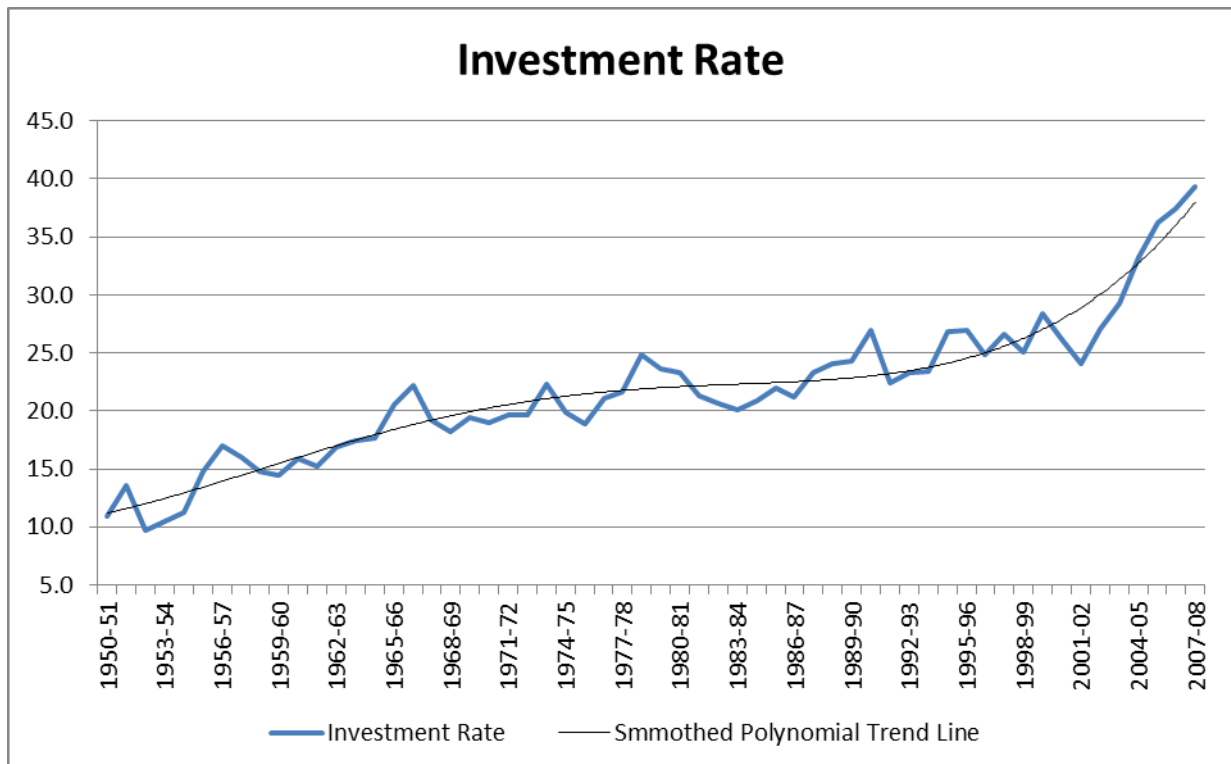
¹ Exports as share of GDP increased by more than double after the liberalization of the economy in the early 1990s, investment rates have increased from an average of 25% in the 1990s to more than 35% since 2004-05.

Figure 2



Source: National Accounts of India

Figure 3

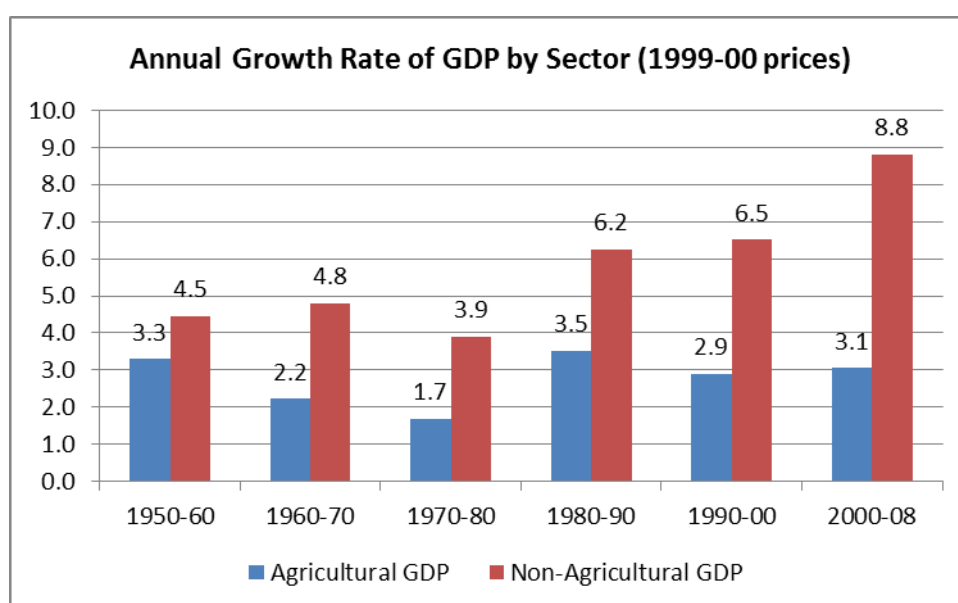


Source: National Accounts of India

It is important because the period of acceleration in growth rates in the Indian economy has also been a period of increasing inequalities along some dimensions². In particular the income of the top decile appears to have grown rapidly as does the share of profits. In the 1980s and 1990s some of the poorer states were growing more slowly. However, in the last two decades, there has been relatively rapid growth in incomes of the bottom two deciles and in the last 6-7 years relatively rapid acceleration in the growth of the poorer states (Bhalla, 2011).

Some preliminary evidence is also available from looking at the sectoral composition of growth and, in particular, the growth rate of agricultural output which has averaged at around 3% per annum. They are a little higher in the three decades after 1980 than in the three before, see Figure 4, although there is no obvious strong trend upwards in the growth rate as there has been in the growth of overall output over the last two or three decades. The growth in aggregate GDP in the last three decades has happened largely on the back of a higher growth of non-farm GDP. Thus the share of agriculture in overall income has fallen from 57% in 1957-58 to 40% by 1983 to 33% in 1993 and 15% by 2008-09. However, the decline in the share of agriculture in national GDP has not been accompanied by commensurate decline in agricultural employment. The share of agriculture in employment declined gradually from 69% in 1983 to 64.4% in 1993-94 and 56% in 2007-08³. Consequently, the gap between per worker productivity between farm and non-farm sector has gone up by more than double during the same period.

Figure 4



Source: National Accounts of India

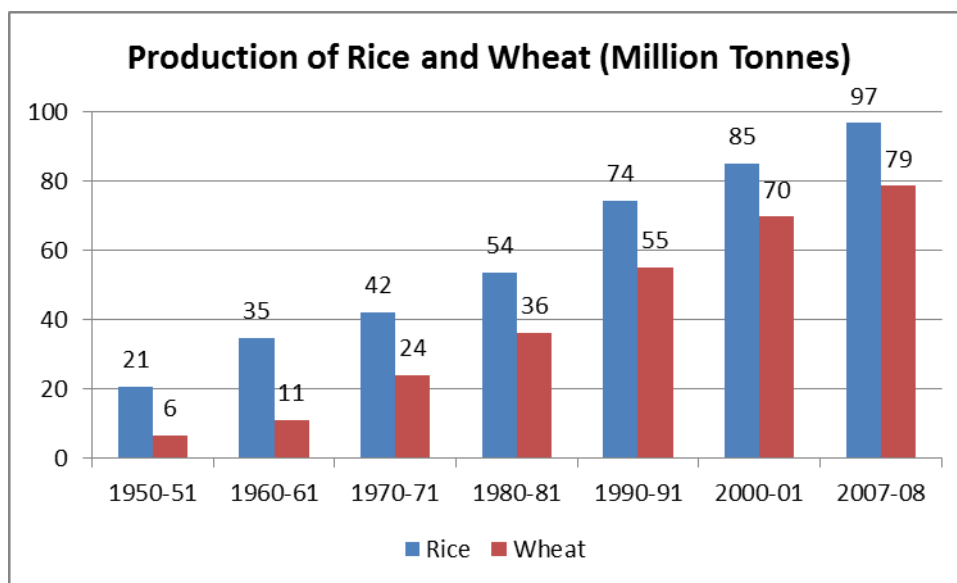
Whilst overall agricultural output has gone up by a factor of around four in the 60 years from 1950 to now, output of rice has risen a little faster and wheat much faster, growing by a

² For a detailed description of various dimensions of inequality in recent years, see Michael Walton (2011). Also see Bhalla (2011) and World Bank (2011)

³ Some care is necessary here, however, as many rural households have multiple sources of income, both farm and non-farm.

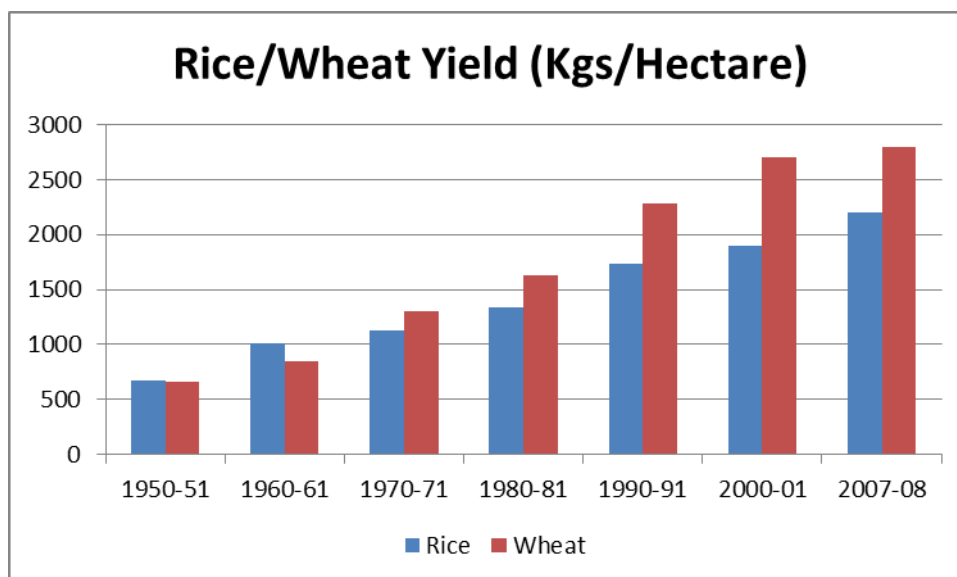
factor of around 13, see Figure 5. This partly reflects an increase in productivity per hectare associated with the green revolution (see Figure 6) but also with a related switch towards wheat.

Figure 5



Source: Agriculture Statistics at a Glance, Government of India

Figure 6

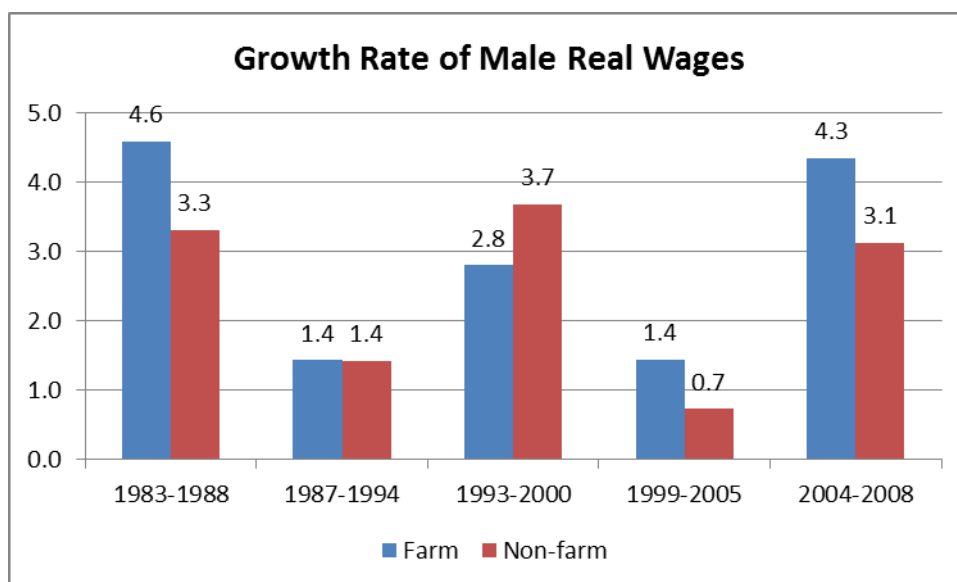


Source: Agriculture Statistics at a Glance, Government of India

We have already examined overall GDP in India and its acceleration in the last two decades. For workers, income is closely linked to wages; see Figures 7 and 8 for the period 1983-2008. For men during this period, non-farm wages grew by 2.3% and farm wages by 2.6%; for women, the growth rate for non-farm was 4% and for farm 2.9%. Overall growth

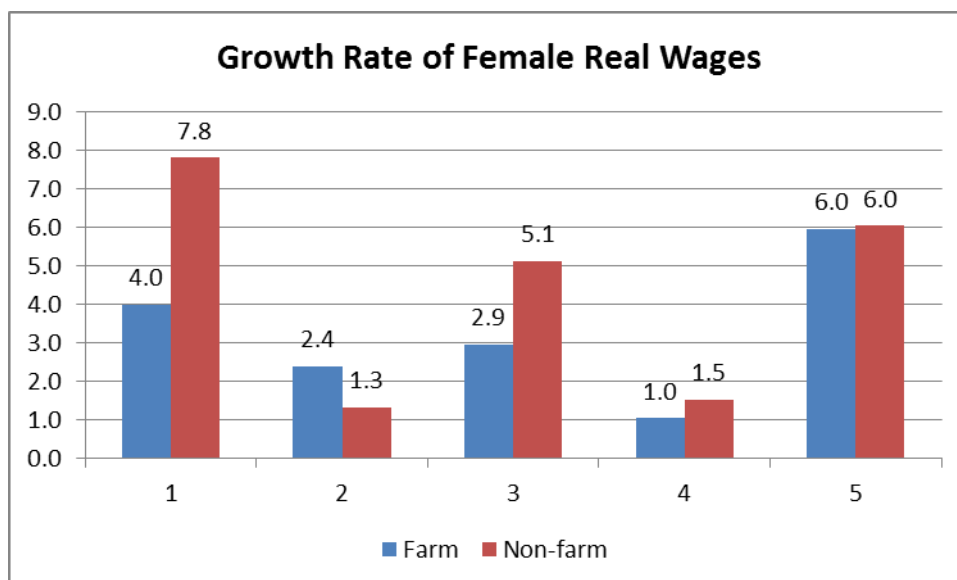
rates for wages were near or below 2.5%, with some modest ‘catch-up’ in women’s wages, although those for men were still 40% higher than those for women in 2008. Comparing growth rates in national output and income for this period of close to 6%, the much slower growth in wages was associated with a strong swing to profits in the Indian economy⁴.

Figure 7



Source: National Sample Survey Organisation

Figure 8



Source: National Sample Survey Organisation

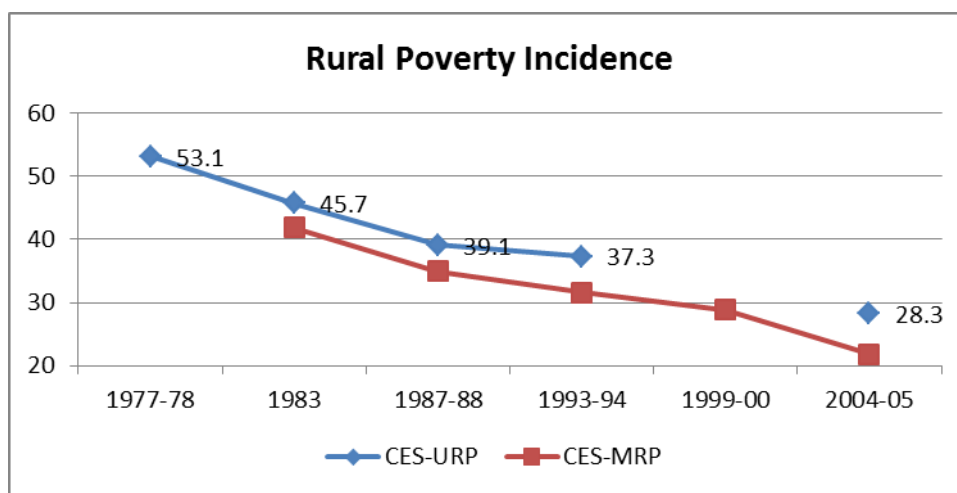
Along with slow growth of wages, there are also concerns that the benefits of growth may not have been shared equally by all population groups. Estimates of poverty show a

⁴ Some discussion of the evidence on increasing profits is available in Walton (2011)

gradual decline over the years with no acceleration in the rate of poverty reduction commensurate with the increased growth rates at least during the 1980s and 1990s, with the poverty rate falling at a fairly steady one percentage point a year. However, in the second half of the last decade, the rate of fall may have jumped upwards (Bhalla, 2011)⁵. In particular, although better than the first three decades after independence when the poverty rate did not decline, poverty in rural India continues to remain high⁶. Figure 9 gives the rural poverty ratio from various NSSO surveys.

High rates of rural poverty are likely to be related to low human development indicators on some dimensions, at least relative to other large developing countries. However, over the last three decades there has been a strong expansion in education and a strong rise in literacy levels. Progress on nutrition and health whilst significant has been more modest. Figure 10 gives the literacy rate and Figure 11 gives the gross primary enrolment ratio. Figure 12 gives the infant mortality rate and Figure 13 gives the life expectancy at birth.

Figure 9

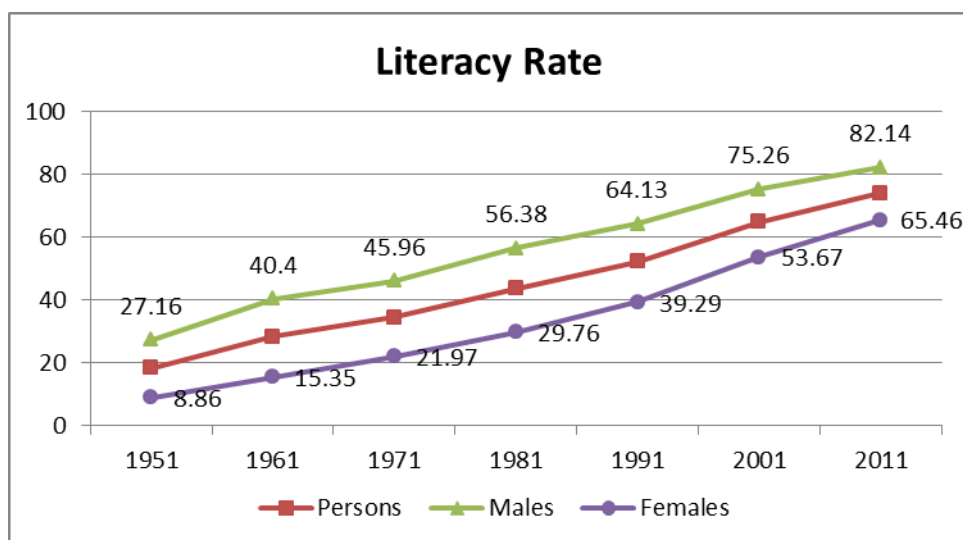


Source: Planning Commission

⁵ Bhalla (2011) suggests the annual reduction in the last few years may have become 2 percentage points a year or more.

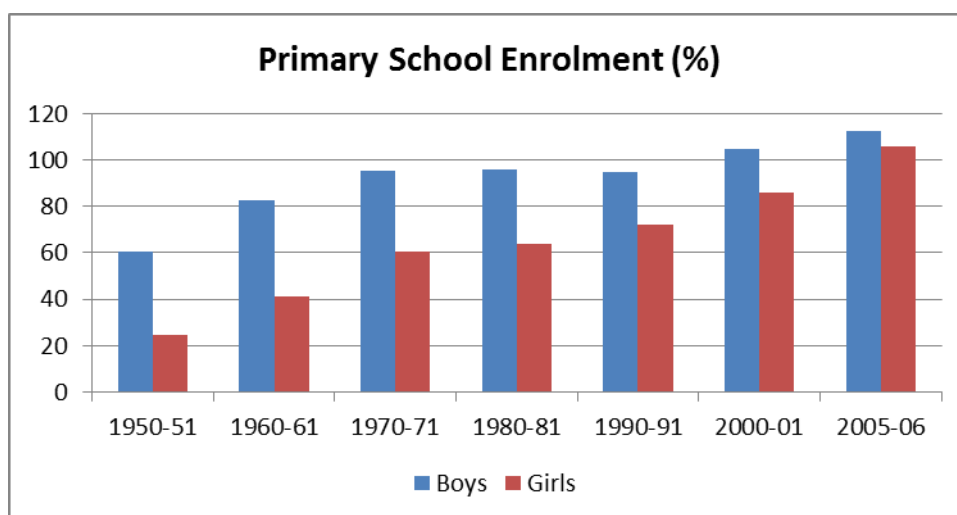
⁶ The graph here presents rural poverty incidence based on the official poverty lines based on Lakdawala Expert Group (Planning Commission, 1993) methodology. However, recently poverty estimates have been revised by the planning commission based on Tendulkar Committee Expert Group (Planning Commission, 2009) methodology. These suggest that 42% of rural population was living in poverty in 2004-05.

Figure 10



Source: Registrar General of India

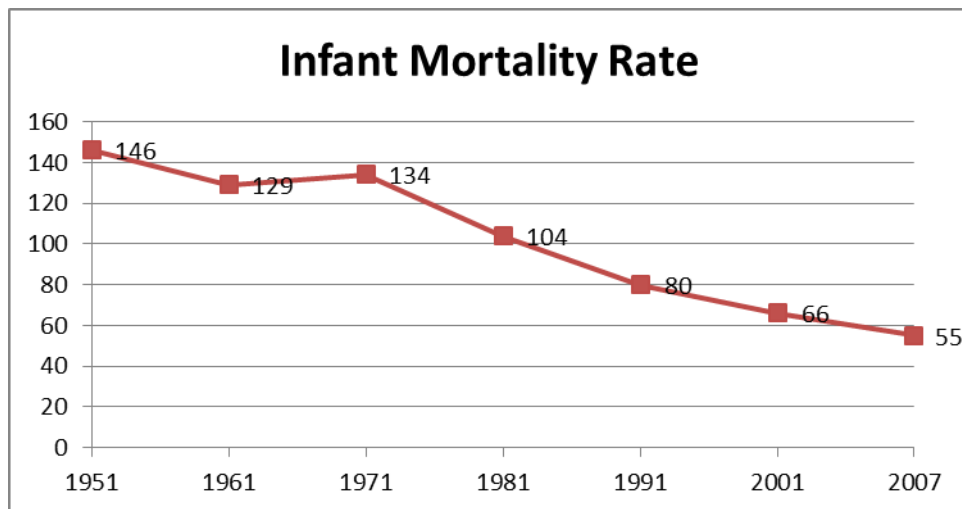
Figure 11



Source: Ministry of Human Resource Development, Annual Reports

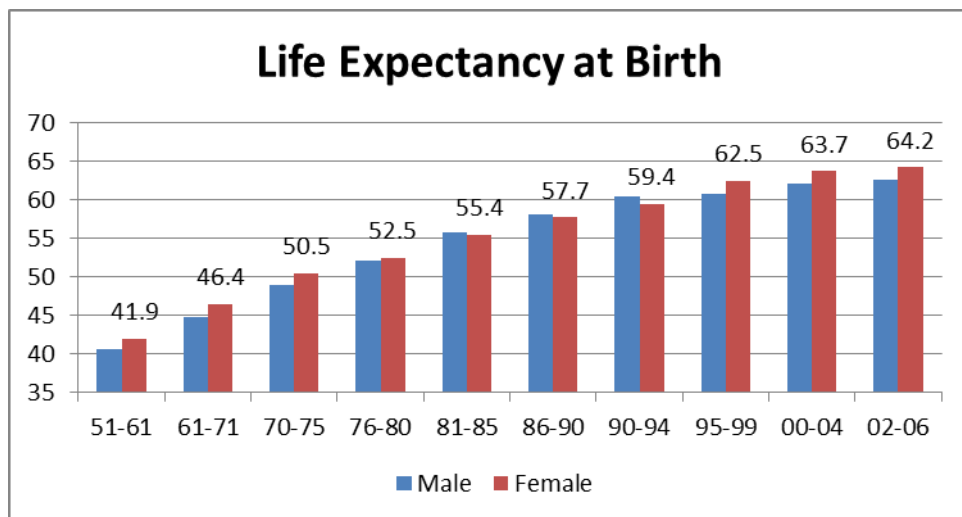
Literacy rates have gone up by a factor of around three and half for males and eight for females, although the latter is still much lower. The latest estimates from Census 2011 suggest a significant decline in the gender gap in literacy rates from around 20-25% earlier to 17% in 2011. Primary enrolment ratio for both boys and girls are now close to universal compared to 60% for boys and less than 25% for girls in 1950. The gender gap which was more than double in the 1950s has now narrowed down to less than 10%. Life expectancy has risen strongly for the last 50 years, with that for males and females staying fairly similar. Infant mortality rates, whilst still very high, have fallen by two-thirds.

Figure 12



Source: Registrar General of India

Figure 13



Source: Registrar General of India

Across India there is a powerful shift in rural areas towards non-farm income as the non-farm sector grows much more strongly than agriculture, education levels increase and communications and mobility are transformed. This is a central feature of economic and social change in India which is moving very rapidly and is likely to continue over the next two or three decades. Agriculture's share, already less than 20% of GDP, will fall still further. The details of how these fundamental transformations take place and the consequences for the hundreds of millions of rural poor people in India are absolutely central to economic and social policy. Some of these concerns do find recognition in policy circles and the emphasis on 'inclusive growth' since the last two administrations is an indicator of the seriousness with which India is planning to tackle these challenges. These are also reflected in actions such as increased focus on agricultural growth, with rural development and employment creation high on the economic and policy agenda. Importantly, there has been political acceptance of the need to make growth broad-based, and some of the issues being seen not as potentially

desirable benefits of growth but as constitutional rights. Thus, along with increased expenditure on education, health, agricultural growth and rural development, there has been some enactment of rights to the population. While the right to employment, enshrined in the National Rural Employment Guarantee Act (NREGA) and the right to education have already been passed by parliament and are being implemented, recent efforts to have a right to food would, if successful, constitute a significant landmark for a developing economy.

These have been accompanied by decentralisation of state power with the 73rd amendment of the constitution which gives a greater role to the village panchayats in the implementation of most of the programmes. This has also meant that the village as a unit of administration continues to remain central, particularly for the challenge of inclusion. With more than 70% of the Indian population residing in rural areas and more than 50% of workers earning their livelihood in agriculture, understanding changes in the village economy is vitally important to understanding the nature of growth of the Indian economy and the distribution of income. At the same time, changes in the overall economic environment, in population, in health and in education, together with those for agriculture, income, income shares and wages, have been the context for and forces behind change in Palanpur. Thus, six decades of data and close knowledge of Palanpur make this village a uniquely valuable opportunity for studying change in India.

With this context as the background, both our preliminary conclusions and our subjects for further research fall into three broad categories. First, describing and highlighting economic and social change – for example, the integration of Palanpur into the overall economy of Moradabad, Uttar Pradesh and India, the changing nature of agriculture and associated capital equipment, the changing social status of some of the poorer groups and so on. Second, an examination of what has been happening to social and political institutions and how public services have performed. Third, asking how the results and observations in Palanpur fit with various economic, social and development theories and hypotheses. Further, we shall try over the course of the analysis to draw out some possible implications for public policy in India.

SECTION 3: POPULATION AND CASTE IN PALANPUR

The key drivers of change in Palanpur have been population and demographics, agricultural change, and non-farm opportunities. In the 1950s, 1960s and 1970s, it appears that the first two were of particular importance. Over the last 25 years or so, activity outside agriculture appears to be becoming the dominant driving force for change in the village of Palanpur. Evidence from elsewhere suggests this is true of India as a whole. The detail of how this manifests itself is of great importance in understanding economic and social change in India. Thus the close analysis of a village with rich data over the last 50 years can offer key insights into change in the country as a whole and into some of the main policy challenges of coming years.

The population of Palanpur has grown at a similar rate to the population of India as a whole, as we can see from Table 1. The rate of population growth for Palanpur is slightly above that for India in the 1950s and 1960s and substantially below in the last 25 years, although adjusted for outmigration from Palanpur, it is very similar to India for that period.

The population shares of caste groups over the years are also presented in Table 1. The Muslim group consists of Telis and Dhobis, Thakurs (a sub-group of Kshatrayas or “warrior” group) are generally ranked highest and the Muraos (a sub-group of Sudras or cultivators) are

ranked next. The sharp reduction in population share of others represents mostly Passi outmigration. All other population shares have increased with the increase for Muslims being largest⁷. Although not significant, Table 1 also shows an increase in the proportion of nuclear households and a decline in that for stem households.

However, the data do illustrate the importance of outmigration. Preliminary analysis of the data suggests that migration does appear to be an important feature of development in Palanpur in the last two decades. It is an important feature of our study and we have managed to collect some data concerning the identity and activity of outward migrants. The information is in its nature only partial, tracking people is not easy, and it is currently being analysed. However, some details are available in Mukhopadhyay (2011) and these suggest a tendency towards increasing access to outside opportunities by Palanpur residents, although not equally by all caste and income groups. We anticipate this to be an important feature of Palanpur economy in coming years.

Table 1: Basic Population Indicators of Palanpur

	1957-58	1962-63	1974-75	1983-4	1993	2008
Population	528	585	790	960	1133	1265
Number of households	100	106	117	143	193	231
Average household size	5.3	5.5	6.8	6.7	5.9	5.5
Female-male ratio	0.87	0.87	0.85	0.93	0.85	0.98
Annual growth rate of population	—	2.2	2.5	2.2	1.7	0.74
migration-adjusted growth rate		2.3	2.7	1.9	2.2	1.9
Age distribution of the population (%)						
0–14	39	38	46	44	41	38
15–24	21	19	15	20	21	21
25–44	23	25	25	23	22	26
45–64	14	13	12	10	12	11
65 +	3	5	2	3	4	4
Proportion of the population in different caste groups (%)						
Thakur	20	21	22	23	25	22.9
Murao	22	23	23	23	26	24.4
Muslim	10	10	12	12	12	14.8
Jatab	13	12	12	12	12	16.2
Other	35	34	31	30	25	21.7
Proportion of households of different types						
single-person	6	6	3	3	3	6.4
nuclear	45	44	41	44	54	60.2
stem	28	28	29	33	31	20.3
joint	21	22	28	20	12	13.1

⁷ In further papers, we shall be providing a more detailed description and analysis of caste and caste relations in Palanpur.

Note: A *single-person* household is a household consisting of a single person. A *nuclear* household is a household with several members, but only one basic couple (husband and wife). A *stem* household has two basic couples, with one husband being the father of the other husband. A *joint* household is a household with two or more basic couples.

But primarily because of the outward mobility of Palanpur residents, the ways in which population acts as a driver of change have themselves seen a gradual change. Unlike a primarily agrarian economy, where population acted as a source of labour but also created pressure on agriculture, the growing importance of non-farm and outside opportunities also means that the influence of population pressure on incomes of Palanpur residents has been muted to a large extent. This is not to deny the impact of population pressure which has seen a decline in per capita land availability (also influenced by land sales). On the other hand, it has led to an increasing importance of education, we presume, at least in part, as a means of accessing better livelihoods. It seems that experience plays a role in “next steps”. Thus those with regular outside jobs seem more likely to migrate. And those with experience as labourers in some trade, seem more likely to set up as self-employed entrepreneurs.

Table 2: Literacy rates by caste and gender

Caste	% of literates (7+) [Male]					
	1957-58	1962-63	1974-75	1983-4	1993	2008
Thakur	41	59	62	48	56	75
Murao	11	29	42	37	39	65
Muslim	5	20	10	23	20	52
Jatab	3	12	3	4	12	28
Kayasth	100	100	100	100	100	100
Other	14	33	26	23	38	58
All Castes	18	34	34	30	37	58
Caste	% of literates (7+) [Female]					
	1957-58	1962-63	1974-75	1983-4	1993	2008
Thakur	0	8	11	8	19	39
Murao	0	3	0	1	2	20
Muslim	0	0	0	2	2	15
Jatab	0	3	0	0	0	6
Kayasth	67	50	67	100	100	100
Other	0	3	4	4	8	28
All Castes	0.5	3	6	6	9	23

The past 15 years have seen a dramatic increase in access to education across most household categories. Table 2 summarises literacy figures by caste and gender. Not only has literacy increased sharply in the last 15 years, there is also evidence of a decline in the gender gap. Particularly remarkable is the increase in literacy rates for Muslims (Dhobi and Teli). But even for “traditionally conservative” castes such as Muraos, the increase in female literacy rates is striking. However, even with this improvement, they are still far below the national average but fairly similar to the average for rural Uttar Pradesh. For those with more land, it is somewhat higher than for rural India and for those with less, somewhat lower (Figure 14).

There is sharp variation across caste in school attendance of children, with the ordering across caste following closely that of social status (Figure 15). Passis are the exception – a

small caste which came to the village 60 or so years ago from East UP and for whom outward migration has recently been important. The Telis are the largest Muslim group and about three-quarters of the 6-14 year olds attend school. For the Jatabs (seen as Chamars or leather workers) the lowest in social status of the substantial groups, attendance is only just over 50%.

Figure 14

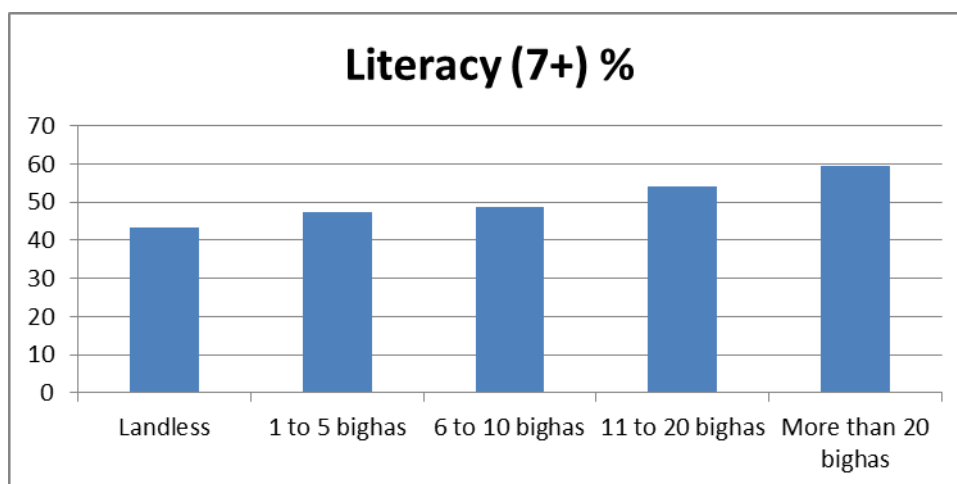
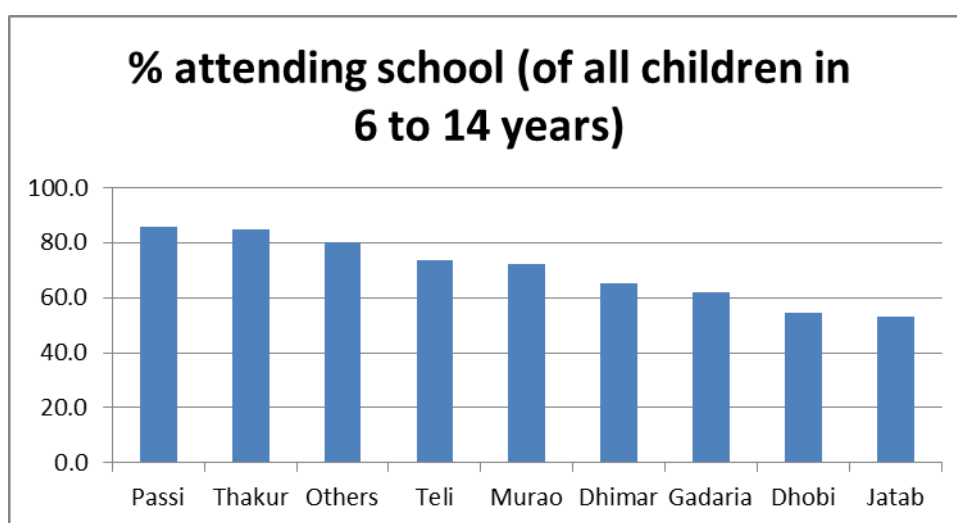


Figure 15



Education is the first point in our discussion in this paper where we have presented issues of caste, social structure and related issues. We have much more detail on these issues and they will form an important contribution of this work. One of the key conclusions, for example, is likely to be that the greater opportunities for Jatabs to get outside jobs have raised their bargaining power and social status in Palanpur. This has been complemented by the political rise of Mayawati as Chief Minister of Uttar Pradesh and policies which favour disadvantaged groups, including in local politics (see Sections 5 and 6)⁸. For some further details on education and literacy, see Kattumuri et al (2011).

⁸ The present government in Uttar Pradesh is headed by Ms Mayawati, herself a Jatab and leader of the Bahujan Samaj Party which claims to work for the upliftment and empowerment of Scheduled Castes.

SECTION 4 : AGRICULTURE AND TENANCY IN PALANPUR

4.1 Land, assets and output

The last two and half decades have seen major changes in the role played by agriculture in determining rural incomes. Despite the declining share of agriculture in national GDP, agriculture continues to remain an important source of livelihood for the majority of rural population. This is also true for Palanpur with 84% of households reporting income from agriculture. But within these households, only 23% of the households were earning their income from agriculture alone while the rest have non-farm activities also contributing to the income of the household. Although, population pressure, along with land sales, has continued to lead to a lowering of land owned per capita, Palanpur agriculture also shows elements of dynamism with the agrarian economy taking advantage of the new markets domestically as well as internationally. With the consolidation of the gains of technological progress such as mechanisation and the introduction of high yielding varieties in the agrarian economy of the village, the rate of increase in yields has also shown improvements but at a slower rate than that in the peak green revolution period. Table 1 and Table 2 give some basic indicators of the agrarian economy of the village.

Land owned per capita has gone down from 5.2 bighas in 1957 to 2.7 in 1983 to 1.6 in 2008 as a result of population growth and some selling of land to those outside the village. The latter arose in large measure as a result of problems with debt. Thus pressure on land has changed dramatically over 50 years. However, overall the Gini coefficient has stayed close to 0.52 for land owned; there is a decline in the Gini coefficient for land operated largely through leasing in of land which has been sold to outsiders. Preliminary calculations suggest that farm income per capita in the village has stayed roughly constant in the last 25 years thus the revenue per bigha has had to rise sharply as bighas per person has declined (from 2.7 to 1.6). This rising revenue per bigha has come about in part through an intensification of agriculture associated with productive assets. The number of diesel pumping sets doubled from 1993 to 2008, electric tube wells rose from 1 in 1983 to 13 in 2008 and tractors from 8 in 1993 to 13 in 2008.

Agricultural intensification has brought strong increases in yields for some crops, particularly wheat and paddy. It has also been associated with some new crops, particularly mentha, for oil, which arrived in the mid-1990s. However, income per household has risen less fast than wheat and paddy yields because of the decline in per capita land owned and also because costs have increased (and there has been greater monetisation of some input costs).

Table 3: Palanpur 1957–2009: Selected Indicators						
	1957-58	1962-63	1974-75 ^a	1983-84	1993	2008-09
Number of households	100	106	117	143	193	218
Population	528	585	790	960	1133	1265
Average Household Size	5.3	5.5	6.8	6.7	5.9	5.8
Owned Area	2747	2331	2498	2596	2380	2075
Operational Area ^b	2723	2783	2438	2650	n.a.	2264
Number of Landless Households	14	12	17	27	44	42
Land owned per capita (bighas)	5.2	4.7	3.3	2.7	2.1	1.6
Land cultivated per capita ^b (bighas)	4.1	4.8	3.2	2.8	2.1	1.8
Proportion of leased-in land to cultivated land (%)	10	12	22	28	26	36
Proportion of irrigated land to owned land (%)	52	46	96	96	96	100
Gini coefficient: land owned per capita	0.49	0.47	0.49	0.5	0.52	0.52
Gini coefficient: land cultivated per capita	0.48	0.45	0.44	0.51	0.52	0.47
Index of agricultural productivity ^c	25.1	24.6	57.3	34.6	n/a	40.55
<i>Ownership of selected productive assets (number per 1,000 persons in parentheses)</i>						
Bullocks and male buffaloes	124 (235)	138 (236)	157 (199)	141 (147)	104 (92)	51 (40)
Cows and She-Buffaloes	89 (169)	79 (135)	109 (138)	129 (134)	156 (138)	242 (191)
Persian Wheels ^c	11 (21)	17 (29)	22 (28)	22 (23)	0 (0)	0 (0)
Pumpsets	0 (0)	0 (0)	7 (9)	27 (28)	40 (35)	85 (67)
Tubewells	0 (0)	0 (0)	0 (0)	1 (1)	na	13 (10)
Tractors	0 (0)	0 (0)	0 (0)	0 (0)	9(8)	13 (10)

^a The 1974–5 reference population excludes 6 households discarded by Bliss and Stern (1982), who restricted their sample to households with at least some involvement in cultivation; figures with an asterisk include these 6 households.

^b ‘Land cultivated’ or ‘Operational area’ is calculated as (land owned) + (land leased in) - (land leased out). The figures for leased area are based on the rabi season; since most leases in Palanpur last for a whole year, this can be taken as representative for the full agricultural year.

^c Including non-functional or unused Persian wheels (quite common in 1983–4).

Source: Ashish Tyagi and Himanshu (2011a)

Agricultural intensification in terms of extra capital and more intensive use of land has, therefore, offset population growth and allowed labour to be released into non-farm activities – see below. As we shall show in further work, the intensification has to do with local initiatives and availability rather than agricultural extension provided as part public services.

Table 4: Cultivation Details for Selected Major Crops in Palanpur¹					
Crop	1957–8^a	1962–3^b	1974–5	1983–4	2008–09
1. Wheat					
a) Area cultivated (bighas)	879	767	1030	1573	984 (1438)
b) % of total cultivated area ²	52	48	46	57	48 (71)
c) Yield (kg/bigha)	41	41	114	101	224 (223)
d) 'Normal' Yield (kg/bigha)	40–50	50	100	150–60	230
d) Real Output Value/bigha ³	16	22	41	27	69 (69)
2. Mentha					
a) Area cultivated (bighas)	0	0	0	0	226 (728)
b) % of total cultivated area ²	0	0	0	0	11 (36)
c) Yield (litres/bigha)	n/a	n/a	n/a	n/a	3.9 (2.9)
d) Real Output Value/bigha ³	n/a	n/a	n/a	n/a	62 (47)
3. Paddy					
a) Area cultivated (bighas)	70	274	125	266	493
b) % of total cultivated area ²	5	17	6	12	24
c) Yield (kg/bigha)	11	26	103	130	186
d) Real Output Value/bigha ³	2	10	33	34	96
4. Bajra (Pearl Millet)					
a) Area cultivated (bighas)	644	638	610 (730)	137 (363)	208 (425)
b) % of total cultivated area ²	46	40	29	6	10 (21)
c) Yield (kg/bigha)	34	27	59	48	79 (54)
d) Real Output Value/bigha ³	10	12	20 (20)	12 (14)	16 (11)
5. Sugarcane					
a) Area cultivated (bighas)	391	430	463	886	214 (388)
b) % of total cultivated area	28	27	22	39	11 (19)
c) Yield (quintal/bigha)	n/a	n/a	21.3	12	31
d) Real Output Value/bigha ³	34	34	72	43	99
<i>Index of agricultural productivity^c</i>	25.1	24.6	57.3	34.6	40.55

Notes:

1. The figures in brackets show total figure including plots sown with mixed crops. In these cases the area figures are upper bounds on the effective areas.

2. Proportion of area cultivated refers to percentage of area under the specified crop for the relevant season (rabi for wheat & mentha; kharif for paddy and bajra; kharif has also been taken as the reference area for sugarcane).

3. Real values are obtained by deflating with price deflators based on the Consumer Price Index for Agricultural Labourers (CPIAL) for Uttar Pradesh. All values are in 1960–1 rupees.

a. The 1957–8 figures are based on direct calculations from the household questionnaire, and are consistent with the corresponding figures given in Ansari (1964), reported in Bliss and Stern (1982).

b. The average yield figures for 1962–3 in this table are somewhat misleading in that they exclude cases of zero output, which were not uncommon in that year due to total crop failure on a number of plots. The true average yields, inclusive of cases of zero output, would be lower.

^c value of agricultural production at 1960–1 prices divided by land cultivated

Source: Ashish Tyagi and Himanshu (2011a)

4.2 Tenancy

The difference between net area owned and area operated is explained by the net leased in area from owners outside the village. For 1962, 1974 and 1983 this area was small, representing only 2% of village land, but for 1957 and 2008 it was respectively large and negative (18% of land) and large and positive (13%). In 1957 soon after zamindari abolition, some larger land-owners associated with zamindars may have been leasing to cultivators from outside the village. We can be more confident of events between 1983 and 2008 as we have tracked land sales.

A number of households got into trouble with debts and as a result their land was sold to outsiders and leased back to them. In some cases migrating households have sold land to those outside the village. The story of how the sales came about will be set out in subsequent papers.

Preliminary analysis of trends and characteristics of tenancy are available in Tyagi and Himanshu (2011a). Preliminary results show support for the hypothesis that decisions on taking land and tenancy are influenced by the difference between land-owned and desired cultivated area, which depends on agricultural aspects of the household (assets and workers) which may be immobile in the short term. Household labour is important amongst these aspects and, as Bliss and Stern (1982) showed, for 1974/5 draught animals owned (bullocks and he-buffalos). In 2008/9 the vast majority of ploughing was done by tractors and the role of draught animals was largely irrelevant. Now the more relevant assets are mechanical, such as pumping sets, tube wells, threshers and tractors. See Tyagi and Himanshu (2011b) for a description of these investigations.

Table 5: Tenancy Contracts: 1983-84 and 2008-09					
Contracts		Area under specified contracts		Proportion of leased-in area under specified contract ^a	
		1983-84	2008-09	1983-84	2008-09
Peshgi	Advanced Cash Rent	83.3	151	11 (3.1)	20 (6.7)
	Fixed Kind Rent	23	53	3 (0.9)	7 (2.3)
Batai		564	351	76 (21.3)	47 (15.5)
Chauthai ^b		31.7	118	4 (1.2)	16 (5.2)
Other Contracts		45	78	6 (1.8)	10 (3.4)
Total		747	751	100 (28.2)	100 (36.2)
<p>a. Figures in brackets indicate leased in area under the specific contract as a proportion of total operated area in percentages.</p> <p>b. Chauthai should be counted as a sharecropping contract in 1983-84 but a labour-contract in 2008-09</p>					

Source: Ashish Tyagi and Himanshu (2011a)

The integration with the broader economy and changes in agricultural assets deployed has brought substantial change in the type of tenancy contract. In earlier years, land tenancy contracts were dominated by batai, 50-50 sharecropping, with cash costs for non-labour inputs shared 50-50. The tenant was required to supply the labour. Decisions on cropping patterns and inputs were joint landlord and tenant. Discussions with participants indicated that risk-sharing, supervision and liquidity issues exerted a powerful impact on contract choice.

In the last 25 years, with greater influence of outside jobs and markets, there has been striking change, as is shown in Table 5. Batai has dropped from more than three-quarters of contracts in 1983 to less than half now. Peshgi – fixed cash rent – has risen to more than a quarter of contracts and chauthai – payment of a quarter of output to the tenant with no cost sharing – has risen to 15%. Peshgi, seems attractive to someone with outside commitments who can spend little time in supervision. Chauthai is much more like wage labour and seems attractive to a landlord who can accept risk, perhaps because someone in the family has an outside job, but wishes to leave some incentive to perform, i.e. the quarter share, with the tenant/labourer. The emergence of chauthai shows the changing nature of the tenancy market in Palanpur. Preliminary analysis suggests that this is partially a result of the tightening of the labour market for agricultural activities in the village and partly a response to supervision problems. There is also some evidence to suggest that the balance of supply and demand for land under tenancy in Palanpur is changing with demand beginning to outstrip supply of tenanted land. There is some evidence that the bargaining power of tenants may have weakened as more offer themselves. Jatabs, for example, with their increased resources are emerging as potential tenants where earlier they may have been seen as, and seen themselves as only labourers.

These observations indicate institutional and contractual arrangements which respond to a changing economy and society– in other words they are not immutable traditional aspects of life. And they generate hypotheses about the changing features of an increasingly market-oriented economy which influence the changing contract forms.

A traditional question or hypothesis in the examination of share-tenancy is whether the share, here 50-50, dampens incentives since the worker does not get full-value of the marginal product. The so-called Marshallian view was that output per unit of land would be lower on share-tenanted relative to cash-rented or owner-cultivated land. Marshall, however, was sensitive to this issue and saw that share-contracts would be likely to cover more than just the share and would extend to crops and obligations (see Bliss and Stern, 1982).

As in earlier work, the results for 2008/9 show that this “Marshallian” hypothesis would be rejected –see the detailed work described in Tyagi and Himanshu (2011b). Cropping patterns, contractual agreements, productivity and influence of risk and incentives in agricultural choice and arrangements will be a major part of further work. In particular, this will include examination of household portfolios of activities (agriculture, outside jobs, etc).

SECTION 5 : INCOME AND OUTSIDE JOBS IN PALANPUR

The third of the drivers of change in Palanpur after population and agricultural techniques has been work outside the village. Such work outside the village includes most of non-farm income as there is little non-farm income, as conventionally measured, in Palanpur inside the village; of course intra-household activities are always of importance but have not been counted within income here. Outside jobs and income have become ever-more important to Palanpur. Most of the activity and income from outside jobs is associated with commuting. As

with many villages on the densely-populated Indo-Gangetic Plain, there are medium-sized towns within an hour or so travel time. In Palanpur's case, Chandausi (around seven miles and the large town of Moradabad around 16 miles) are particularly important as commuting destinations.

Table 6: Occupation Profile of Persons Working Outside

	1983	1993	2008
Skilled Self Employed	3 (3)	4 (5)	7 (5)
Unskilled Self Employed	5 (5)	2 (2)	22 (17)
Regular (Skilled)	5 (5)	3 (4)	10 (8)
Regular (Unskilled)	39 (40)	20 (24)	14 (11)
Semi Regular (Skilled)	1 (1)	1 (1)	7 (5)
Semi Regular (Unskilled)	17 (18)	19 (23)	9 (7)
Unspecified Casual Labour	25 (26)	35 (42)	53 (41)
TOTAL	95 (100)	84 (100)	129 (100)

Source: Mukhopadhyay (2011)

Migration over longer distances for longer periods has been increasing but quantitatively commuting is substantially more important. Most migrants belong to richer classes, there is very little migration amongst the Jatabs (we have already noted the special case of the Passis). Further, those households which were already in some regular job or in outside casual jobs seem to have a higher tendency to move out. But even for those who have stayed in the village, a larger percentage is working outside. The increase of work outside Palanpur over the period from 1983 is shown in Table 6. The number of persons working outside Palanpur has increased from 95 in 1983 to over 129 in 2008. Details on migrants and the occupational profile of those migrating out is available in Mukhopadhyay (2011).

Preliminary analysis also suggests that the integration with the outside world is no longer the preserve of the upper castes alone. Closer integration with the outside labour markets has made the main lower social group, the Jatabs, better off. Most of their houses have been changed from kachha (mud) to pucca (brick). They are explicit about how the increase in their bargaining strength associated with outside jobs has enabled them to raise the agricultural wage in the village substantially; moving from Rs60 per day in 2005/6 to Rs100 per day in 2008/9. Real wages for casual labourers in the village are presented in Figure 16. We shall have more to say about these processes in subsequent papers. At this stage of our work the timing of the increases and the analysis by the Jatabs themselves and others suggests that it is the outside employment rather than NREGA-led intra-village work opportunities that have been the most important influence⁹.

⁹ NREGA in principle gives workers the right to work for 100 days a year on public projects at a specified local wage – in Palanpur in 2009 this was Rs100/day.

Figure 16

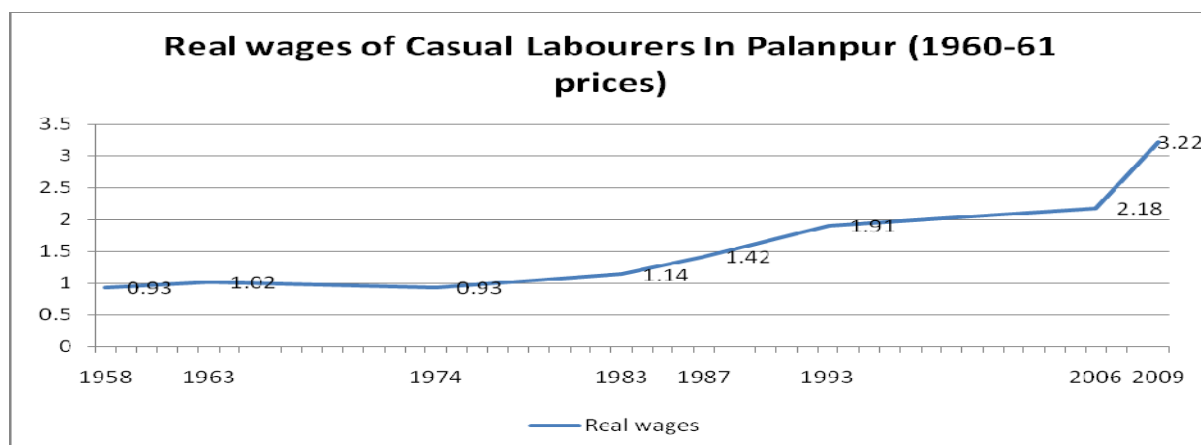


Table 7 provides basic indicators of income, consumption and inequality in Palanpur. For the first time, data on consumption expenditure of households were also collected. Estimates of consumption expenditure suggest that the poverty ratio of Palanpur at 33% is similar to the average of rural areas of the state. Although, not strictly comparable to income poverty estimates of previous years, these also suggest a gradual decline in poverty, although particular years can be strongly affected by harvest fluctuations. Similar to the trend in rural India and rural Uttar Pradesh, this appears to be a result of significant growth of incomes, which have increased by more than double, but which have been accompanied by some increase in household inequality. The increase in inequality is confirmed by the measure of income inequality but even for consumption expenditure, the Gini coefficient is very similar to the Gini coefficient of the state. Some idea of the increase in incomes is also available by looking at the product wages which have close to doubled in the last 25 years.

Table 7: Basic Indicators of Income and Inequality in Palanpur

	1957-58	1962-63	1974-75	1983-84	2008-09
Gini (Income)	0.336	0.39	0.253	0.307	0.40
Gini (Consumption)					0.35
poverty HCR	47	55	13	40	32.9
income per capita	161.3	152	274.8	194.2	398.2
Consumption per capita (month)					426.8
daily product wages (kg wheat/day)	2.5	2.25	3.1	5	9
annual growth rate		57-62	62-74	74-83	83-08
per capita income		-1.18	5.06	-3.78	3.19
product wages		-2.09	2.71	5.46	2.38

Source: Himanshu, Ishan Bakshi and Camille Dufour (2011). Income and consumption per capita are rupees per month in 1960/61 prices.

Table 8: Per capita income

	Number of Households		Per Capita Income (1960/1 Rs.)		Share of Income from Non-Farm Sources	
	1983/4	2008/9	1983/4	2008/9	1983/4	2008/9
Thakur	30	56	200	451	32%	71.6%
Murao	27	58	231	360	14%	37.6%
Dhimar	13	18	181	380	51%	93.0%
Gadariya	12	16	202	614	41%	68.5%
Dhobi	4	8	159	205	2%	31.6%
Teli	16	21	147	488	47%	90.0%
Passi	14	6	218	292	69%	71.8%
Jatab	19	38	85	253	17%	68.1%
Other	8	9	185	395	58%	96.4%
Total	143	230	194	398	34%	67%

Source: Himanshu, Ishan Bakshi and Camille Dufour (2011)

The distribution of income sources by caste is shown in Table 8 for 1983 and 2008. Within caste inequality contributes more to overall inequality than between-caste inequality (see Lanjouw and Rao, 2010). Over this period village per-capita income roughly doubled but village per-capita agricultural income was roughly constant. But non-farm income rose by a factor of around four. The result was that the ratio of farm to non-farm income decreased from two-thirds to one-third. This is a remarkable change of a fundamental nature and we shall be looking at the numbers, consequences and causations more carefully in subsequent work. It is interesting to note that similar phenomena have occurred in many other cases across India, for example the ICRISAT villages in other states: this ICRISAT reference is based on oral communication from Hans Binswanger and we shall be making more careful comparisons in future work.

SECTION 6: HEALTH, NUTRITION AND GENDER

The increases in economic prosperity have been associated with improvements in human development outcomes in Palanpur in the last 25 years. While we have already talked about increase in educational attendance and literacy rates, the last 25 years have also seen improvements in access to health services and improvements in nutritional status of children as well as adults. A preliminary analysis of some aspects of the nutritional status of children and adults is available in Dipa Sinha (2011). Some indicators of nutritional status of children by caste and economic status are given in Table 9. Compared to the national average or the state average, malnutrition among children in Palanpur appears to be on the high side. Although comparison with previous surveys on child malnutrition are not entirely valid because of small sample size in 1983 (the only previous year for which some information on nutrition is available), comparison of adult body mass index (BMI) suggests that there has been some improvement over the years.

However, a comparison of nutritional status of children by caste and economic status also suggests large inequalities. Jatabs continue to have the highest percentage of children malnourished. While Thakurs do relatively well on these indicators, the surprise improvement has been among the Muslim groups. However, there is also clear evidence that richer

households have on average lower percentage of malnourished children compared to poorer households (measured by asset quintiles or land owned).

Some of these issues are also issues on which there has been slow improvement nationally. We had detailed surveys on access to health and health seeking behaviour of the residents of Palanpur. While the data are yet to be analysed on these issues, qualitative discussions have shown that forced reliance on private expenditure on health continues to remain an important source of vulnerability for poorer households. Our survey on credit also confirms the vulnerability of poorer households to such shocks with many of them falling into debt traps after a major illness of a family member. The relatively low improvement in supply of health services such as public health centres (until recently, the nearest health centre was 15 kilometres away) has also meant low improvements in institutional deliveries (only two institutional deliveries were reported in the entire sample of women who have delivered in the last five years).

Table 9: Child Malnutrition Status by Caste and Economic Status

	Underweight		Stunted	
	N	%	N	%
Caste				
Thakur	17	53.1	20	62.5
Murao	22	62.9	25	71.4
Jatab	20	69.0	21	72.4
Muslims	11	52.4	16	76.2
Others	8	47.1	10	58.8
Total	78	58.2	92	68.7
Asset Quintiles¹⁰				
1 (Lowest)	21	75.0	20	71.4
2	19	73.1	18	69.2
3	12	63.2	15	79.0
4	12	44.4	16	59.3
5 (Highest)	14	48.3	20	69.0
Total	78	60.5	89	69.0
Land Ownership (household total)				
No land	13	68.4	16	84.2
1-5 bigha	28	66.7	30	71.4
6-10 bigha	13	50.0	17	65.4
11-20 bigha	18	56.3	19	59.4
20+ bigha	6	40.0	10	66.7
Total	78	58.2	92	68.7

Source: Dipa Sinha (2011)

¹⁰ The asset quintiles have been arrived at based on data on ownership of the household of various productive and non-productive assets using Principal Component Analysis. For details see Himanshu, Bakshi and Dufour (2011)

However, there is little evidence to suggest that the status of women has improved radically with increased incomes. Women continue to remain neglected in Palanpur society with low access to education and health. Gender discrimination in literacy and access to education has already been discussed in this section (also see Kattumuri et al, 2011) and we have noted some recent advances in participation of girls.

Problems with the empowerment of women are manifested in the very low participation of women in the labour market. Historically, Palanpur did not have many women participating in the labour market. The 2008 survey did a special survey to capture women's work. Table 10 gives the distribution of women by their employment status. 19% of women reported working outside the household in a paid job (with payment in which is not much different from the state average based on Census 2001. Of those who do participate in the labour market, these mostly belong to the lower castes such as Jatabs and some Murao women. However, regular employment such as school teachers, anganwadi workers and ASHA (Accredited Social Health Activist) are still cornered by upper caste women.

Table 10: 'Outside' Work by Women in Palanpur			
Work	Freq.	Percent	Cum.
No paid job	176	81.1	81.1
Paid in kind	25	11.5	92.6
Paid in cash	16	7.4	100
Total	217	100	100

Source: Dipa Sinha and Rosalinda Coppoletta (2011)

The survey on women is also an attempt to collect information on status of women in Palanpur society using various indicators of autonomy, decision making and mobility. Preliminary results confirm the low mobility in general of Palanpur women with moderately higher mobility of Jatab women compared to Thakur women. 3 out of 4 women reported having some say in household expenditures but only 8% have land in their own name and 18% have access to a bank account. Issues such as domestic violence are sensitive issues. 54% of women in Palanpur reported having ever been beaten by their husbands, among which 11% were beaten regularly and 36% sometimes. These are far higher than the rural India average of 36.1% and the Uttar Pradesh average of 42.4% (NFHS 3). However, given that our survey was done at a later stage during our stay when we had gained some confidence with the women in Palanpur, these numbers could also be higher because of better reporting.

SECTION 7: GOVERNMENT INSTITUTIONS AND POLITICS IN PALANPUR

Some of the external stimuli such as the opening up of markets, access to outside jobs and greater connectivity and communication have also affected the functioning and evolution of village institutions. Some institutional responses in economic dimensions such as tenancy have already been highlighted above. On social and political dimension too, there is some evidence of a changing institutional response. While some of the existing institutional barriers such as patriarchy show some sign of weakening with greater participation of women in higher education, it has also seen strengthening of participative and collective action for the common public good of the village. This has been mediated through various forums including the Panchayat, partly a response to internal dynamics of the village with greater participation of lower castes in the political process but also through external factors such as the emergence of BSP (Bahujan Samaj Party) as a strong political force in the state.

There has also been a significant increase in the spending by the central and state governments on education and health. However, the increased spending has not yet materialised into corresponding improvements in schools and public health facilities. While the number of class rooms has increased from three in 1983 to more than five in 2008, the number of teachers in the village primary school has come down from five in 1983 to only one in 2008. Although there are two para-teachers in the village, the quality of teaching in the school leaves much to be desired. Similarly, the village Anganwadi (ICDS centre for pre-school children) has never been functional. The village Anganwadi workers sits at the primary school but there are very few pre-school children present there. We have also not seen any reliable and systematic effort to provide supplementary nutrition to pre-school children in the village. Even the mid-day meal school programme was non-functional for almost one full year of our presence in the village. The most ambitious programme of the central government, NREGA was initiated when the survey team was in the village but hardly functioned in the initial months of its implementation. We also did not find any substantial evidence of the functioning of the Public Distribution System (PDS). For almost six months, the PDS shop in the village was closed because of corruption charges against the PDS dealer.

What was also unfortunate was that there was no effort to maintain even the existing institutions. The seed store and the cooperative bank in the village were important village institutions and played a role in the green revolution in the village up to the 1970s. The seed store building has almost collapsed along with its functioning and the cooperative bank was hardly functional. Incidentally, the brother of the cooperative bank manager is also the main money lender in the village leading to a problematic nexus in the institutional as well as non-institutional credit market.

Some of these problems were related to the failure or absence of collective efforts by the village community. Ironically, most of the decay in village institutional structure had taken place during the tenure of the first dalit (Schedule Caste) Pradhan (head-man) of the village. However, during the stay in the village, there were signs of change which are worth emphasising here. Two instances of village collective action are mentioned. The first was the impeachment of the erstwhile Pradhan by the village community. The requisite number of signatures to require a new election was collected and he was defeated. This was unprecedented in the history of the village. The second was the villagers' efforts to get rid of the monkey menace in the village through collective action¹¹.

Fortunately, after the impeachment of the old Pradhan and the election of a new Pradhan, there have been improvements in the functioning of most of the village institutions. There is a new permanent teacher who has been appointed in the school. The mid-day meal programme which was non-functional has started functioning. A new PDS dealer was appointed in the village. During the last election for a village Pradhan (this was later than the by-election after the impeachment of the old Pradhan), the seat was reserved for women and the village now has a woman Pradhan.

SECTION 8: CONCLUDING REMARKS

The recent high growth rates in the Indian economy have generated considerable attention. In addition to the issue of the sustainability of such growth, there has been a question as to

¹¹ Although the survey team was staying in the village, we decided not to intervene in the local politics of the village and in both instances, the survey team kept out of the affairs of the village community.

whether this growth is also shared by rural India, still home to almost three quarters of the population. It is in this context that this paper has looked at the changes happening in Palanpur in the last six decades. The basic story of Palanpur over the years, and in particular the last three decades, the particular focus of this paper, has been a story of continuity with change. The continuity is in terms of the primary drivers of change which have remained population, technology and outside jobs. However, there are very important elements of change in the way these factors have influenced the village, including the growth of incomes and the way institutions have responded to these forces including in land and labour markets.

Population growth continues to exert pressure on the resources of the village. However, this is less intense than previous years, primarily because of the mobility of the residents of Palanpur. Some have migrated out, in greater numbers than previous years, but also the population has been able to avail itself of the opportunities outside the village. The second factor has also contributed in taking away the pressure from land and agriculture. Even though, the land owned by the village residents has declined, yields per hectare have seen substantial improvements; the tenancy market has adapted itself to the new challenges with no decline in the absolute area under tenancy. Along with the intensification of mechanisation, the introduction of new crops and the integration with outside commodity markets have brought benefits to the farming community, but this has also made them vulnerable to the volatility of international markets.

The increase in non-farm employment opportunities has also meant that the labour market is no longer dependent overwhelmingly on agriculture and whilst mechanisation and technological change are leading to a decline in labour demand in agriculture, wages continue to increase. The access to outside jobs and markets has also been a factor in changes in the distribution of income and changes in the social status of different caste groups. While Jatabs, the poorest caste group, remain at the bottom of the caste hierarchy, there is evidence that they have gained socially and economically as a group. But even though, Jatabs have seen improvements in their social and economic status, overall inequality in the village has continued to increase similarly to national trends. This appears largely a result of increasing inequality within caste groups despite decline in inequality between groups.

Notwithstanding incomes increasing and institutions adapting to economic changes, there has not been strong improvements across the board in human development indicators. Literacy has increased strongly and there has been significant improvement in school enrolment. We should emphasise, however, that these are largely driven by increase in demand. On the supply side, there seems to be some deterioration of the school and quality of teaching. Other public services such as the Anganwadi and health services hardly function. Existing institutions such as the seed store and the cooperative bank are no longer functional. However, some of these problems appear to be temporary and with the change in village headman, there is some improvement in the quality of public services. The collective action by the villagers in impeaching the earlier village headman does suggest a rise in sensitivity of the village community to these issues.

Overall, Palanpur over the last three decades shows a mixed picture of change and continuity. Understanding the nature of change in Palanpur, making use of its rich data, can make a powerful contribution to our understanding of the nature of development processes in the rural areas of the country. Such understanding is also important, in turn, for understanding of the structural responses and bottlenecks for the sustainability of growth in the country as a whole. The uniqueness of the Palanpur data lies not only in its longitudinal nature, spanning over six decades but also in the extent and nature of data collected covering almost all aspects

of the village economy. These features together with the quality of the data, and the care with which they were collected, will allow various analytical exercises which are not only crucial to the examination of relevant economic theories but also for lessons on policy¹².

It must be mentioned here that even with the partial analysis undertaken so far, results from the poverty and inequality section of the recent round of the Palanpur survey have been instrumental in designing the new methodology for the BPL (Below Poverty Line) Census of Ministry of Rural Development, Government of India. Palanpur survey results were critical in understanding the various methodologies of identifying the poor in rural areas.

With the new set of expanded data, there is immense potential to look at some of the emerging theoretical issues concerning risk, diversification of income, technological response and labour market but also issues of public service delivery and their outreach and efficiency. Further the Palanpur data have already suggested hypotheses for the aggregate study of NSS data on incomes and consumption, in particular concerning the possible origins of income growth for poorer deciles (see Bhalla 2011).

As of now, we have only begun the analysis of the data that have been collected. But even in the short period since the end of data collection, there are glimpses of analytical insights on issues such as tenancy, labour market behaviour and mobility. These are issues which are important not only theoretically but also for policy. However, we have not yet been able to include some parts of our data such as credit, health, environment and the dynamics of wage formation in our analysis. Future work with the available data will not only focus on deepening our understanding on some of the already raised issues in this paper but also will expand the scope of the work to include issues such as credit market, social and political relations, environment and gender. It is only half a year since the team that collected the data left the village. We have already seen that the potential of this unique dataset is immense.

¹² Bliss and Stern (1982) and Lanjouw and Stern (1998) used the Palanpur data to contribute to various debates on economic theory.

References:

- Bhalla Surjit (2011), "Inclusion and Growth in India: Some Facts, Some Conclusions", Asia Research Centre Working Paper No.39
- Bliss Christopher and Nicholas Stern (1982), "Palanpur: The Economy of an Indian Village", Oxford University Press, Delhi
- Planning Commission (1993), "Report of the Expert Group on Estimation of Proportion and Number of Poor", Perspective Planning Division, Planning Commission, Government of India
- Planning Commission (2009), "Report of the Expert Group to Review the Methodology for Estimation of Poverty", Planning Commission, Government of India
- Himanshu, Ishan Bakshi and Camille Dufour (2011), "Poverty, Inequality and Mobility in Palanpur: Some Preliminary Results", Asia Research Centre Working Paper No.45
- Himanshu, Peter Lanjouw, Abhiroop Mukhopadhyay and Rinku Murgai (2011), "Non-Farm Diversification and Rural Poverty Decline: A Perspective from Indian Sample Survey and Village Study Data", Asia Research Centre Working Paper No.44
- Kattumuri Ruth and Dinesh Tiwari (2011), "Developments in education in Palanpur, a village in Uttar Pradesh", Asia Research Centre Working Paper No.49
- Lanjouw Peter and Nicholas Stern (1998), "Economic Development in Palanpur Over Five Decades", Clarendon Press, Oxford
- Mukhopadhyay Abhiroop (2011), "Stepping Out of Palanpur: Employment Outside Palanpur", Asia Research Centre Working Paper No.46
- Sinha Dipa (2011), "Nutrition Status in Palanpur", Asia Research Centre Working Paper No.51
- Sinha Dipa and Rosalinda Coppoletta (2011), "The Invisible half: Women's Status in Palanpur", Asia Research Centre Working Paper No.50
- Tyagi Ashish and Himanshu (2011a), "Change and Continuity: Agriculture in Palanpur", Asia Research Centre Working Paper No.48
- Tyagi Ashish and Himanshu (2011b), "Tenancy in Palanpur", Asia Research Centre Working Paper No.47
- Walton Michael (2011), "Inequality, Rents and the Long-run Transformation of India" Processed
- World Bank (2011), "Perspectives on Poverty in India: Stylized Facts from Survey Data" World Bank, Washington D C

Non-Farm Diversification and Rural Poverty Decline: A Perspective from Indian Sample Survey and Village Study Data¹

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Abstract

This paper studies the evolution of the rural non-farm sector in India and its contribution to the decline of poverty. It scrutinizes evidence from a series of nationally representative sample surveys and confronts findings from these sources against the experience of poverty decline in a western Uttar Pradesh village, Palanpur, which has been the subject of close study over a period of six decades. Sample survey data indicate that the non-farm sector in rural India has grown steadily during the past 30 years, with some acceleration during the late 1990s to the mid-2000s followed by a leveling off after 2004-05. The suggestion is of a process that has contributed modestly to declining rural poverty both directly, through employment generation, and indirectly through an impact on agricultural wages. The paper illustrates that in Palanpur, it is only relatively recently that rural poverty decline has become strongly linked to diversification of the village economy. There is little evidence that, prior to the 1990s, the poor in the village were able to participate actively in this process of intersectoral transfer out of agriculture. Data collected in 2008/9 indicate that continued expansion of the non-farm sector has now started to engage the poor directly and in a very significant manner. As the non-farm sector has expanded, the previously disadvantaged and most vulnerable segments of village society have gained access to non-farm employment opportunities and have recorded significant upward mobility. The paper goes on to highlight the close association between urban poverty reduction and rural non-farm growth (and accompanying rural poverty reduction). In particular the paper singles out small towns in India as both particularly closely linked to rural non-farm development and recording particularly high rates of urban poverty. It is suggested that galvanizing small towns may thus serve both urban and rural poverty reduction objectives.

¹ This paper arises out of an ongoing project to resurvey the village of Palanpur in 2008/9 funded by the UK Department of International Development and draws also on a recently completed World Bank Poverty Assessment of India. Lanjouw is involved in both of these projects while Himanshu and Mukhopadhyay are key participants in the Palanpur project and Murgai is a co-task manager of the World Bank's India Poverty Assessment. The Palanpur project is a collaborative effort based at the Asia Research Centre, London School of Economics and at the Centre de Sciences Humaines, Delhi. The World Bank's India Poverty assessment has been undertaken by the Poverty Reduction and Economic Management (PREM) network and the Development Economics Research Group (DECRG) of the World Bank. We are particularly grateful to Nicholas Stern for his central role both in launching the Palanpur project and in providing guidance to the India Poverty Assessment. We further wish to thank Jean Drèze, Ruth Kattumuri, Naresh Sharma, Dipa Sinha, Dinesh Kumar Tiwari, Ashish Tyagi, Neeraj, M. Sangeeta, Rosalinda Coppoetta, Loic Watine, Camille Dufour, and Florian Bersier, for their invaluable contributions. The views in this paper are those of the authors and should not be interpreted as those of the World Bank or any of its affiliates. All errors are our own.

1. Introduction

Rural India is home to 75% of the nation's population and about the same proportion of the poor in the country. Most of rural India's workforce (70%) remains primarily involved in agriculture, but in recent decades this sector's growth has lagged other sectors in the economy. While there is no escaping the need to galvanize agriculture, it is also clear that India needs to manage a transition of people out of agriculture. The gap between the number of new rural workers and the number of new jobs in agriculture is growing; agricultural advances alone will not meet the rural employment challenge. Migration to urban areas will be important, but the rural non-farm economy will also have to be a key source of new jobs.

The aim of this paper is to study the role of the growing non-farm sector in reducing rural poverty. The paper assembles various National Sample Survey Organisation (NSSO) employment surveys in order to track changes in the non-farm sector since the early 1980s.² It supplements survey-based evidence with insights arising from the detailed study of long-term economic development in a single village, Palanpur, located in western Uttar Pradesh. This village study points to the possibility of an accelerating impact of rural non-farm diversification on poverty in India, the result of a trend towards improved access of the poor to non-farm jobs that is accompanying the overall expansion of the non-farm sector.

The paper begins by examining NSS survey data to look at the transformation of India's countryside currently underway. We provide detailed evidence covering the period between 1983 and 2004-05 and provide some supplementary findings from the more recent 2007-08 NSS survey. Section 2 considers rural India's gradual economic transformation, documenting a process of diversification out of agriculture that is slow but accelerating. Section 3 shows that with growth of the non-farm sector there is also evidence of declining "quality" of non-farm jobs, notably in the direction of increased casualization of non-farm employment, away from regular, salaried, employment. The section also documents a persistently high share of the overall non-farm workforce engaged in self-employment activities. Section 4 asks whether the poor have been able to find employment in the non-farm sector as this sub-sector has expanded, and suggests that casualization of non-farm employment opportunities has indeed translated into improved access of the historically disadvantaged segments of rural society to non-farm employment. The section argues that as returns from casual non-farm employment are higher than from agricultural labour (though markedly lower than from regular non-farm employment), the growing participation of disadvantaged groups in this (sub) sector is likely to have been a positive force for poverty reduction. Section 5 reports on NSS-based regression analysis that points to a positive impact of expanding non-farm employment on agricultural wages, and thus an important additional, though indirect, impact of rural diversification on rural poverty.

We then enquire, in Section 6, whether the NSS-based findings square with what can be observed at the village level. Palanpur, a village in western Uttar Pradesh, has received intensive scrutiny by economists, based on very rich data on a wide array of economic activities covering

² The survey based analysis in this paper draws primarily on four "thick" rounds of the NSS—1983, 1993-94, 1999-2000, and 2004-05. We supplement this analysis with some preliminary evidence from the 64th round of the NSS, corresponding to 2007-08, taken from Himanshu (2011). We do not report data from the 1987-88 thick rounds because the unit record data do not produce wage rates that are comparable to wage estimates for that year published by the NSS itself. In addition, because of well-known comparability problems of the 1999-00 consumption aggregate with other rounds, in regression analysis of impacts on poverty, we exclude the 1999-00 survey round.

the entire village population, from the late 1950s through to the present day. A detailed survey of the village was undertaken in the village most recently during May 2008 to April 2010, and these data can be scrutinized alongside evidence collected during previous decades. The data indicate that the all-India patterns and processes seen in NSS surveys, are clearly underway also in this single village setting. In Palanpur, the poor were historically sharply disadvantaged in terms of access to a non-farm sector that started to become significant for the village economy in the 1970s. The poor lacked the social status, education, networks, and ability to pay bribes, necessary to obtain employment in outside jobs – particularly in those that provided regular, salaried, employment. An important finding from the most recent round of Palanpur data is that as the non-farm sector has seen some further expansion into the village economy, access to non-farm jobs has become noticeably more broad-based. Although the trend towards casualization, pointed to by the sample survey data, can also be clearly observed in Palanpur, it remains that such non-farm employment has translated into upward mobility for a significant number of Palanpur households that had previously appeared mired in absolute poverty at the bottom of the village income distribution.

The suggestion from the combined NSS and Palanpur data is of a slow process of non-farm diversification, whose distributional incidence, on the margin, is increasingly pro-poor. Efforts by the government of India to accelerate this process of diversification could yield significant pay-offs in terms of declining poverty. What can be done to accelerate such an expansion? We return in Section 7 to NSS data and take advantage of the variation in the non-farm sector across the country to explore the determinants of its growth. An important finding is that expansion of the non-farm sector in recent years has been more closely linked with urban growth than with agricultural growth.

Pursuing the relationship between urban growth and growth of the rural non-farm sector, we next ask how the impact of urban growth on the non-farm sector (and thus on rural poverty) might be further accentuated. We draw on a companion paper (Lanjouw and Murgai, 2010) to point to evidence that the association between urban growth and the rural non-farm sector is stronger if the urban centre is a small town than if it is a large city. Galvanizing the urban sector, particularly small towns, may thus constitute an important pillar of a strategy to combat rural poverty.³ Such a strategy could also align with an urban poverty reduction strategy: Lanjouw and Murgai (2010) show that urban poverty rates in India's small towns and cities are markedly higher than in large metropolitan areas.

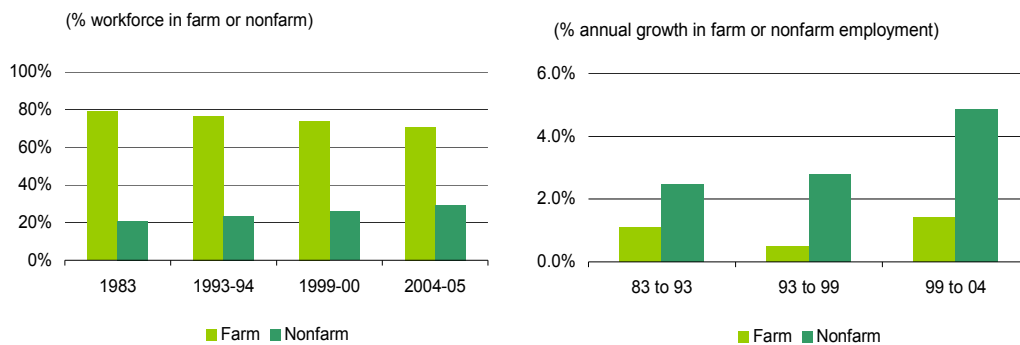
2. India's Slow but Accelerating Rural Transformation

After a long period during which the share of agriculture in the labour force remained constant, its share started declining in the mid-1970s, a trend that continues to this day. The share of the rural non-farm sector (all rural employment activities other than agriculture and its associated enterprises) has been increasing ever since. By the mid-2000s the sector employed nearly 30% of

³ And indeed, Palanpur villagers also enjoy reasonably good access to two nearby conurbations, Moradabad and Chandausi, which provide the bulk of the non-farm employment opportunities available to the villagers.

India's rural workforce (Figure 1). This amounts to about 100 million people who spend most of the year working on non-farm activities.⁴

Figure 1: The rural non-farm sector is expanding at a slow, but accelerating pace



Notes: Employment defined on the basis of principal-cum-subsidary ('usual') status. Farm versus nonfarm assignment is based on workers' reported industry, occupation, and employment status. Number of farm and nonfarm worker are calculated using (a) estimated proportions from unit level data, and (b) total rural workforce as in Sundaram (2007). *Sources:* World Bank 2011. Estimates based on 'Employment and Unemployment Survey' (EUS) of respective NSS rounds for 1983, 1993-94, 1999-00, and 2004-05.

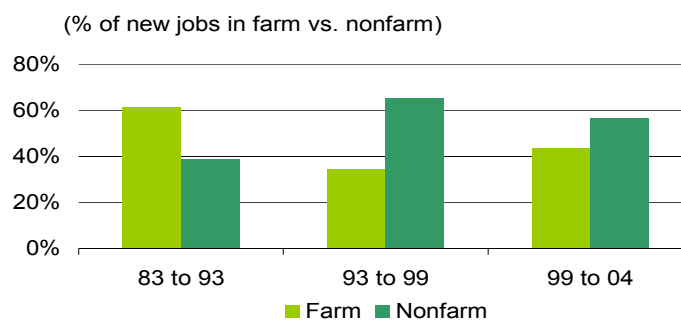
In fits and starts (with a slowdown immediately following the reforms in the early 1990s) the pace of diversification away from agriculture further picked up pace in the 1993-2004 decade, especially after 1999.⁵ Over the first period, 1983 to 1993-94, the average annual growth in non-farm jobs was just over 2%. Between 1993-94 and 1998-99, this increased to 3%, and from 1999 to 2004-05, this increased again to 4%. In the eighties, of the nearly 40 million additional rural jobs generated, the majority (6 out of every 10) were in the farm sector. But more recently, between 1993 and 2004, non-farm employment growth has outstripped agriculture: of the 56 million new rural jobs created over this period, 6 out of every 10 were in the non-farm sector (Figure 2). Himanshu (2011) indicates that growth of non-farm employment between 1999-00 and 2004-05, was likely to be, at least in part, also driven by

⁴ Unless mentioned otherwise, the NSS-based employment data presented in this paper refer to the Usual Principal and Subsidiary workers ("usual status") definition of employment. A worker's principal status is determined by the activity the worker spent most of his time doing in the year preceding the survey. Principal status workers are those who spent most of their time either employed or looking for jobs. Any activity other than the principal status constitutes a worker's subsidiary status. Usual status workers include principal status workers, and subsidiary workers who spent part of their time working or looking for jobs in the year preceding the survey.

⁵ Lanjouw and Murgai, 2009; Himanshu, 2008; Eswaran *et al.*, 2009. Sen and Jha 2005 contend that there was no acceleration in the first half of the nineties due to a decline in public expenditure in large parts of rural India in the post-reforms period. Accelerated diversification of the rural workforce towards non-farm activities is due to recovery in the sector since 1999-00 as well as a shift of workers out of agriculture due to a series of droughts in the early 2000s that placed a great deal of pressure on agricultural incomes (Himanshu, 2011).

distress in the agricultural sector which prompted households to more actively seek employment in the non-farm sector. He provides evidence that between 2004-5 and 2007-8 resumption of growth in the agricultural sector scaled back this distress-induced shift to the non-farm sector, such that further employment expansion of the non-farm sector between 2004-05 and 2007-08 was relatively muted.

Figure 2: The non-farm sector is the source of most new jobs



Notes and Sources: See Figure 1

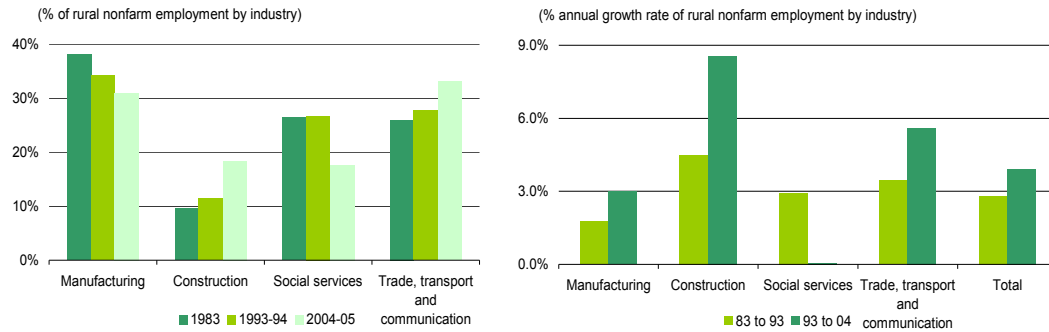
Nationally representative data on rural non-farm income is not available over time. But, according to the 2004 NCAER-University of Maryland India Human Development Survey, nearly one-half (48%) of the income of the average rural household comes from non-farm earnings (Dubey, 2008). This is true also of farming households for whom the share of their income from non-agricultural activities (46%) matches the contribution of agricultural incomes (Cai et.al., 2008).

3. The Casualization of Non-farm Work

The rural non-farm sector displays enormous heterogeneity, both in terms of sectors, and in terms of type of employment. The analysis of this section points to a growing, but increasingly casualized, rural non-farm sector. The casualization of non-farm work is evident in the types of sectors where jobs are being created and the types of jobs generated.

While manufacturing activities are often the first that come to mind when discussing the non-farm sector, by 2004-05 services provided employment for just over half rural non-farm workers (Figure 3). Only one-third was in manufacturing; the remaining one-sixth in construction. These shares have changed significantly over time. In particular, note the rapid rise of construction since the early 1990s: from only 11% of rural non-farm employment in 1993 to 18% in 2004-05. The share of social services (actually public administration and community services, as well as health and education) shows a corresponding decline over the same period: from 26% to 18%.

Figure 3: Rural non-farm is manufacturing but also services and construction

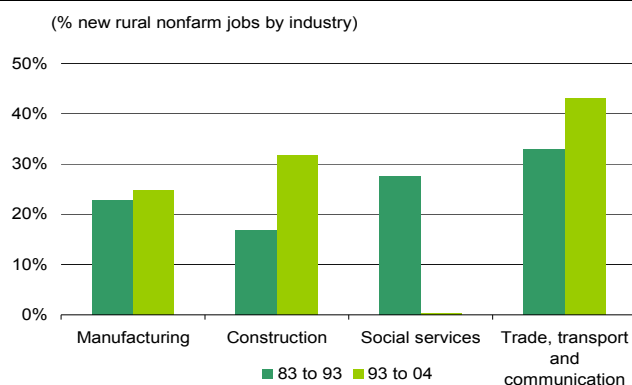


Notes: (a) Social services include public administration, defense, education, health, community and other personal or household services. (b) Trade, transport, etc. include wholesale and retail trade, hotels, restaurants, transport, storage and warehousing, and communication. Rest as in Figure 1.

All sectors saw a pickup in their employment growth rate in the nineties, except for social services, which did not grow at all. The stagnation evident here is likely due to the tight restrictions on government hiring following the fiscal crisis of the late 1990s (World Bank, 2005). Construction was the sector which grew fastest over both decades, and which saw the biggest jump in growth in the second decade, where the rural construction labour force grew on average by about 8.5% a year. Employment growth was also rapid in the second decade in the private-sector dominated service sectors of trade, transport and communication, at over 5% a year. Manufacturing employment increased by 3%.

Half of new jobs were in the construction, trade, transport and communications sectors between 1983 and 2003-04. But with the collapse of social services, and the boom in construction, 75% of new non-farm jobs created after 1993-94 were in construction and trade, transport and communications (Figure 4). Some of the services in trade and transport may well be related to the development of agriculture value chains, reflecting positive inter-linkages with agriculture.

Figure 4: Increasing non-farm jobs in construction, trade, transport and communications



Notes and Sources: See Figure 1 and 3.

Jobs in manufacturing and in the social services are more likely to be better paid and more secure, since the employer is more likely to be the government or a large company. Jobs in construction and in areas such as retail and transport are more likely to involve casual labour and self-employment. This casualization of the nonfarm sector is exactly what we find when we analyze the rural non-farm sector in these terms.

Non-farm activities can be crudely divided into three sub-sectors representing very different types of employment: *regular, salaried employment* where the worker has a long-term contract that does not require daily, weekly or monthly renewal; *casual wage labour* that entails a daily or periodic renewal of work contract; and *self-employment* where the worker operates her own business.

Regular non-farm employment is typically highly sought after and most clearly associated with relatively high and stable incomes. But only 6 % of rural workers or 22 % of the non-farm workforce held regular salaried jobs in 2004-05. 28% of the rural non-farm workforce was employed as casual labourers. While it is generally thought to be less demeaning to a worker than agricultural wage labour, and it pays better, casual work may be both physically demanding as well as hazardous (construction, rickshaw pulling, industrial workshops, etc.). In 2004-05 the other half of the non-farm rural workforce was involved in self-employment. Non-farm self-employment activities can be residual, last resort options (e.g., unpaid family labour and wage work concealed as self-employment under different forms of contracting out tasks) as well as high return activities. Whether they are of the former or latter variant generally depends on the skills and capital available for deployment.

Growth of all types of employment accelerated between 1983 and 2004-05, but casual employment grew most quickly (Figure 5). The share of the self-employed remained at

roughly 50%, while that of casual employment grew from 24% in 1983 to 29% in 2004, and the share of regular employment fell slowly but consistently from 24% to 22%.

Figure 5: Growth of all three types of non-farm jobs, 1983 to 2004-05



Notes and Sources: SE – Self-employment, Reg – Regular Salaried/Wage Employee. Rest as in Figure 1

In absolute terms, between 1983 and 2004-05, the number of self-employed rose by 23 million, the number in regular employment by 10 million and the number in casual employment by 16 million.

The declining share of regular employment between 1983 and 2004-05 is surprising since, in the normal course of development, one would expect the share of regular jobs to increase. The slower growth of jobs in the regular sector since 1993 would seem to be linked to absence of growth in the social services employment, in which regular jobs would be more common, and the very rapid growth of construction and other services, in which casual jobs would predominate.

Indeed, the puzzle becomes why the number of regular jobs has gone up rather than down in recent years. The contraction of jobs in the public sector, which has historically been the primary source of salaried work in rural areas, has been offset by a growth in private sector jobs. Public sector jobs are highly coveted for the job security and the wage premium they provide over private sector jobs. Private sector jobs share few of these characteristics.⁶

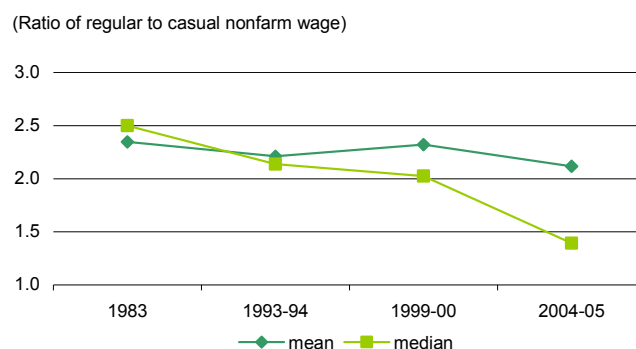
Unfortunately, the NSS does not collect data on income from self-employment. Since the self-employed make up 50% of the rural non-farm workforce, this makes it impossible to analyze changes in the income of the non-farm workforce. Our discussion is perforce restricted to the *employed* non-farm workforce.

⁶ Using the ARIS-REDS panel data set (1969-1999), Foster and Rosenzweig (2003 and 2004) report very rapid growth in rural factory employment. In their data, rural factory employment increased tenfold between 1980 and 1999, about half the villages in their sample were located near a factory, and in those villages, 10% of the male labour was employed on a factory. NSS data over the same period do not show any such growth although they do confirm the importance of manufacturing as the next most important source of salaried jobs after the public sector.

While regular jobs are still much better paid than casual ones, the gap between the two is falling as a result of the casualization of the non-farm sector. Figure 6 shows the gap over four of the surveys between 1983 and 2004-05 using both the mean and the median to compare wages in regular and casual non-farm employment. Both ratios show a declining trend, which is much stronger with respect to the median than the mean, in the first ten and last five years.

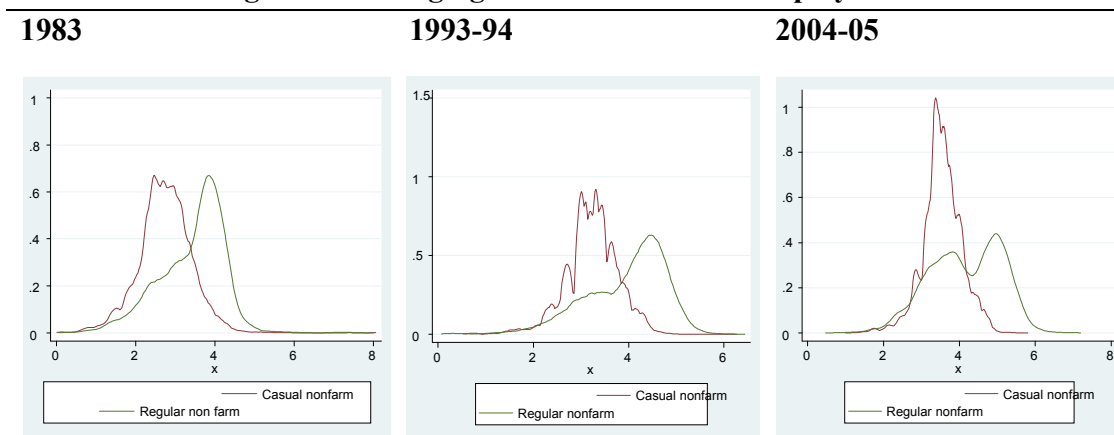
Figure 7 compares the distribution of casual and regular non-farm wages over time. Note the emerging dualism in salaried employment since 1993-94. By 2004-05, a significant share of salaried jobs is relatively poorly paid, and comparable to casual jobs. One reason is the contraction of the public sector which pays a high premium over private sector employees who have similar levels of skills and other observable characteristics (Desai et.al, 2008). Another reason might be the rising informalization of work, as noted by the National Commission on Enterprises in the Unorganized Sector (NCEUS, 2007). An increasing number of regular salaried workers have jobs without employment benefits (no protection against arbitrary dismissal), work security (protection against accidents and illnesses at the workplace) or social security (pension, health care etc.) benefits. The Commission reports that *all* of the growth in regular jobs since 1999-00 has been of employment of this informal nature.

Figure 6: The declining premium of regular over casual non-farm wages



Notes: Mean and median daily wage (Rs.) are calculated for 19 major states of India. *Sources:* See Figure 1

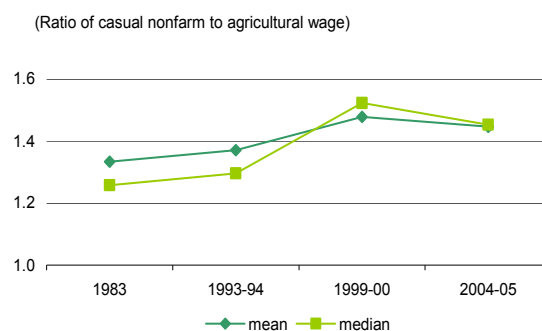
Figure 7: Emerging dualism in salaried employment



Notes: Distributions of log of real daily wages, in 1993-94 Rs, corrected for inflation using state consumer price indices for agricultural labour. *Sources:* See Figure 1.

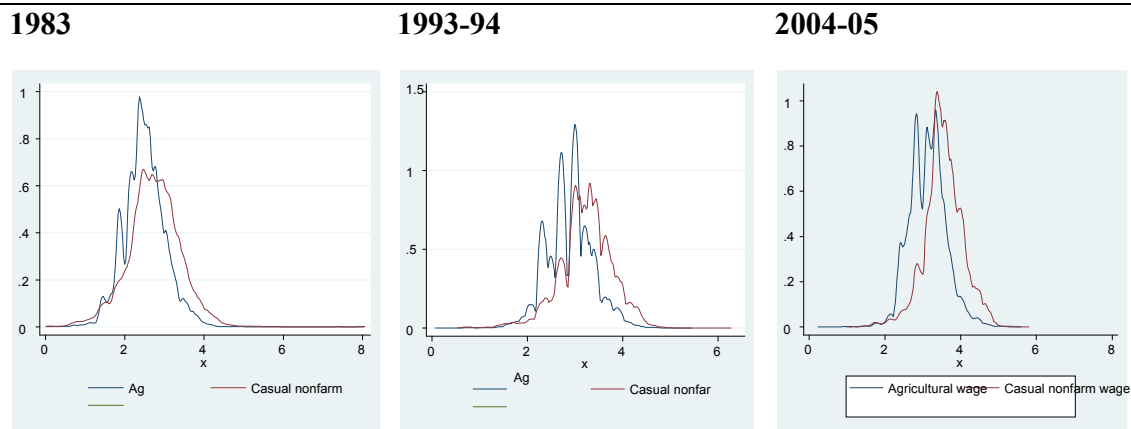
The premium embedded in the casual non-farm wage over the agriculture wage rose from 25-30% (depending on whether it is based on a comparison of means or medians) in 1983 to about 45% in 2004-05 (Figure 8). The premium is evident not only in a higher mean, but across the distribution (Figure 9).

Figure 8: The increasing premium of casual non-farm over agricultural wages



Notes and Sources: See Figure 6 and Figure 1.

Figure 9: Casual non-farm jobs pay better than agricultural wage labour across the distribution



Notes and Sources: See Figure 7 and Figure 1

Comparing the eighties and the nineties, there has been a slowdown in regular non-farm wage growth, much more rapidly if measured by the median than the mean (Table 1). This is consistent with wage growth at the top of the regular pay scale, but more rapid entry at the bottom end of the scale. The slowdown is particularly marked in the 99-04 period, and extends to the non-farm casual sector. The median regular wage fell by an annual average of over 5% between 1999 and 2004. This likely reflects the large public service pay increases associated with the Fifth Pay Commission, the public sector hiring freeze which followed, and the accompanying growth in low paid regular jobs, as well as the entry into the non-farm sector of workers pushed out of agriculture due to acute distress in the agricultural sector (Himanshu, 2011).

A lack of data makes it difficult to comment on the average earnings of the self-employed, or to assess whether the growth in the ranks of the self-employed is a symptom of agrarian distress or a sign of upward mobility. But it is clear that this is a diverse group. As evident from Figure 10 in the next section, non-farm self-employment activities tend to be evenly distributed over the income distribution, indicating that both rich and poor households are involved in such activities.

Table 1: Annual average growth in real wage				
	83-93	93-99	99-04	93-04
<i>Growth in mean wage (% per yr)</i>				
Agricultural wage	3.2	2.8	1.7	2.3
Nonfarm Regular	2.9	4.9	-0.5	2.4
Nonfarm Casual	3.5	4.1	1.3	2.8
<i>Growth in median wage (% per yr)</i>				
Agricultural wage	4.1	1.0	2.9	1.9
Nonfarm Regular	2.9	2.8	-5.4	-1.0
Nonfarm Casual	4.4	3.8	1.9	2.9
<i>Notes:</i> Nominal daily wage (Rs.) for respective periods in 19 major states are converted to 1993-94 prices using deflators implicit in the official poverty lines. <i>Sources:</i> See Figure 1				

The majority of rural non-farm enterprises tend to be very small scale, reliant largely on family labour, and operated with very low capital investment. In 2004-05, only 6% of self-employed workers were running enterprises that employed more than 5 workers. Many others are disguised wage workers who work at home producing goods using raw materials supplied to them by agents or firms that purchase the outputs (NCEUS, 2007). The location of enterprises is indicative of the low amounts of capital that are invested in many non-farm businesses. In 2004-05, 41% of self-employed workers worked out of their own dwelling. 12% had no fixed location, and an additional 10% worked on the street. Further, only one-fourth received a regular monthly or weekly payment, with the vast majority relying on irregular daily or piece rate modes of payment. Benefits such as social security or paid leave were virtually non-existent.

Perceptions of remuneration of the self-employed are also suggestive of the relatively low earnings from a large share of self-employment activities.⁷ About half of non-farm workers regard their earnings from self-employment as remunerative. When asked what amount they would regard as remunerative, about 40% of males and nearly 80% of rural females felt that their income of less than Rs 2000 per month was remunerative enough.

Of course, not all self-employed workers or enterprises are small and poorly remunerative. In some industries, earnings of self-employed workers are better than what salaried workers earn (Glinskaya and Jalan, 2005). Such enterprises and multiple occupations within households would explain the presence of self-employed workers at the top end of the income distribution.

With these conflicting trends – a growing, but casualizing non-farm sector – and without data on the earnings of the self-employed over time, it is difficult to reach a verdict on the rate of

⁷ The NSS does not collect data on earnings of the self-employed, but as a first effort, information on perceptions of remuneration of the self-employed was collected in the 2004-05 survey round.

expansion of the rural non-farm sector in value terms. Available data points to a steady increase in the non-farm wage bill of about 6% a year between 1983 and 2004-05. Broadly speaking, over time, employment growth in the non-farm wage sector has accelerated, while the growth in average earnings has decreased. These two trends cancelled each other out, and growth in total earnings was constant during this time period at about 6%, with earnings in the casual segment growing slightly faster than earnings in the regular sector (Table 2).

Table 2: Annual growth (%) in non-farm wage bill

	83-93	93-04	83-04
Nonfarm Employment	5.9%	6.2%	6.0%
Nonfarm Regular	5.3%	5.6%	5.5%
Nonfarm Casual	7.1%	7.2%	7.2%

Notes: See Table 1. *Sources:* See Figure 1

Employment Trends after 2004-05.

As indicated above, a recent study by Himanshu (2011) provides some early evidence as to the evolution of the non-farm sector in rural India since the 2004-05 NSS survey. Drawing on NSS survey data spanning the period 1977-78 through to 2007-08, Himanshu (2011) argues that the noticeable acceleration of non-farm employment between 1999-00 and 2004-05, described above, is likely to have been driven in part by particularly high levels of entry into this sector by women, children and the elderly who were pushed into the non-farm labour force because of acute distress in the agricultural sector. For example, he documents that the growth rate of agricultural GDP declined from 4% between 1993-99 to 1.6% between 1999-2004, before resuming at a rate of 4.5 between 2004-2007.⁸ The resumption of growth in the agricultural sector, post-2004, led to a slowing of employment expansion in the non-farm sector. Himanshu (2011) sees this slower non-farm employment growth during the 2004-2007 period as mainly a return to more usual labour force participation rates, especially of women. In other respects the trends pointed to above, namely ongoing casualization of non-farm wage employment and the continued significance of self-employment, are also clearly apparent in the 2007-08 data. The main thrust of the argument presented in Himanshu (2011) is thus that expansion of the non-farm sector between 1999-2004 was in large part due to push factors, and should not be interpreted as pointing to a sustained acceleration in the process of inter-sectoral transfer out of agriculture into the non-farm sector in rural areas. Nonetheless, he does point to additional evidence that there has been some employment increase in the organized sector, albeit largely informal, and underscores the need to maintain a close eye on these trends going forward.

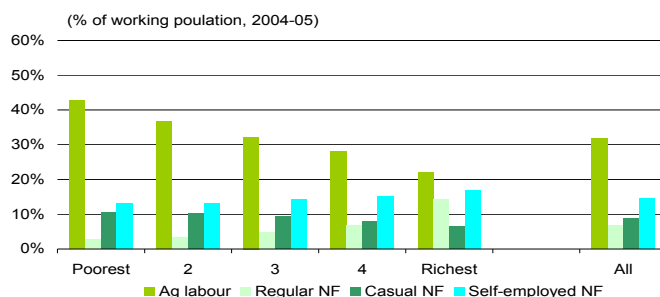
⁸ Agricultural wage growth mirrored these output trends, declining significantly during the 1999-2004 period, but then registering a significant rise in the second half of the 2000s (Himanshu, 2011).

4 Does Non-farm Employment Reach the Poor?

Regular salaried jobs are the most desirable form of employment for workers from the point of view of earnings, stability of employment, and availability of some social security. Regular non-farm employment tends to be regressively distributed across the rural population: the richer you are, the more likely you are to enjoy such employment (Figure 10).

Since casual wages have consistently exceeded agricultural wages, a shift away from agricultural labour to casual non-farm labour may not necessarily be distress driven. Casual non-farm employees are much less likely to be poor than agricultural labourers: three-quarters of agricultural labourers are in the bottom two quintiles; only one-quarter of casual non-farm workers. Nevertheless, casual employment is not a reliable route out of poverty. Casual workers tend not to have year-round employment and make ends meet by working at several jobs, often combining agricultural and non-farm activities. In 2004-05, more than half (55%) of casual non-farm workers reported that they were without work for one or more months in the year compared to 8% of salaried workers or 12% of self-employed. 14% of casual non-farm workers reported that they were seeking or available for additional employment even when working (World Bank, 2011).

Figure 10: Regular non-farm workers are more likely to be found at the top end of the rural income distribution



Notes and Sources: See Figure 1

The 2004-5 data found a slight tendency for self-employment to be concentrated among richer rural households. However, this tendency is nothing like as marked as it is for regular employment, and is not evident in the earlier surveys, which show a flatter distribution of self-employment throughout the income distribution. This is consistent with the heterogeneity of this type of employment,

Given the close links between earnings and consumption, average incidence analysis is of limited use when we want to understand whether non-farm jobs reach the poor. For example, is it the case that a regular salaried employee was drawn from the ranks of the rich, or was she in the poorest quintile and catapulted into the richest quintile on the basis of her regular salaried job? To understand who gets what jobs, we discuss briefly below whether gender, age, social status, education levels, and land holdings—characteristics which are associated with poverty,

but unlike consumption, will not change once a household member moves out of the farm economy—make it more or less likely that individuals will take up some form of non-farm work.

Shares of women in the labour force have historically been lower than of men, and this is clearly evidenced also in the non-farm sector. There is little evidence of them transitioning into the non-farm sector in any marked way, with the exception of the period between 1999-00 and 2004-05 (Himanshu, 2011). The reasons for this expansion was discussed above, and proved short-lived, following resumption of growth in agriculture and the consequent withdrawal of women from the labour force after 2004.

On average, the farm sector has a higher proportion of its labour force from individuals belonging to a scheduled caste or scheduled tribe than the non-farm sector. At the margin, an increasing number of new workers entering the non-farm sector are from an SC/ST background (World Bank, 2011). This is especially the case for casual non-farm work, and post-1994. In 2004-05 SC/STs were just as likely to get a non-farm job as non-SC/STs, but tended to concentrate in the casual wage sector.

In 2004-05 fifty percent of the farm workforce and 60% of agricultural labourers in India were illiterate. By contrast, only 30% of the non-farm workforce was illiterate. Secondary and tertiary qualifications only appeared to matter for regular employment. Beyond the attaining of basic literacy skills, going on to complete secondary or even tertiary education hugely increases the probability of obtaining regular non-farm employment, but not much other types of non-farm employment.

Within the farm sector, cultivators and agricultural labourers have very different land-holding profiles. 70% of agricultural labourers own less than 0.4 hectare. More than 50% of owner-cultivators own more than one hectare (World Bank, 2011). Non-farm workers are much more similar to agricultural labourers except that non-farm regular workers tend to have slightly greater land holdings. Which direction the causality runs is unclear: the greater landholdings may reflect the greater prosperity of salaried workers, or these asset holdings might help family members get access to the formal sector.

The patterns described above are simple correlations. These are confirmed in more systematic regression analysis based on the 1983-2004/5 rounds of NSS data that examines the relationship between occupational choice and household characteristics.⁹ In line with much other work on access to non-farm occupations, education emerges as an important determinant of access to non-farm occupations. Even a small amount of education (achieving literacy) appears to improve prospects of finding non-farm employment and with higher levels of education, the odds of employment in well-paid regular non-farm occupations rises.

Regression analysis also shows that individuals from scheduled castes and tribes are markedly more likely to be employed as agricultural labourers than in non-farm activities, even controlling for education and land.¹⁰ This effect is weakest for non-farm casual employment (and in fact insignificant for the 2004-05 survey-round) and strongest for non-farm self-employment. The regression analysis further shows that those in the non-farm sector own more

⁹ For details, see Lanjouw and Murgai (2009)

¹⁰ See also Thorat and Sabharwal (2005)

land on average than agricultural labourers, except for those in casual non-farm employment, who on average own significantly less.

Potential entrants to casual non-farm labour appear to be closest to agricultural labourers (with similar social status and landholdings) but even this pool is much more likely to be literate, and so will not be drawn as clearly from amongst the poor as are agricultural labourers. Entrants to other types of non-farm labour are better educated and less socially disadvantaged than the farm workforce. In general, expansion of the non-farm sector tends to bypass women and older workers. Encouragingly, an increasing share of the non-farm sector is drawn from ranks of the socially disadvantaged. This suggests that at the margin, an expansion of non-farm jobs will be progressive. And the part of the non-farm sector which grew the fastest between 1983 and 2004-05 is the part which has the highest participation by the socially disadvantaged and the illiterate. Given that casual non-farm employment, though worth considerably less than regular employment, still pays considerably better than agriculture (the wage premium is about 45%), the direct impact of non-farm growth on the poor is likely to be positive.

In the end, however, this analysis of the extent to which an expansion of the non-farm sector will reach India's poor, while suggestive, is both inconclusive and incomplete. In particular, it takes no account of general equilibrium effects, for example, that exit of some, even non-poor, from the farm sector could put upward pressure on agricultural wages, which would benefit the poorest. Or that the presence of non-farm opportunities could increase demand for education which over time would itself reduce poverty. To allow for the possibility of such indirect effects, a more aggregate analysis is needed. We turn to this in the next section.

5. Regression-based Analysis of the Impact of the Non-farm sector on Poverty

A large empirical literature in India has documented the association of poverty with agricultural and non-agricultural output growth, and with agricultural wages.¹¹ Some analysis has pointed to the role of the non-farm sector, primarily through the pressure it puts on agricultural wages. Himanshu (2008) and Dev and Ravi (2007) speculate that non-farm growth may be a key factor behind the decline in poverty during the nineties. Foster and Rosenzweig (2004) argue that not only has non-farm expansion been the prime driver of rural incomes, its growth has been especially pro-poor.

But historical evidence also suggests that poverty reduction has been closely tied to agricultural growth. There are also fears about whether the growth in non-farm employment can be sustained, the accompanying deceleration in wage growth, and the quality of jobs being created, leading some to refer to the growth of employment as an "illusion of inclusiveness" (Unni and Raveendran, 2007).

In the two decades between 1983 and 2004-05, real agricultural wages grew at the rate of 2.8% per year (Table 3). The rate of growth was higher in the first decade – 1983 to 1993-94 but slowed down appreciably in the next decade, to 2.3% per year, and much more drastically to 1.7% per year in the last five years between 1999-00 and 2004-05. But the rate of rural poverty reduction did not decline along with agricultural wage growth (and agricultural GDP). The decline of rural poverty has been remarkably consistent over the last twenty years at an annual

¹¹ See Himanshu, 2005 and 2008; Lal, 1976; Singh, 1990; Lanjouw and Stern, 1998; Sharma, 2001; Sundaram, 2001.

average rate of just over 2 per cent a year. Whether the accelerating growth of non-farm employment also seen in Table 3 has helped offset the impact of slower agricultural wage growth on the rate of rural poverty reduction requires closer investigation.

We use a region-level panel dataset constructed from the 1983, 1993-94 and 2004-05 surveys of the NSS.¹² The three surveys span a period of over 20 years and, given that there are on average some 60 regions that make up the major states of India, also reflect considerable spatial heterogeneity. The analysis asks whether regions where the non-farm sector grew were also the ones where poverty declined (or agricultural wages grew), net of trends in other determinants of poverty (or wages).

Table 3: Trends in rural poverty, GDP and agricultural wages
(Annualized rates of growth, %)

	Rural Poverty	Agricultural wage	Non-farm employment	GDP	Nonfarm GDP	Agriculture GDP
1983-2004	-2.3	3.2	3.3	5.8	7.1	2.6
1983-93	-2.2	3.2	2.5	5.2	6.4	2.9
1993-2004	-2.4	2.3	3.7	6.3	7.7	2.4
1999-2004	---	1.7	4.8	6.0	7.2	1.8

Notes: GDP at factor cost at 1993-94 prices. Agriculture GDP originating in agriculture, forestry, and fishing. Nonfarm GDP defined as a residual. Poverty rates based on official poverty line. *Sources:* Poverty rates, agricultural wages and non-farm employment estimated by authors based on NSS data. For rest, Eswaran et. al 2009.

Various econometric specifications were used and are reported in Table 4. All the specifications confirm that higher yields are associated with declining rural poverty and that there is a strong and negative impact of agricultural wage growth on rural poverty. When state fixed effects are used, non-farm employment is positively associated with rural poverty. This pattern is consistent with the notion put forward by Foster and Rosenzweig (2004) that non-farm enterprises producing tradable goods (the rural factory sector) locate in settings where reservation wages are lower. If the rural factory sector seeks out low-wage areas, factory growth will be largest in those areas that have not experienced local agricultural productivity growth. It is also consistent with distress-induced recourse to non-farm employment. Both these hypotheses are explored further below.

When the same model is estimated with region-level fixed effects (column 2), however, the relationship is overturned: expansion of non-farm employment is associated with a reduction in poverty, and this effect is stronger the smaller the share of the working population with low education levels.¹³ Thus when we focus specifically on *changes over time* and sweep away

¹² For a detailed discussion, see Lanjouw and Murgai (2009).

¹³ The size and significance of parameter estimates remain similar if a measure of regular salaried nonfarm employment – on the grounds that it is more rationed than other forms nonfarm employment – is used instead of overall nonfarm employment.

cross-sectional variation across regions, poverty decline is observed to occur most rapidly in regions where the non-farm sector has grown.

There was no decline—until the period between 1999-00 and 2004-05—in the share of the adult population with primary occupation in agricultural wage labour.¹⁴ Agricultural wages can be viewed not only as useful proxies of poverty but can also be seen as indicators of poverty in their own right insofar as they capture the reservation wages of the rural labour force. Column 3 of Table 4 which reports state-level fixed effects estimates for the log of real agricultural wage rates indicate that regions with higher growth in agricultural yields also have rising agricultural wages. However, once fixed factors at the NSS region-level are swept out (column 4), the correlation between agricultural yields and wages becomes smaller and insignificant. This could reflect attenuation bias due to measurement error in our measure of yields as a proxy for true physical agricultural productivity over time.¹⁵

Regression estimates are consistent with labour tightening effects of employment opportunities outside agriculture. In both columns 3 and 4, the time dummy variables show that net of yield improvement agricultural wages were highest in 2004-05 and lowest in 1983. This suggests that the observed deceleration of agricultural wage growth between the two decades can be attributed to declining agricultural productivity growth. Agricultural wages would have declined even further if other employment opportunities which raise labour costs and draw labour out of agriculture had been absent.

Suggestive evidence of the impact of non-farm employment opportunities on labour market tightening is reported in column 5 in which non-farm employment per adult and its interaction with education levels are added to the regression. Coefficient estimates on these variables suggest that, contrary to the aggregate picture reported above, within regions, non-farm employment growth is associated with rising agricultural wages. This association is weakened if education levels are particularly low. Presumably low education levels prevent agricultural workers from accessing non-farm jobs (see discussion in the previous section), and expansion of this sector then results in less tightening of the agricultural wage market.

¹⁴ Prior to 1999, the reduction in the share of farm in total rural employment was driven by a reduction in the share of cultivators, with the share in agricultural laborers staying constant.

¹⁵ Some component of the spatial and temporal variation in the measure reflects input-use variations.

Table 4: Correlates of Rural Poverty and Agricultural Wages

	ln(Regional Poverty Rate)		ln(Real Agricultural Wage, Rs per day)		
	(1)	(2)	(3)	(4)	(5)
ln(real ag wages)	-1.09 (8.02)***	-0.7 (3.88)***	---	---	---
ln(yield)	-0.45 (3.36)***	-0.62 (2.81)***	0.35 (4.68)***	0.14 (1.14)	0.14 (1.21)
ln(real urban mean per capita expenditure)	-0.31 (1.98)**	-0.41 (1.98)*	0.06 (0.66)	-0.04 (0.40)	-0.08 (0.76)
ln(land per capita)	-0.14 (2.53)**	-0.11 (1.66)*	0.03 (0.90)	0.02 (0.45)	0.01 (0.38)
Year=1993	0.22 (3.02)***	0.16 (1.58)	0.28 (7.54)***	0.35 (7.85)***	0.34 (7.60)***
Year=2004	0.25 (2.40)**	0.19 (1.11)	0.45 (9.54)***	0.58 (8.26)***	0.57 (7.41)***
<i>Nonfarm variables</i>					
ln(nonfarm employment per adult)	0.74 (2.07)**	-3.4 (2.27)**			1.37 (1.72)*
ln(nonfarm sh.)*% with below primary education	-0.7 (1.78)*	3.87 (2.31)**			-1.52 (1.69)*
Constant	4.61 (4.55)***	4.1 (2.90)***	1.66 (3.14)***	2.63 (3.89)***	2.98 (4.21)***
Fixed effects	State	Region	State	Region	Region
R-squared	0.81	0.89	0.87	0.94	0.94

Notes: Absolute value of t statistics in parentheses * significant at 10%; ** significant at 5%; *** significant at 1%. *Sources:* Lanjouw and Murgai, 2009

The econometric analysis thus suggests that expansion of the non-farm sector is associated with falling poverty via two routes: a direct impact on poverty independent of the effect that non-farm growth may have on the agricultural sector, and an indirect impact attributable to the positive effect of non-farm employment growth on agricultural wages.

Do the broad trends discernable from national sample survey data resonate with the process of non-farm diversification and poverty decline experienced at the village level? In the next section we scrutinize detailed information collected over many decades in the village of Palanpur, Uttar Pradesh, in an attempt to understand better how the broad, aggregate, trends described above may be playing themselves out at the ground level.

6. A Village-Level Perspective

The village of Palanpur, in Moradabad District in west Uttar Pradesh, has been the subject of study since 1957-8, when it was first surveyed by the Agricultural Economics Research Centre (AERC) of the University of Delhi. The AERC resurveyed the village in 1962-3. In 1974-5 Christopher Bliss and Nicholas Stern selected Palanpur as a village in which to study the functioning of rural markets and the behaviour of farmers. They spent just under a year residing

in the village and collecting quantitative data, based on a set of questionnaires they designed and fielded, as well as qualitative information emerging out of informal discussion and observation. Bliss and Stern published a book based on their investigations (Bliss and Stern, 1982), which has a primary focus on the 1974-5 survey year.

A fourth resurvey of Palanpur took place in 1983-4 when Jean Drèze and Naresh Sharma, in close consultation with Bliss and Stern, lived in the village for fifteen months, once again collecting data for the entire village population. The further re-survey of the village, once again by Drèze and Sharma, was conducted in 1993. This survey was carried out over a shorter period and is consequently somewhat less comprehensive. The shorter duration of the 1993 survey prevented collection of the detailed economic information necessary to construct an income measure for 1993 which is comparable to that of the earlier survey years. In the period between April, 2008 and June 2010, Himanshu of Jawaharlal Nehru University in Delhi led a team of researchers to resurvey Palanpur for a sixth time. The fieldwork was organized in close consultation with Nicholas Stern, Jean Drèze, and Naresh Sharma and was structured and carried out in such a way as to maximize comparability with the earlier waves of data collection. Preliminary data from this most recent round of fieldwork have recently become available and are underpinning the discussion of income growth and non-farm diversification explored here. As finalization of the 2008-10 data is still underway, the findings reported in this paper pertaining to this survey year should thus be regarded preliminary and subject to revision.

In early 2008 Palanpur had a population of 1,270 persons, divided into 236 households (Table 5). In this year, Hindus represent 85.2 per cent of the village population, and Muslims the remaining 14.8 per cent. Hindus are divided into six main castes, with a few additional castes numbering three households or less. The shares of Hindus and Muslims in the total population, and the relative sizes of the main castes, has remained fairly stable throughout the survey period.

Throughout the survey period, the economy of Palanpur has essentially been one of small farmers. The proportion of landless households is relatively small by Indian standards and there are no clearly outstanding large farmers. The bulk of economic activity is in agriculture, but a growing share of village income comes from non-agricultural wage employment outside the village. The economy is by and large a market economy with few restrictions on production and exchange. However, the village's economy does differ from standard textbook models of market economies due to factors such as incomplete markets, imperfect information, transactions costs, and extra-economic coercion (see Lanjouw and Stern, 1998).

Table 6 presents income levels for the survey years from 1957-8 to 2008/9. Based on these figures it appears that real per-capita incomes in Palanpur grew between 1957-8 and 2008-9, but not particularly rapidly. For example, even between 1983-4 and 2008-9, the doubling of real per capita income implies an annual growth rate of just under 3%. Even so, per-capita income growth in Palanpur is widely acknowledged by villagers themselves to have resulted in an expansion of purchasing power and wealth.

Caste

In Palanpur, caste exercises not only an important social function but also has a bearing on economic behaviour and outcomes. In Palanpur there are three main castes in the village accounting for about two thirds of the population: Thakurs, Muraos and Jatabs (see Table 5). Relations between these three castes evolved in significant ways between 1957-8 and 2008-10.

Table 5: Palanpur Village Profile 1993 and 2008

		1993	2008
Location		13 kilometers north of Chandausi a small town in Moradabad district; 31 kilometers south of the city of Moradabad	
Population		1,133	1,270
Number of Households		193	236
Average Household Size		5.93	5.42
Female/Male Ratio		0.85	0.98
Main Hindu Castes	Thakur, Murao, Dhima, Gadaraia, Passi, Jatab		
Main Muslim Castes	Dhobi, Teli		
Proportion of the population in different caste groups	Thakur	25.0	22.9
	Murao	25.9	24.4
	Muslim	12.5	14.8
	Jatab	11.7	16.2
	Other	24.9	21.7
Main economic activities	Agriculture, livestock, wage employment outside the village		
Percent Landless Households		23%	27%
Main Crops	Wheat, rice, menthe, sugarcane, bajra, pulses, jowar, potatoes		
Main Public Amenities	Primary school, railway station, temples, wells, pond		

Table 6: Real Incomes in Palanpur, 1957-2008

	1957-8	1962-3	1974-5	1983-4	2008-9 ^a
Per Capita Income at current prices (Rs/year)	173	149	1039	1025	12324
Index of per-capita income at current prices	100	86	602	594	7124
Real per capita income at 1960-1 prices ^b	161	152	275	194	398

^a Income data for the year 2008/9 are preliminary estimates, calculated for 182 households (out of 236 in the village as a whole), comprising earnings from cultivation, salaried employment, self-employment, mechanized farm activities, non-farm casual labor, sales of milk, and remittances. Income from agricultural wage labor have not yet been added.

^b Calculated by deflating the nominal per-capita income figures by the Consumer Price Index for Agricultural Labourers for Uttar Pradesh, with 1960-1 as the base.

Highest in the village social hierarchy are the Thakurs, who traditionally had the largest landholdings in the village which, because of an aversion to manual labour, they usually leased out or cultivated with hired labour. Declining land endowments and rising real wages have gradually compelled most of them to take up cultivation. Thakurs are also keen to take advantage of employment opportunities outside the village. Politically, the Thakurs remain the most powerful caste in Palanpur in 2008-9, but they have become less and less the unquestioned leaders of the village. Political reforms introduced in Uttar Pradesh the 1990s, reserving the position of village headman to Scheduled Castes, have prevented the Thakurs from directly exercising their political power. This has not resulted in a withdrawal from village politics, but has required the Thakurs to engage in coalition building and in enlisting proxies to act on their behalf. In economic terms, Thakurs have seen their supremacy challenged by Muraos, whose rising prosperity – particularly during the 1970s and 1980s - has inspired much respect in the village.

The Muraos are the only caste in Palanpur whose traditional occupation is cultivation. In 1957-8 their per-capita land endowments were roughly the same as those of the Thakurs, but over the survey period they have accumulated land, and have ended up with the best land endowments in the village. Good land, hard work, sustained thrift and excellent farming skills enabled the Muraos to take advantage of technological change in agriculture. They have generally been so successful in this regard that they have tended to eschew involvement in non-agricultural activities. The economic status of Muraos improved considerably over the survey period, and this carried over into some rise in their social status as well. The most recent round of survey data suggest that by 2008-9 agriculture may have become somewhat less potent a driver of income growth and that this may be contributing to an erosion of the Murao's economic status.

An examination of evolving caste relations based on scrutiny of the Muraos and Thakurs would suggest considerable caste dynamism in Palanpur, with the Muraos gradually coming to rival the Thakurs at the top of the village hierarchy. At the bottom end of the hierarchy, however, the situation of the Jatabs had long seemed frozen in place. Historically, the Jatabs

were socially and economically the most deprived caste in Palanpur. They owned little land, lived in a cluster of shabby mud dwellings, and earned most of their income from casual labour and subsistence farming. Illiteracy among Jatabs had been near universal throughout the survey period, and up to 1993 few Jatabs had ever succeeded in obtaining regular employment outside the village. Indeed, Lanjouw and Stern (1998) indicate that in the period up to 1983/4, even after controlling for wealth position and education levels, Jatabs were unlikely to find regular employment in the non-farm sector. In these earlier survey rounds, there was little sign of growth in per-capita income for the Jatabs. So, in relative terms, their incomes were declining: in the 1957/8 and 1962/63 survey years the average per-capita income of Jatab households was about 70% of the village average. In the 1974/5 and 1983/4 survey years the corresponding proportion had declined to barely 50%. In terms of access to land the Jatabs also experienced little advancement. Even though Jatabs were as involved in cultivation as the Muraos and Muslims, unlike those two groups they did not succeed in increasing their land endowments. In fact, between 1983/84 and 1993 Jatabs lost 10 per cent of their land, mainly due to one household selling most of its land to repay mounting debts. A recent study by Lanjouw and Rao (2010) examines the position of Jatabs within the village income distribution in the period up to 1983/84 and point to evidence that as a group they were gradually, but clearly, falling ever farther behind the rest of the village.

One of the key findings emerging from early examination of the 2008/9 survey data, is that the circumstances of the Jatabs seems to be improving, both absolutely and relative to the rest of the village. This process is paralleled by a clearly discernable expansion of non-farm employment in the village economy. What is key is that Jatabs appear now to be enjoying greater access to non-farm opportunities than in the past, and this is translating into rising per capita incomes and upward mobility. We provide some preliminary documentation of this trend below.

In their account of Palanpur's growing inter-connectedness with the wider economy of Uttar Pradesh, Lanjouw and Stern (1998) documented a process of expanding non-agricultural wage employment amongst villagers. In the period up to 1993, much of this took the form of regular or semi-regular employment outside the village (distinguished from "casual" daily wage employment by a modicum of employment security, and usually involving weekly or monthly, as opposed to daily, wage payments). Between 1957-8 and 1993 the number of villagers with regular or semi regular employment outside of agriculture rose from 11 to 49.¹⁶ Most of these jobs occurred outside the village, within commuting distance for Palanpur's inhabitants. The range of activities gradually expanded over time, but one clear pattern was that employment opportunities tended to cluster around well-defined locations and socio-economic groups. Employers that accounted for a significant number of jobs include the railways, a cloth mill in Moradabad, bakeries in Chandausi, a liquor bottling plant, various marble and steel polish shops in Moradabad, and brick kilns in the surrounding areas. Lanjouw and Stern (1998) noted that the growth of non-farm jobs in Palanpur was associated with commuting of some household members out of the village and a shift in the balance of activities in the household.

Data on employment patterns in Palanpur over the period between 1993 and 2008-09 data have recently been subjected to detailed scrutiny in Mukhopadhyay (2011). Between 1993 and

¹⁶ The number of outside jobs in 1993 was somewhat lower than in 1983-4 due to the closure of some local cloth mills.

2008, the number of non-farm jobs (primary and secondary combined) continued to grow significantly (Table 7). In 2008-09, 200 non-farm jobs were held by villagers, up from 107 in 1993 (and 125 in 1983/84), while the population of the village grew only from 1133 in 1993 to 1270 in 2008-9. An important change in employment trends, however, and one that echoes the NSS-based findings discussed above, is that non-farm employment expansion between 1993 and 2008 occurred mainly as a result of expansion self-employment activities and casual wage labour outside of agriculture. The number of self-employment activities tripled (from 23 to 71), and casual wage jobs more than doubled (from 35 to 78). But regular (and semi-regular) jobs increased marginally from only 49 to 51. Mukhopadhyay points to two explanations for the slow growth of regular non-farm employment. First, it appears that closure in the late 1980s of the cloth mills in the vicinity of Palanpur, was not reversed in the years after 1993. Second, Mukhopadhyay's detailed analysis reveals that an important number of households and individuals who reported regular non-farm employment in 1983-84 were no longer residing in the village by 2008-09. Regular employment in the 1980s had been concentrated amongst villagers belonging to the Passi caste in the earlier survey years. By 2008-09, as a result of selective migration, no Passi villagers reported any regular non-farm employment, and indeed, the size of the Passi community had declined significantly as well.

The range and radius of non-farm jobs has continued to increase progressively. Palanpur villager's involvement in the labour market of Moradabad has become particularly noteworthy. For example, the Moradabad Railway Yard currently provides employment to anywhere between 10-50 villagers, with the number fluctuating in accordance with labour requirements of the agricultural cycle, and the availability of other non-farm jobs. Villagers join groups of labourers that unload rakes of cement and fertilizer bags, receiving payment on a per-sack-unloaded basis. On an average day, earnings for the members of the group come to around Rs 200 each. The work is very difficult and tiring, and not everyone can do it. But on average, the work is much more rewarding than agricultural labour (where the daily wage in 2008 was Rs. 100) and, importantly, is also considered to be much less demeaning than working as an agricultural labourer.

Table 7: Occupation Status in Palanpur 1957-58 to 2008-09

	1957		1983		1993		2008	
	Prim	Sec	Prim	Sec	Prim	Sec	Prim	Sec
Cultivation and Livestock	141 (81)	12	141(50)	32	187 (55)	13	184 (48)	122
Self Employment								
(Non Farm)	6 (3)	2	17 (6)	6	16 (5)	7	45 (12)	26
Skilled Self Employed	6	2	5	3	9	5	13	3
Unskilled Self Employed			12	3	7	2	32	23
Wage Employment								
(Regular/Semi Regular)	5 (3)	6	72 (26)	2	46 (14)	3	43 (11)	8
Regular (Skilled)	1		7	1	7		13	
Regular (Unskilled)	4	4	48		21	1	17	
Semi Regular (Skilled)			1		1		6	3
Semi Regular (Unskilled)		2	16	1	17	2	7	5
Wage Employment								
(Casual)	22 (13)	24	23 (9)	36	34 (10)	34	36 (9)	74
Agriculture Labor	22	7	10	21	16	17	2	30
Non farm Casual Labour	0	17	13	15	18	17	34	44
Study	0 (0)		9 (3)		28 (8)		46 (12)	
Other	0 (0)		5 (2)	2	4 (1)		9 (2)	1
None	1 (1)	131	17(6)	206	25 (7)	280	24 (6)	156
Total	175 (100)	175	284 (100)	284	340 (100)	340	387	387

Source: Mukhopadhyay, 2011.

Alongside the expansion of non-farm jobs has come a significant increase in the contribution of non-farm income to village income (Table 8). In 1983/4, non-farm sources accounted for roughly a third of village income. By 2008-9 this has doubled, and the non-farm economy now accounts for fully two-thirds of the entire village income. Of particular interest, in light of the discussion above about differential access to non-farm opportunities across caste groupings, is the evidence that suggests that Jatabs have seen a particularly significant increase in the share of income deriving from non-farm sources. In 1983-4, non-farm income accounted for only 17% of the total income of Jatabs. This had increased four-fold, to 68%, by 2008-9. While Table 8 shows that all castes have seen a significant rise in income from non-farm sources, the increase amongst Jatabs has been particularly dramatic.¹⁷ While in 1983-4 overall per capita income of Jatabs averaged less than half the village average, the expansion in non-farm earnings appears to have attenuated this gap, with per capita incomes of Jatabs now representing nearly two thirds of the village average.

Table 8: Share of Income from Non-Farm Sources 1983/84 and 2008/09

	Number of Households		Per Capita Income (1960/1 Rs.)		Share of Income from Non-Farm Sources	
	1983/4	2008/9	1983/4	2008/9	1983/4	2008/9
Thakur	30	56	200	451	32%	71.6%
Murao	27	58	231	360	14%	37.6%
Dhimar	13	18	181	380	51%	93.0%
Gadariya	12	16	202	614	41%	68.5%
Dhobi	4	8	159	205	2%	31.6%
Teli	16	21	147	488	47%	90.0%
Passi	14	6	218	292	69%	71.8%
Jatab	19	38	85	253	17%	68.1%
Other	8	9	185	395	58%	96.4%
Total	143	230	194	398	34%	67%

We examine the declining poverty of Jatabs more explicitly in Tables 9-13 where we divide the village population, in turn in 1983-84 and 2008-9, into fractiles of economic well-being, and consider how over time Jatabs have lifted themselves out of the lowest margins of the welfare distribution. We proceed in two steps. We first revisit a concept of “observed means” described in Lanjouw and Stern (1991, 1998) whereby Palanpur households are ranked on the basis of their apparent prosperity by the field investigators directly involved in the intensive

¹⁷ The fact that agricultural wage labor income has not (yet) been added to the total income figures for 2008-9 is likely to result in some overstatement of the importance of non-farm income for Jatab households, seeing the historically high involvement of this caste in agricultural wage labor. It is interesting to note, however, that correcting this omission will likely raise Jatab incomes even further for 2008-9, strengthening the argument below that Jatabs have seen a particularly significant rise in their economic status.

fieldwork for each respective year. The point of departure here is that the affluence of a household in a small Indian village is, to some extent, a matter of common knowledge in the sense that its asset position and purchasing power is widely known. For the 1983-4 data, Jean Drèze and Naresh Sharma, first classified households into seven 'groups' of increasing prosperity labelled 'Very Poor', 'Poor', 'Modest', 'Secure', 'Prosperous', 'Rich', and 'Very Rich'. The investigators classified households in this way independently, without consultation. It is of some comfort that Drèze and Sharma agreed to a considerable extent in their ranking of households, confirming the view that the relative position of households in the scale of economic affluence is in many cases fairly clear to informed observers. A final stage of classification consisted of reclassifying the households into five quintiles of roughly equal size, designated 'Very Poor', 'Poor', 'Secure', 'Prosperous' and 'Rich'.

This exercise was repeated in 2008-9, this time by four investigators involved in the detailed fieldwork covering a period of nearly two years. While the same five fractile headings were employed, it was decided not to impose the requirement that the village population be divided evenly into each group. In this sense there was some attempt to allow the investigator's assessment to also accommodate an overall improvement in living standards.

Tables 9 and 10 present the results of the "observed means" classification for 1983-4 and 2008-9, respectively. Table 9 indicates that in 1983-4 90% of Jatab households had been classified by Jean Drèze and Naresh Sharma as being either 'Very Poor' or 'Poor'. There was not a single Jatab household that could be categorized as 'Prosperous' or 'Rich' in this year. By 2008-9 this assessment had changed somewhat (Table 10). Although half of the Jatab households were still being assessed as 'Very Poor' or 'Poor' in that year, the other half of Jatab households were being judged as either 'Secure' or 'Prosperous' in that year. On the basis of this subjective assessment of well-being the evidence points to a significant improvement in the relative position of Jatabs by 2008-9.

Table 9: Observed Means Classification of Palanpur Households by Caste in 1983/4

	Very Poor	Poor	Secure	Prosperous	Rich	% (No. of hhs)
Thakur	0.0	0.267	0.233	0.267	0.233	1.00 (30)
Murao	0.0	0	0.222	0.370	0.407	1.00 (27)
Dhimar	0.154	0.462	0.308	0.077	0.0	1.00 (13)
Gadariya	0.0	0.250	0.25	0.167	0.333	1.00 (12)
Dhobi	0.250	0.250	0.250	0.0	0.250	1.00 (4)
Teli	0.375	0.313	0.188	0.063	0.063	1.00 (16)
Passi	0.400	0.067	0.133	0.200	0.200	1.00 (14)
Jatab	0.737	0.158	0.105	0.0	0.0	1.00 (19)
Other	0.286	0.143	0.0	0.429	0.143	1.00 (8)
% of households	22%	19%	20%	19%	20%	100% (143)

Table 10: Observed Means Classification of Palanpur Households by Caste in 2008/9

	Very Poor	Poor	Secure	Prosperous	Rich	% (No. of hhs)
Thakur	0.052	0.121	0.345	0.259	0.224	1.00 (56)
Murao	0.036	0.200	0.400	0.182	0.182	1.00 (58)
Dhimar	0.136	0.364	0.273	0.091	0.136	1.00 (18)
Gadariya	0.0	0.133	0.533	0.267	0.067	1.00 (16)
Dhobi	0.250	0.250	0.250	0.250	0.00	1.00 (8)
Teli	0.273	0.182	0.273	0.136	0.136	1.00 (21)
Passi	0.0	0.167	0.667	0.0	0.167	1.00 (6)
Jatab	0.077	0.436	0.410	0.077	0.0	1.00 (38)
Other	0.182	0.182	0.182	0.455	0.0	1.00 (9)
% of households	8%	23%	37%	19%	13%	(230) 100%

We turn next to repeat of this exercise using per capita income, rather than ‘observed means’, as our indicator of economic status.¹⁸ Table 11 reveals that on the basis of an income criterion, as was seen with the ‘observed means’ classification, roughly 90% of Jatab households in 1983-4 were counted in the bottom two quintiles of the per capita income distribution. Again, this picture had evolved markedly by 2008-9 (Table 12). Although 60% of Jatab households were still counted among the bottom two quintiles of the per capita income distribution, the other 40% were now at less risk. Indeed, 12% of Jatab households in 2008 were counted among the richest quintile in per capita income terms.

While these findings are still preliminary, and not yet complete, the evidence for Palanpur points to a significant improvement in the relative position of what has historically been a particularly vulnerable and disadvantaged group of households. These households are also, for the first time, actively engaged in the non-farm sector, earning roughly as much from non-farm sources (as a percentage of total income) as the other castes. The picture is one of an expanding non-farm sector generating returns that appear to exceed those from agriculture, slowly becoming less exclusively the preserve of the well-off, and therefore representing an increasingly important engine of rural poverty reduction.

Table 11: Per Capita Income Classification of Palanpur Households by Caste in 1983/4

	Very Poor	Poor	Secure	Prosperous	Rich	% (No. of hhs)
Thakur	0.067	0.233	0.267	0.233	0.200	1.00 (30)
Murao	0.037	0.222	0.111	0.333	0.296	1.00 (27)
Dhimar	0.231	0.231	0.154	0.231	0.154	1.00 (13)
Gadariya	0.083	0.250	0.333	0.083	0.250	1.00 (12)
Dhobi	0.250	0.0	0.500	0.250	0.0	1.00 (4)
Teli	0.375	0.063	0.250	0.250	0.063	1.00 (16)
Passi	0.267	0.133	0.067	0.067	0.467	1.00 (14)
Jatab	0.632	0.263	0.105	0.00	0.00	1.00 (19)
Other	0.143	0.143	0.286	0.286	0.143	1.00 (8)
% of households	22%	19%	20%	19%	20%	100% (143)

¹⁸ Although we note that our income data are still complete for only 182 out of 236 households.

Table 12: Per Capita Income Classification of Palanpur Households by Caste in 2008/9

	Very Poor	Poor	Secure	Prosperous	Rich	% (No. of hhs)
Thakur	0.075	0.207	0.264	0.264	0.189	1.00 (56)
Murao	0.217	0.239	0.217	0.174	0.152	1.00 (58)
Dhimar	0.333	0.111	0.111	0.222	0.222	1.00 (18)
Gadariya	0.0	0.083	0.167	0.250	0.500	1.00 (16)
Dhobi	0.333	0.333	0.333	0.00	0.00	1.00 (8)
Teli	0.125	0.250	0.125	0.250	0.250	1.00 (21)
Passi	0.0	0.600	0.200	0.0	0.200	1.00 (6)
Jatab	0.520	0.080	0.200	0.080	0.120	1.00 (38)
Other	0.250	0.250	0.00	0.250	0.250	1.00 (9)
% of households	20%	20%	20%	20%	20%	100% (230)

7. Urban Growth as a Strategy for Rural Poverty Reduction

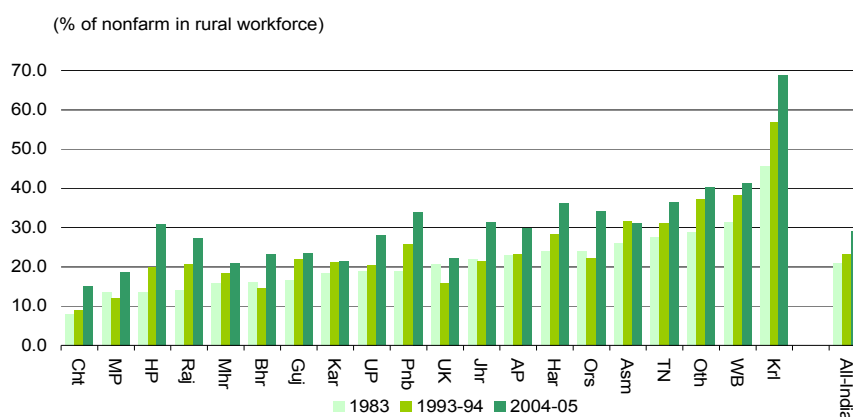
In the preceding sections we have indicated that NSS survey data, corroborated by detailed evidence from Palanpur, point to a process of non-farm diversification that is slow but discernable, and whose distributional incidence, on the margin, is becoming increasingly pro-poor. Efforts by the government of India to support, and possibly accelerate, this process of diversification thus seem justified. At present, however, the rural non-farm sector in India seems to be growing only fairly slowly, compared to China and other successful Asian countries. What can be done to accelerate an expansion? In the discussion below we suggest that one possible direction is to consider measures to galvanize growth of India's small towns.

The Indian literature has been dominated by two debates around the determinants of the size and growth of the non-farm sector.¹⁹ First, is the growth of rural non-farm activities a positive development, or is it a response to slow agricultural growth? Do “push factors” into the non-farm sector dominate – such as the need to manage income risk in agriculture via income diversification, to cope with short-term shocks such as drought, and to compensate for long-term

¹⁹ For a summary of the debates, see Himanshu (2008).

constraints such as access to farm land – or are the “pull factors” more important, such as lower risk or higher returns in the nonfarm sector? Second, to the extent that pull factors are important, is growth of the rural non-farm sector driven by the internal dynamism of the rural economy, particularly growth in agricultural productivity, or by exogenous factors such as the agency of the state or growing demands for non-farm goods and services from urban areas?

Figure 11: Growth in non-farm employment is spread unevenly



Notes and Sources: See Figure 1

The regional and temporal variation in non-farm growth in the period between 1983 and 2004-5 can be used to address these questions. Employment shares in non-farm activities grew since 1983 in nearly all states but with large differences in terms of the size and growth of the sector (Figure 11). In Kerala, the share of non-farm in total rural employment was as high as 69% in 2004-05. In other states, such as Madhya Pradesh and Chhattisgarh, the sector was still to make its presence felt. In Tamil Nadu, non-farm employment grew by 1.7% a year, well below the 6.5% growth in Himachal Pradesh between 1983 and 2004-05. There is no straightforward relationship between state incomes and size of the non-farm sector (in terms of employment). Relatively high income states such as Maharashtra and Gujarat have small non-farm sectors, with less than one-fourth of the rural workforce employed in non-farm activities. Nor is there a clear relationship between the initial size of the sector and its growth.

In an effort to shed some light on the drivers of non-farm growth in India, Lanjouw and Murgai (2009) draw on the NSS region-level panel dataset described in Section 5 to estimate models of NSS region-level non-farm employment growth on changes in agricultural yield, urban consumption levels, and education levels. The correlation of non-farm growth with yield offers a window on the links between agricultural productivity growth and non-farm development. Average per capita urban consumption per region is included as a proxy for market size for rural non-farm products and services. In addition, the regressions control for land abundance, casual non-farm wages (as a proxy for reservation wages), and education levels

(to capture the extent to which low education levels in rural areas may act as a deterrent to rural non-farm employment growth) as well as secular time trends. The models are estimated with either state-level or NSS region-level fixed effects. Given that there is more spatial than temporal variation in the data, parameter estimates from state-level fixed effects regressions are driven largely by cross-sectional variation. Region-level fixed effects regressions control for unobserved characteristics within regions and variation arises largely from region-level changes over time. The analysis points to a number of interesting findings about the patterns of non-farm employment growth.

Lanjouw and Murgai (2009) find little evidence to suggest that non-farm employment growth in the past two decades has been driven by a rural dynamic of production and consumption linkages with the agricultural sector. While regression results indicate that regions with high agricultural productivity growth tend to have high non-farm employment growth, the parameter estimates become insignificant once control variables other than yield are added to the specifications. In addition, *within* regions, the analysis shows that non-farm employment, and self-employment in particular, expanded when agricultural productivity declined. This suggests that self-employment activities may serve as a safety net – acting to absorb labour when agriculture is in decline – rather than being promoted by growth in the agricultural sector. A negative relationship between agricultural productivity growth and non-farm diversification is also consistent with Foster and Rosenzweig (2003 and 2004) who analyze NCAER data to show that non-farm diversification tends to be more rapid and extensive in places where agricultural wages are lower and where agricultural productivity growth has been less marked.

An important additional finding in Lanjouw and Murgai's (2009) analysis is that growth in urban areas appears to be important. During the two periods of analysis, 1983 to 1993-94 and 1993-94 to 2004-05, regression estimates suggest that non-farm employment increased more rapidly in regions where urban incomes also grew. Disaggregating the analysis by different types of non-farm employment, the results show that it is regular salaried jobs and self-employment activities that appear to be most strongly and positively correlated with urban growth – the relationship between casual non-farm employment and urban growth is not statistically significant in these models.²⁰ The positive role of urbanization in stimulating non-farm diversification in India has previously been noted by a number of scholars including Bhalla (1997), Papola (1992), Jayaraj (1994) and Eapen (1994). Evidence from other countries such as Nepal and Bangladesh also indicates that better paid non-farm activities tend to cluster around urban areas (e.g., Fafchamps and Shilpi, 2005).

An interesting additional feature of the data in India is that the relationship between urbanization, rural non-farm employment and rural poverty varies by city-size. Table 13, based on small area estimates of poverty and inequality for West Bengal, Orissa and Andhra Pradesh, illustrates (Gangopadhyay et al, 2010, and Lanjouw and Murgai, 2010). In West Bengal and Andhra Pradesh the share of the block (or *tehsil*) -level rural workforce employed in non-farm activities is positively and significantly related to the proportion of urban centres in the district to which the *tehsil* belongs that are classified as small. This relationship holds whether or not the correlation between non-farm employment and small town share controls also for a wide range of infrastructure and other demographic characteristics. In Orissa the relationship is not so clear

²⁰ Moreover, in contrast to the results from models that control for state-level fixed effects, the urban parameter estimates lose significance when changes in nonfarm employment over time *within* regions are examined.

cut – with the evidence in this state pointing to a negative (albeit insignificant) relationship. However, there are very few large towns in Orissa. What the models for all three states also demonstrate is that controlling for the share of small towns in the district, the overall level of urban poverty in the district is strongly and negatively associated with the fraction of the rural workforce employed in the non-farm sector. Thus, rural non-farm employment tends to be positively related to urban poverty reduction and this appears to be particularly the case if the urban growth occurs in small towns.

Table 13: Rural nonfarm employment is higher in districts with more small towns, and with lower urban poverty

Variables	Andhra Pradesh		Orissa		West Bengal	
	Uncond.	Cond.	Uncond.	Cond.	Uncond.	Cond.
Urban headcount	0.117 [0.042]***	-0.356 [0.086]***	-0.759 [0.112]***	-0.246 [0.185]	-0.359 [0.131]**	-0.501 [0.201]***
Fraction of small towns in the district	0.085 [0.023]***	0.236 [0.045]***	-0.012 [0.035]	-0.155 [0.058]	-0.230 [.161]	1.370 [0.343]***
R ²	0.01	0.4	0.13	0.57	0.08	0.59

Notes: Standard errors in brackets; + significant at 10%; * significant at 5%; ** significant at 1%. In each of the states, two models are estimated, one that adds *tehsil*-level demographic and infrastructure conditioning variables, and one that does not. *Sources:* Gangophadyay, Lanjouw, Vishwanath and Yoshida (2010).

Table 14: The Elasticity between rural and urban poverty rates is greater for small towns

Variables	Elasticities	
Log incidence of poverty in small towns (in district)	0.435 [3.47]	0.400 [3.30]
Log incidence of poverty in large towns (in district)	0.263 [2.77]	0.262 [2.76]
Total population in district	-0.272 [-5.40]	-0.279 [-5.59]
Share of district population that is urban	0.059 [1.11]	
State dummy: AP	-1.72 [-19.02]	-1.705 [-29.23]
State dummy: OR	-0.400 [-3.52]	-0.372 [-3.35]
Adj R ²	0.336	0.336

Note: West Bengal, Orissa, and Andhra Pradesh Combined. *Rest of Notes and Sources:* Gangophadyay et al (2010) and Lanjouw and Murgai (2010).

In a companion paper concentrating on urban poverty Lanjouw and Murgai (2010) confirm that poverty reduction in small towns would have a larger spill-over effect on rural poverty than urban poverty reduction concentrated in large cities. Drawing on the small area poverty estimates in the three states of West Bengal, Orissa and Andhra Pradesh, Table 14 indicates that the overall elasticity of rural tehsil-level poverty with respect to urban poverty (calculated across towns and cities in the district within which the tehsil is located) is 0.44 for small towns (<100,000 inhabitants) relative to 0.26 for large towns. These estimates control for overall population in the district as well as the share of the district population that is urban. The evidence is consistent with the notion that there is a greater sensitivity of rural poverty to changes in poverty in small towns than in large cities. While this evidence is suggestive, it is important to acknowledge in Tables 13 and 14 that the direction of causality between, say, rural poverty and urban poverty, or rural non-farm employment and urban poverty, could be running in both ways (and quite possibly there are causal effects running both ways at once).

Aside from the greater sensitivity of rural poverty reduction to urban poverty reduction efforts in small towns, are there additional normative grounds for a focus on small towns? Lanjouw and Murgai (2010) provide evidence that urban poverty in India is concentrated in small towns. In 1983 overall urban poverty in India was 42.3 percent, but the rate in cities with populations of 1 million or more was only 29 percent. In towns with up to 50,000 inhabitants, the poverty rate at that time was nearly 50 percent, higher even than rural poverty in that year. In 1993/4 and 2004/5 the same picture emerges: poverty in the large metro-centres is dramatically lower than in the smaller urban centres (Lanjouw and Murgai, 2010). This pattern of a higher incidence of poverty in small and medium towns has received some attention in India and has been documented in several studies, notably Dubey, Gangopadhyay and Wadhwa (2001), Kundu and Sarangi (2005) and Himanshu (2008).²¹ In his introductory chapter for the India Urban Poverty Report 2009, Amitabh Kundu points to the comparatively high incidence of poverty in India's small towns (relative to metro cities) and argues that this is the consequence of a variety of factors that have favoured large towns in recent decades. For example, he argues that globalization has facilitated the mobilization of resources by large cities by strengthening their internal resources base and enabling them to attract funds from global capital markets. Small towns, by contrast, have not seen similar opportunities arise. Kundu emphasizes further that the small towns have fewer human and technical resources at their disposal and that consequently their capabilities for administration, planning and implementation can be exceedingly weak (Kundu, 2009, page 29-30). It should be noted that not only are poverty *rates* in small towns higher than in larger cities, but given the size of the overall urban population residing in small towns, the urban poor living in small towns also vastly outnumber the urban poor who live in large cities. Lanjouw and Murgai (2010) indicate that the share of the urban poor living in small and medium towns in urban poverty declined only slightly from 87 percent in 1983, to 84.4 percent by 2004/5. Alongside the instrumental role that growth in small towns might play in helping to reduce rural poverty (via expansion of non-farm employment opportunities), there

²¹ Ferré, Ferreira and Lanjouw (2009) draw on insights generated by small area poverty estimation methods to investigate the relationship between poverty and city size in six developing countries (Albania, Brazil, Kazakhstan, Kenya, Morocco and Sri Lanka). They find that in five of the six countries poverty is clearly lowest, and public service availability greatest, in the largest cities – those where governments, middle classes, opinion-makers, hotels and airports are disproportionately located.

also appear to be strong normative grounds for close attention to small towns within an overall urban poverty reduction strategy.

8. Concluding Remarks

In this paper we have analyzed relationship between rural poverty, rural non-farm diversification and urban growth. We started by showing that the non-farm sector in rural India has grown steadily in the period since 1983, with some acceleration during the late 1990s and first half of the present decade, but levelling off again in the period after 2004-05. We demonstrated that this process of rural transformation has contributed to declining rural poverty both directly, through employment generation, particularly casual wage employment, and also indirectly through an impact on agricultural wages.

We next examined the highly specific case of one single village, Palanpur, located in Moradabad district, Uttar Pradesh, and found that many of the patterns observed at the national, or state-level, from National Sample Survey Data are echoed in the recent evolution of the village economy. Notably, we argued that in Palanpur in the decades up to the early 1990s, one might have questioned whether rural non-farm employment contributed in a direct and meaningful way to poverty reduction in the village. The evidence in fact suggested that the most remunerative and attractive non-farm jobs were not accessible to the poorest and most disadvantaged segments of the village population. In the period between 1993 and 2008-9, however, non-farm casual wage and self-employment opportunities in Palanpur were shown to have expanded markedly and, importantly, it now appears that the weaker groups in the village are also heavily involved in the non-farm economy. The non-farm sector now accounts for the largest share of village income, and it seems that non-farm employment lies behind the noteworthy upward mobility of the poorest segment of the village population. A key feature of non-farm diversification in Palanpur is that it takes the form of many villagers commuting on a daily basis to nearby towns to seek casual, regular and self-employment opportunities in those localities. Increasingly, Palanpur households combine farming with non-farm activities – part of an ongoing process of households adjusting their balance of activities.

The paper then moved on to suggest that urban consumption growth may be playing an important role in contributing to growth in the rural non-farm economy, and thereby also to rural poverty reduction. It went on to speculate that the link from urban development to rural poverty reduction might have been stronger if urban poverty reduction had been centred in India's smaller towns and cities. It is in such small towns and cities that the bulk of the urban poor are concentrated, and these same towns and cities are also more tightly connected to surrounding rural areas.

The analysis in this paper combines to suggest that a good strategy of urban development and poverty reduction may also make excellent sense from a rural poverty perspective. We have argued that rural non-farm diversification (and resultant rural poverty reduction), is found to occur more rapidly where there is consumption growth in neighbouring urban centres. We point to evidence suggesting that the association is stronger if the urban centre is a small town than if it is a large city. Galvanizing the urban sector, particularly small towns, may thus constitute an important pillar of a strategy to combat rural poverty.

References

- Bhalla, S. 1997. "Trends in Poverty, Wages and Employment in India." *Indian Journal of Labour Economics*, Vol.40, No.2.
- Bliss, C. and Stern, N. (1982) Palanpur: the Economy of an Indian Village (Oxford and New Delhi: Oxford University Press).
- Cai, J., A. de Janvry, and E. Sadoulet. 2008. "Rural Households in India: Sources of income and incidence of burden of rising prices." Background paper prepared for India Poverty Assessment Report.
- Datt, G. and Ravallion, M. 2009. "Has Poverty in India become less responsive to Economic Growth", background paper prepared for *India Poverty Assessment Report*, The World Bank.
- Desai, S., A. Dubey, B.L. Joshi, M. Sen, A. Shariff, and R Vanneman. 2008. *India Human Development Report: Challenges for a Society in Transitions*. New Delhi: National Council for Applied Economic Research and USA: University of Maryland.
- Dev, M. and C. Ravi. 2007. "Poverty and Inequality: All-India and States, 1983-2005." *Economic and Political Weekly*, Feb 10.
- Dreze, J., P. Lanjouw, and N. Sharma. 1998. "Economic Development 1957-93". In *Economic Development in Palanpur Over Five Decades* eds. P. Lanjouw and N.H. Stern. New Delhi and Oxford: Oxford University Press.
- Dubey, A. 2008. "Consumption, Income and Inequality in India." Background paper prepared for India Poverty Assessment Report.
- Dubey A., S. Gangopadhyay, and W. Wadhwa. 2001. "Occupational Structure and Incidence of Poverty in Indian Towns of Different Sizes", *Review of Development Economics*, vol. 5:49-59.
- Eapen, M. 1994. "Rural Non-agricultural Employment in Kerala - Some Emerging Tendencies", *Economic and Political Weekly*, Vol. 29, No.21.
- Eswaran, M., A. Kotwal, B. Ramaswami, and W. Wadhwa. 2008. "How Does Poverty Decline: Suggestive Evidence from India, 1983-1999." Bread Policy Paper, No 14.
- _____. 2009. "Sectoral Labour Flows and Agricultural Wages in India, 1983-2004: Has Growth Trickled Down?" *Economic and Political Weekly*, July 10.
- Fafchamps, M. and F. Shilpi. 2005. *Isolation and Subjective Welfare: Evidence from South Asia*, mimeo.
- Ferreira, F. and Lanjouw, P. 2001. "Rural Nonfarm Activities and Poverty in the Brazilian Northeast" *World Development* 29(3) 509-528.
- Ferre, C., F.H.G. Ferreira, and P. Lanjouw. 2009. "Is There a metropolitan Bias? Urban Poverty and access to services by city size in six developing countries", The World Bank, *draft*.
- Foster, A. and M. Rosenzweig. 2003. "Agricultural Development, Industrialization and Rural Inequality." Mimeo, Brown University and Harvard University
- _____. 2004. "Agricultural Productivity Growth, Rural Economic Diversity, and Economic Reforms: India, 1970-2000." *Economic Development and Cultural Changes*, 52: 509-542.

- Gangopadhyay, S., Lanjouw, P., Vishwanath, T. and Yoshida, N., 2010. "Identifying Pockets of Poverty: Insights from Poverty Mapping Experiments in Andhra Pradesh, Orissa and West Bengal" *Indian Journal of Human Development*, 4(1), January-June.
- Glinskaya, E. and J. Jalan. 2005. "Quality of Informal Jobs in India." Background paper prepared for Draft World Bank Report, *India's Employment Challenge: Creating Jobs, Helping Workers*. New Delhi: World Bank.
- Haggblade, S., Hazell, P. and Reardon, T. (2007) *Transforming the Rural Non-Farm Economy* (Washington D.C.: Johns Hopkins University Press).
- Himanshu. 2005. "Wages in Rural India." *Indian Journal of Labour Economics* Vol. 48(2).
- _____. 2008. "Agriculture and Non-farm employment: Exploring the inter-linkages in Rural India." Background paper prepared for India Poverty Assessment Report.
- _____. 2011. "Employment Trends in India: A Re-examination", mimeo, School of Social Sciences, Jawaharlal Nehru University, New Delhi.
- Jayaraj, D. 1994. "Determinants of Rural Non-Agricultural Employment." In *Non-agricultural Employment in India: Trends and Prospects* eds. P. Visaria P and R. Basant. New Delhi: Sage Publications.
- Kundu, A and N. Sarangi. 2005. "Employment Guarantee in India: The Issue of Urban Exclusion", *Economic and Political Weekly*, vol. 40: 3642-46.
- Kundu, D. 2009. "Elite Capture and Marginalization of the Poor in Participatory Urban Governance. A case of Resident Welfare Associations in Metro Cities", in *India Urban Poverty Report 2009*, New Delhi: Oxford University Press.
- Lanjouw, P. and Stern, N. (1991) *Poverty in Palanpur* World Bank Economic Review, January, 5(1), 20-60.
- Lanjouw, J. O. and Lanjouw, P. (2001): *The Rural Nonfarm Sector: Issues and Evidence from Developing Countries*, Agricultural Economics, 26, pg 1-23.
- Lanjouw, P. (2007) *Does the Rural Non-Farm Economy Contribute to Poverty Reduction?* in Haggblade, S., Hazell, P. and Reardon, T. (2007) Transforming the Rural Non-Farm Economy (Washington D.C.: International Food Policy Research Institute).
- Lanjouw, P. 2009. "Some Stylized Facts about Rural Poverty and Geography and a Question for Policy", in Kochendorfer-Lucius and Pleskovic, 2009 *Spatial Disparities and Development Policy*, Washington D.C., The World Bank.
- Lanjouw, P. and N. H. Stern. (eds). 1998. "*Economic Development in Palanpur Over Five Decades.*" New Delhi and Oxford: Oxford University Press.
- Lanjouw, P, and R. Murgai. 2009. "Poverty decline, agricultural wages, and non-farm employment in India: 1983-2004." Policy Research Working Paper, No.4858. World Bank, Washington, DC.
- Lanjouw, P, and R. Murgai. 2010. "Size Matters: Urban Growth and Poverty in India 1983-2005, mimeo, Development Economics Research Group, the World Bank.
- Lewis, W.A. 1954. "Economic Development with Unlimited Supplies of Labour." *The Manchester School*, 28(2): 139-191.

- Mukhopadhyay, A. (2011) "Stepping Out of Palanpur: Employment Outside Palanpur, from Short Visits to Long Term Migration and how they are Linked", mimeo, Planning Unit, Indian Statistical Institute (Delhi) and Institute of Economic Growth, Asia Research Centre Working Paper No.46
- Munshi, K. and M. Rosenzweig. 2006. Traditional Institutions Meet the Modern World: Caste, Gender, and Schooling Choice in Globalizing Economy." *American Economic Review*, 96(4):12225-1252.
- National Commission for Enterprises in the Unorganised Sector (NCEUS). 2007. *Report on Conditions of Work and Promotions of Livelihoods in the Unorganised Sector*. New Delhi: Government of India.
- Palmer-Jones, R. and Dubey Amaresh. 2007. 'Poverty Measurement, Poverty Lines and Consumer Price Indexes in India: a Critique.' Paper presented at International Seminar on "Revisiting the Poverty Issue: Measurement, Identification and Eradication, A.N. Sinha Institute, Patna, 20-22 July 2007.
- Papola, T. S. 1992. "Rural Non-Farm Employment: An Assessment of Recent Trends." *The Indian Journal of Labour Economics*, 35(3).
- Reardon, T. Berdegue, J. and Escobar, G. (2001). "Rural Nonfarm Employment and Incomes in Latin America: Overview and Policy Implications" *World Development* Vol 29, No.3.
- Sen, A. 1996. "Economic Reforms, Employment and Poverty: Trends and Options." *Economic and Political Weekly*, Vol 31, No. 35-37.
- Sen, A. and P. Jha. 2005. "Rural Employment: Patterns and Trends from National Sample Survey." In *Rural Transformation in India – The Role of Non-farm Sector* eds. Rohini Nayyar and A. N. Sharma. New Delhi: Institute for Human Development.
- Sharma, H.R. 2001. "Employment and Wage Earnings of Agricultural Labourers: A State-wise Analysis." *The Indian Journal of Labour Economics*, 44(1).
- Singh, I. 1990. *The Great Ascent: The Rural Poor in South Asia*. Washington D.C.: Johns Hopkins University Press.
- Sundaram, K. 2001. "Employment and Poverty in 1990s: Further Results from NSS 55th Round Employment-Unemployment Survey, 1999-2000." *Economic and Political Weekly*, August 11, 2001.
- Thorat, S. and N.S. Sabharwal. 2005. "Rural Non-farm Employment and Scheduled Castes: Activities, Education and Poverty Inter-linkages." In *Rural Transformation in India – The Role of Non-farm Sector* eds. Rohini Nayyar and A. N. Sharma. New Delhi: Institute for Human Development.
- Unni, J. and G. Raveendran. 2007. "Growth of Employment (1993-94 to 2004-05): Illusion of Inclusiveness?" *Economic and Political Weekly*, Jan 20.
- World Bank. 2005. *State Fiscal Reforms in India: Progress and Prospects*. New Delhi: World Bank and MACMILLAN India
- World Bank, 2011. *Perspectives on Poverty In India: Stylized Facts from Survey Data* (Washington D.C. and Delhi: World Bank and Oxford University Press India)

Poverty, Inequality and Mobility in Palanpur: Some Preliminary Results

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Introduction

One of the important objectives of the Palanpur Survey has been to track the evolution of various aspects of well being of households in the village over time. A central focus has been income which is inextricably linked to the way agriculture has been organised in the village. At the same time, it must be recognised that agriculture now plays a less important role in the village economy than in the years of the previous surveys. The expansion of outside jobs and migration has brought both a diversification of employment and income sources and a decline in the contribution of agriculture in shaping household income: the shift from farm incomes being a majority share of total income in 1983 to a minority share in 2008-09 represents a fundamental change.

Along with the weakening of agriculture as a source of income and livelihood, traditional factors such as land have become less important in explaining inequality and poverty in the village. And access to outside jobs and markets, together with migration has contributed not only to increasing the overall income in the village, but has also been a factor in favour of a more equitable income distribution; other factors have pulled income distribution in an opposite direction. An example of this is the increased income level of Jatabs and their participation in agriculture through leasing in.

Tracking the well being of households and assessing their relative status is not straight forward, notwithstanding the close attention to the quality of data collected. Some of the problems are methodological but some of them are also because of the inherent inability of surveys to capture aspects of well being which can have only very limited quantification. However, since Palanpur offers the unique advantage of having very detailed longitudinal data for a single village, where some of these measures of income and other indicators of well being are available for a fairly long period of time, we have an important opportunity to analyse the factors which have contributed to the growth of the village economy and the incomes of village households each with their different characteristics. But more importantly, it also gives a perspective on household behaviour and their ability to enhance their income given their human and physical endowments in a rural setting. Understanding this ability must be at the heart of pursuing the objective of “inclusive growth”¹ and thus of making policy.

In previous surveys, the principal approach of tracking household well being was via income, in particular current income. Well being is much more than income, assets or consumption but we begin with examining these elements. Broader notions, which include status, are also discussed in this paper. Health and education are examined in other papers.

¹ Inclusive growth has been the mantra of the Government of India for the last two administrations. It reflects the recognition that despite high rates of growth, rural areas have not been able to see the kind of growth that has accrued to urban counterparts.

Although the 1974-75 survey expanded the scope of income to non-cultivation income, the most comprehensive income calculation was done in 1983. Another measure of well being that was used was the asset holding of households although the data were largely restricted to productive assets. A third measure that was used in 1983-84 was the 'observed means' method which was essentially the personal observation of the investigators who stayed in the village. The observed means in this case basically represented the access to resources (means) of the household. In that sense, it was not very different from the asset measure although it embodied a broader perspective.

All these measures did have their problems and some of these have been widely debated in the empirical as well as theoretical literature. Problems lie not only in the way one defines income as a measure of well being but also with the inherent capacity of households to convert assets (physical as well as human) into sources of income. Importantly, income measures are subject to seasonal/annual variations, particularly agricultural income. It is also widely recognised that consumption measures are in that sense a much more stable measure of well being² and are less prone to seasonality. They are also more related to outcomes compared to income measures, which are difficult to define and to collect. Income on the other hand may better reflect capabilities, directly than does consumption.

The present round of survey 2008-10, apart from including all the previous measures has also incorporated two other measures of relative well being of households. The first is a separate schedule of consumption expenditure. It is not common to find a village survey, which has such an extensive consumption expenditure survey. The need for a consumption expenditure survey was not only because, as mentioned, consumption embodies some smoothing and therefore less prone to seasonal factors than income but also because most of the empirical literature on measurement of poverty and inequality in India is done using consumption expenditure surveys in particular the National Sample Survey. In that sense it will provide us a relative benchmark to situate Palanpur in the larger context of the state and the country as a whole.

The second measure is qualitative and takes into account the households' perception about other households in the village. This technique of participatory rural appraisal (PRA) is a standard technique used by anthropologists and sociologists to assess the relative well being of members of a group. This part of the exercise was done by a specialised agency with trained researchers. This exercise is very similar to the 'observed means' measure used in previous surveys of Palanpur and is essentially based on perceptions. It takes into account various aspects of well being while arriving at the relative status of a household such as land, caste and housing and easily perceived command over resources. While similar to the observed means measure, it does offer the advantage of being standardised and thus, potentially less biased by the notion of well being held by particular researchers. At the same time, it has the drawback that it provides only a relative ranking of households and not absolute levels.

This paper provides some stylised facts, which emerge from a preliminary analysis of the five measures that we have used to assess the relative well being of households in the village. Of these, income and consumption also give us some idea of the absolute level of incomes and are helpful in situating Palanpur across state and country. But more importantly, since these are

² We are referring to the monetary and resource flow aspects of well being here.

absolute quantitative measures they also allow us to track progress over time for the village as a whole and also of various groups in the village. The other three will be largely used to assess the relative status of households for a particular survey year but some inferences can be drawn on relative progress over time.

Before proceeding further, certain caveats are in order. First, we are not yet in a position to estimate income to a high degree of precision and for all households. Therefore, the data used for income analysis in this paper are preliminary and subject to change as we refine our income analysis. We have information for suitable analysis at this stage of 180 households out of 231 households in the village. On the other hand, on assets we now have information on not only productive assets (farm as well as non-farm) but also on consumer durables and therefore our asset measure is much more comprehensive than the ones used in previous surveys. However, while we have aggregate information on assets held by households and the sources through which they were acquired, we are not in a position to value the assets with precision because of the absence of information on value of purchase, quality of asset and the rate of depreciation, if any. Nonetheless, the broad aggregates that we have are relatively comparable to the ones used earlier. Finally, while some data on income are available for all the previous survey years, observed means is available only for 1983. Also, there is no information on either income or observed means for 1993 and therefore for most of our comparative exercises we use 1983 as the reference year.

Basic economic indicators of Palanpur

Table 1 presents some of the basic indicators of income in Palanpur over the years. A preliminary look at the table suggests a doubling of incomes in real terms during the last 25 years, representing average annual rate of growth of 2.5 to 3 percent. While this may not be the highest rate of growth that Palanpur has seen between the surveys, this was 5% per annum between 1962 and 1975 immediately in the wake of increased agricultural productivity due to expanded irrigation, double cropping and the green revolution, these are comparable to the average rate of growth of incomes in rural areas seen between 1983 and 2008 from the national accounts. At the same time, it is also obvious that the growth of incomes is not driven largely by increases in yields which have grown slower compared to all the previous such periods. Increase in wheat yields, which is the dominant crop in Palanpur at 1.4 % per annum, is contributing only in a very small way to the increase in overall incomes. However, the growth rate of wages does suggest that the income of wage earners has continued to increase although at a slower rate than the 1970 and 1980s. While the growth has continued, it is also worth noticing that it has also been accompanied by increasing inequality in the village. While this is easily comparable using income inequalities, even the consumption inequality is higher than the respective income inequality in 1974-75 and 1983. 1974-75 shows lowest inequality across all survey years. This could partly be due to the rise of irrigation, cropping intensity and the new seed varieties which benefitted virtually all households in the village coupled with the fact that 1974-75 was a good agricultural year, so that there were few households with close to zero income that can result from failure in an agricultural community. This again is consistent with the overall story emerging from secondary data, which shows increasing inequality. Finally, although poverty numbers are not comparable since there was no consumption expenditure estimate for earlier years, poverty head count ratio at 33% in the village is very close to the poverty headcount ratio

of Western Uttar Pradesh for 2007-08³. Palanpur does not appear to be better or worse than similar villages in Western Uttar Pradesh.

In thinking about the distribution of income in Palanpur, we must go beyond the simple measures of inequality. And in Palanpur we can. There have been fascinating and important changes in Palanpur where some groups have risen and some have fallen. And some individuals take advantage of few opportunities faster than others and some individuals suffer setbacks. Intra-group inequality is generally still more important than between-group inequality.

Table 1: Basic indicators					
	1957-58	1962-63	1974-75	1983-84	2008-09
Gini (Income)	0.336	0.39	0.253	0.307	0.40
Gini (Consumption)					0.35
Poverty HCR	47	55	13	40	32.9
Income per capita	161.3	152	274.8	194.2	398.2
Consumption per capita (month)					426.8
Wheat yield	40	50	100	150	210
Price index	1.07	0.98	3.78	5.28	30.95
Daily product wages (kg wheat/day)	2.5	2.25	3.1	5	9
<i>Annual growth rates</i>		57-62	62-74	74-83	83-08
Per capita income		-1.18	5.06	-3.78	3.19
Wheat yield		4.56	5.95	4.61	1.35
Inflation		-1.74	11.91	3.78	7.33
Product wages		-2.09	2.71	5.46	2.38

Note: 2008-09 measures are consumption measures while all others are income measures. All figures are in 1960-61 real prices using consumer price indices for agricultural labourers. For 1983, wheat yield is not what was observed in the survey but a general average of wheat yield during those years. 1983 was a bad agricultural year and actual wheat yield was 100 kgs per bigha. Income measures for 2008-09 are not yet precise and do not cover all households of the village.

Income

The calculation of income in village surveys or in secondary surveys is always problematic. Although micro-studies such as the ICRISAT surveys (Walker and Ryan, 1990), PARI surveys (Project on Agrarian Relations in India) (Madhura Swaminathan et al, 2010) and Palanpur surveys (Bliss and Stern, 1982, Lanjouw and Stern, 1998) have attempted estimating income, very few secondary surveys measure income. The only known survey in India of which we are aware which has attempted measurement of income is the NCAER human development survey (IHDS). The problems are related to both conceptualisation of income in an economy with

³ Poverty estimates have been arrived at using the Tendulkar poverty lines for rural Uttar Pradesh updated to 2007-08 using Consumer Price Index for Agricultural Labourers.

diverse and uncertain sources of income but also due to the difficulties of getting accurate estimates of incomes from various activities⁴.

Many problems arise. First, income is a derived measure. That is, it is difficult to get any meaningful response by asking the question as to what is the income of the household. Although most households have some rough idea of average incomes, these are not easy to collect through a direct question. Most village studies use some form of accounting procedure to estimate income. However, this also suffers from conceptual and definitional infirmities. These relate to what items to include, what sources to include and what imputation methodology to use for those items, which are not marketed. Each of these is a separate issue in itself but is also problematic because of the nature of a household. While this is much easier in case of household engaging in only one activity, these problems are problematic when households have multiple sources of income with multiple transactions between different sources of income. An example of this is the common feature in many rural societies where households engaged in cultivation also earn income from livestock rearing. The problem is complicated because outputs in agriculture are also inputs in livestock economy and vice versa. Unfortunately, even the notion of income is not uniform in most surveys or in secondary sources. For example, the cost of cultivation studies of government of India use various measures of income depending on what costs are included and the nature of imputation for some of these inputs⁵.

Second, the unit for measurement is also an unresolved issue. For most purposes, secondary surveys as well as primary surveys use a common household as the unit for calculation of income. In most cases, the household is defined as the members of a family who eat from a common kitchen. But this poses problem for income estimation, particularly in those cases where production is undertaken jointly by two or more households defined using the common kitchen definition. This is not uncommon and the Palanpur surveys of 1983 as well as the current survey used both definitions of households, using a common farm definition for income estimation but a common kitchen definition for other purposes.

Third, unlike consumption expenditure there is no uniform reference period, which is used in calculation of incomes. For agricultural incomes or other seasonal activities such as pisciculture, it is generally agricultural seasons but for other activities it is annual. While some way out is possible for cultivation income by using the agricultural year (July to June is considered as the agricultural year in India), it does create problems for some crops where the crop cycle is more than one year. For example, sugarcane which is a three year crop with costs incurred in over time but particularly during planting while the harvest continues for three years.

Fourth, it is difficult to get correct and reliable estimate for some income categories such as income from rent and interest. In particular income from lending is always difficult to collect. This is also the case of income from illegal activities such as gambling and corruption.

While some of these can be overcome using detailed cost accounting exercises such as those in Palanpur, there are some for which even these are of not much help because of the absence of proper accounting practices. One of the problems which has not yet been resolved in the case of

⁴ See Bakshi (2008) and Rawal (2008) for details on some issues on measurement of incomes in household surveys.

⁵ See Sen and Bhatia (2004) on the details of various cost concepts used by the Cost of Cultivation Surveys.

Palanpur has been the estimation of income for wage workers in the absence of a precise estimate of number of days worked and good data on income for those who are self-employed in non-farm activities. Some of these estimates can be arrived at by suitable imputations from the information collected from the daily diaries. This work is presently under way, but for the present analysis, our estimates are not yet firm on these categories. With these caveats, estimates of income from the 2008 survey round are presented below in Table 2 by caste groups. Total income has been divided into two broad categories namely farm and non-farm.

We should note that whilst we have paid careful attention to these issues in Palanpur, other studies ride roughshod over them. Thus we think some of the income measurement in Palanpur is good relative to what is possible but we do wish to underline the problems.

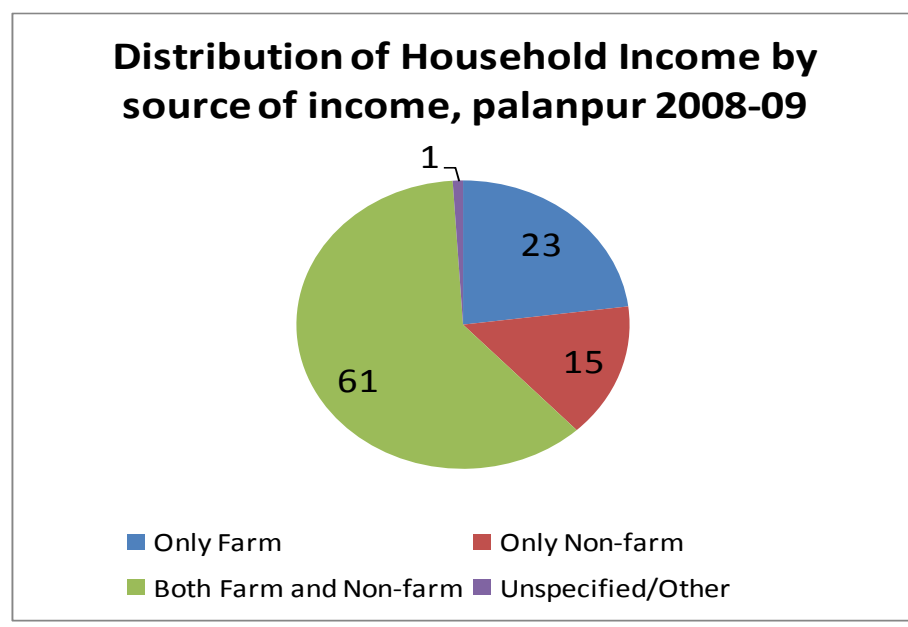
Table 2: Per capita yearly income					
	Per Capita total income	Per Capita Non Farm income	Per Capita farm income	Percentage share of Non-farm	Number in the sub-population
Thakur	13956	9986	3970	71.6	53
Murao	11132	4189	6943	37.6	46
Dhimar	11774	10953	822	93.0	18
Gadariya	19012	13029	5983	68.5	12
Dhobhi	6335	1999	4336	31.6	3
Teli	15111	13599	1512	90.0	16
Passi	9047	6496	2551	71.8	5
Jatab	7846	5347	2499.5	68.1	25
Other	12232	11790	443	96.4	4
Total	12324	8309	4014	67.4	182

A quick look at the table suggests the growing importance of non-farm income in total income of the households. Non-farm income now account for almost two third of total income as against one third of total income in 1983. This is surely a dramatic change and reflects a fundamental shift away from agriculture as the primary source of income. The examination of the process at work will be a crucial element for this study. However, not all caste groups show similar diversification of income with Muraos along with Dhobis showing least non-farm diversification. For Muraos, this is consistent with the popular perception of them being a cultivator caste. However, for others, non-farm income now accounts for more than 50% of total income with the highest seen for others, Teli and Dhimar, all with 90 percent or more.

The table is also consistent with the relative ranking of caste groups seen from consumption expenditure. However, compared to consumption expenditure income shows larger variation. Jatabs continue to be among the poorest caste groups with Thakurs on average among the rich castes. Telis and Gadariyas, both have per capita income above Thakurs and Muraos. Chart 1 gives the distribution of households by sources of income. In 2008-09, only 23% of households

had income only from agriculture. Similarly only 15% households could be termed as pure non-farm households. The remaining 61% of the households earned their income from multiple sources.

Chart 1



Consumption

Data on consumption expenditure have been collected for the first time in Palanpur survey. The data on consumption expenditure were collected through the detailed consumption expenditure schedule used by the National Sample Survey Organisation (NSSO)⁶. The survey covered 210 out of 231 households of the village. Some households could not be covered as they were out of the village during the survey period while a few households refused to participate in the survey. The survey schedule was staggered over the year to take into account variations in consumption expenditure due to seasonal factors. Also, the reference period for collection of information on consumption expenditure was exactly the same as that used by the NSSO in the 61st round (2004-05) consumption expenditure survey. We also followed the same guidelines as used by them for the imputation of prices of home consumed goods.

Table 3 gives the basic aggregates from the 2008-09 consumption expenditure round and estimates of well being from the 1983 survey. The fact that our measure of poverty at this stage for 2008-09 is consumption while all the previous ones are income does imply that these are not comparable. Nonetheless, we expect the relative ranking across household groups will remain similar although the exact magnitudes may differ. Also, in general, income measures have higher

⁶ We did try to use the abridged consumption expenditure schedule which is used by the NSSO in its employment-unemployment surveys but results from the pilot survey showed that not only were they less accurate but also took almost the same time as the detailed ones.

variability and therefore show higher inequality compared to consumption measures, some of the comparisons on inter-temporal movement may not be valid. Nonetheless, these can be used to look at the relative well being of households across caste.

Table 3									
	2008-09					1983			
	Basic estimates of Per Capita consumption expenditure					Poverty HCR			
	Food	Non-food	Total	Poverty	Gini	Observed mean	Permanent income	Current income	Per capita income
All households	633.2	465.0	1098.2	32.9	0.35	0.40	0.40	0.40	
Thakur	759.3	693.0	1452.4	11.5	0.36	0.27	0.20	0.30	200
Murao	609.4	534.1	1143.5	28.3	0.38	0.00	0.11	0.26	231
Dhimar	539.9	349.8	889.7	45.0	0.29	0.62	0.46	0.46	181
Gadariya	522.6	280.7	803.3	50.0	0.21	0.25	0.25	0.33	202
Dhobi	510.2	469.4	979.6	42.9	0.33	0.50	0.75	0.25	159
Teli	622.0	421.7	1043.7	33.3	0.26	0.69	0.63	0.44	147
Passi	648.5	185.2	833.7	40.0	0.22	0.43	0.43	0.36	229
Jatab	605.3	268.8	874.0	52.9	0.33	0.89	0.89	0.89	85
Others	640.7	206.9	847.6	42.9	0.26	0.50	0.50	0.38	169

Note: The poverty measures for 2008-09 are based on the nominal poverty line of Rs 700 per capita per day. This is the poverty line obtained by adjusting the official planning commission poverty line (Expert Group 2009) using CPIAL for UP. The 1983 poverty line is a relative poverty line with the poverty line set at bottom 40% of the population.

While the relative ranking of various caste groups remains more or less unchanged, there is also some evidence of a narrowing of the gap between the caste groups in 2008. Thakurs are at the top of the social hierarchy with highest consumption expenditure and lowest poverty ratio followed by Muraos. Although both these caste groups remain the dominant castes in the village, there is evidence, which suggests that the relative ranking of these two within themselves may have changed since 1983. While Muraos were obviously the better off group compared to Thakurs in 1983, the situation seems reversed in 2009. Perhaps this is due to the decreasing role of agriculture which has been a particular focus of Muraos, relative to Thakurs. At the same time, Jatabs remain at the bottom of the caste hierarchy although the gap between Jatabs and other caste groups seems to have narrowed, presumably associated with the rise in outside jobs and tenancy as opposed to agricultural labour. Compared to almost 90% of Jatabs below poverty line in 1983, the percentage of Jatabs below poverty line is only 53%. The estimates of consumption expenditure are on similar lines with poorer caste groups showing higher share of food expenditure compared to richer caste groups.

In addition to estimating expenditure at the caste level, the table below presents the quintile-wise distribution of households on the basis of total per-capita expenditure. For each quintile we estimate the expenditure on food and non-food as a percentage of total expenditure. The table

below clearly shows that the expenditure of food as a percentage of total expenditure declines as one moves to the top end of the distribution; the share of expenditure on non-food items rises.

Table 4: Expenditure on food and non-food as a percentage of total expenditure, 2008		
	Food	Non-Food
Quintile 1 (Bottom)	79.2	20.8
2	74.4	25.6
3	66.4	33.6
4	65.9	34.1
Quintile 5 (Top)	36.1	63.9

Inequality

Inequality in India has been traditionally measured in terms of consumption expenditure. Although there are some measures of income inequality at national level, which are available from secondary sources such as NCAER surveys (NCAER, 1987, Lanjouw and Shariff, 2004 and Reeve et al 2007), they are always found to report much higher inequality than those from the consumption surveys. A pilot survey was also conducted by NSSO in 1983-84 in five states on estimating income from household surveys (NSSO, 1993). This pilot survey, which also collected consumption and saving, found large discrepancies between estimates of consumption and incomes. The results were different for rural and urban areas with rural areas underreporting income and urban areas over-reporting with regard to the sum of consumption and saving. That is, the average incomes reported were less than the sum of savings and consumption in rural areas while it was higher in urban areas. Inequality from the income survey was higher than consumption estimates alone.

With data available on both income and consumption expenditure it is possible to estimate inequality on both dimensions. Inequality, based on consumption expenditure for 2008-09, as measured by the Gini coefficient stood at 0.35. On the other hand, consistent with basic economic theory, consumption inequality is substantially lower than income inequality, which is estimated at 0.40 (Gini, see Table 1). As against, a 15 percentage point difference between consumption and income inequality from the NCAER surveys, the Palanpur survey suggests a much lower difference in inequality between a consumption measure and an income measure. This could partly be due to better capture of income measure in our surveys where detailed cost accounting practices were used rather than reported aggregate income, which is used in NCAER surveys⁷. However, since our estimates of income are preliminary and do not cover all households, a conclusive comment on these can be made only after full cleaning of our data. Table 5 gives the basic estimate of inequality based on consumption and income while Table 6 gives preliminary results of the decomposition of inequality⁸. Preliminary analysis of decomposition of inequality confirms the important role of within group (caste) inequality compared to between group (caste) inequalities. These results also appear consistent with the

⁷ A common problem in estimating Gini in income surveys is the presence of negative values. Fortunately, in Palanpur, we did not find a single household with negative income.

⁸ For details on the decomposition methodology, see appendix

inequality decomposition by Peter Lanjouw and Vijayendra Rao (2010) on data from previous surveys⁹.

Table 5: Income and Consumption Inequality in Palanpur, 2008--09		
All	income	consumption
GE(0)	0.32	0.21
Gini	0.41	0.35

Note: GE(0) is Generalised Entropy Class of Indices

Table 6: Decomposition of Inequality in Palanpur, 2008-09		
	income	consumption
	GE(0)	GE(0)
Within-group inequality, GE W(a)	0.29	0.19
Between-group inequality, GE B(a):	0.031	0.024

Note: the decomposition has been using Generalised Entropy Class measure of Inequality, GE (a) which is additively decomposable.

The decomposition of inequality is also useful in understanding the trend of an increase in inequality over the survey periods in Palanpur along with improvement in incomes of the poor groups such as Jatabs. Jatabs seem to have been doing relatively well in recent years as has been brought out in Tyagi and Himanshu (2011) and Mukhopadhyay (2011). It appears prima facie that within group inequality is more important than between group inequality in explaining the increase in inequality reported in Table 1. It is likely that for some big castes (e.g, Muraos and Thakurs) within group inequality has been increasing. This type of investigation in the changing structure of income and other distributions will be an important issue for research as we go along.

Other measures of well being

Other than the direct measures of household income and consumption, we have three other measures for ranking households. Of these, observed means and PRA are qualitative rankings based on perceptions of investigators and households. However, the asset ranking has been generated using the information on productive and non-productive assets owned by the households. The technique to create these asset scores is based on Principal Component Analysis. We have information on productive assets ownership and on durable goods ownership. The major problem here is the aggregation of the different assets into a general indicator of assets ownership. Two choices have to be made: the selection of assets we take into account and the weight attributed to each asset. Here we only take into account durable goods because the data are better on them. The question of land is also crucial; we have tried asset scores with and without land. Weights can be determined in different ways: the principal components analysis,

⁹ For details, see Lanjouw and Rao (2010)

the valuation of assets by current prices or the attribution of equal weight to all assets. We could also ask the investigators the weights they would give to each asset, but then this ranking would be closer to that of the investigator. The first method is purely mathematical and gives a lot of weight to assets with a great variance. The second one faces the problem of quality and depreciation of assets but it was the method used in 1983. And the last one is not very satisfactory given that the same weight is attributed to a motorcycle and a clock. In the final asset score we retained land as one of the assets. Table 7 gives the distribution within each caste group in quintiles for the village as a whole.

The ranking reflects the previous hierarchy of the Palanpur society with Muraos, Thakurs and Gadariyas among the richer household groups. Muraos were already the caste that had the higher share of consumer durable goods in 1993. Jatabs and Muslims are still the less equipped although Telis as a caste group have seen some improvement.

Table 7: Quintiles of asset scores					
Caste	1	2	3	4	5
Thakur	13.21	15.09	18.87	28.3	24.53
Murao	9.43	9.43	30.19	18.87	32.08
Dhimar	40	10	35	5	10
Gadariya	14.29	14.29	28.57	21.43	21.43
Dhobhi	42.86	14.29	14.29	28.57	0
Teli	33.33	22.22	11.11	22.22	11.11
Passi	20	20	20	20	20
Jatab	35.29	41.18	14.71	8.82	0
Other	42.86	28.57	14.29	0	14.29

Note: quintiles of asset scores were generated using Principal Component Analysis. Assets included in PCA scores were consumer assets with land as the only productive asset. Quintile 1 is the poorest and quintile 5 is the richest quintile.

Qualitative assessment of well being

Our exercise of ranking households by the investigators is similar to the methodology adopted by the resident investigators in Palanpur in 1983. These rankings basically reflect the perception of the researchers based on their own notion of well being and their judgment/observation of rich and poor in the village. Four investigators did their own ranking and then sat together to discuss and eventually agree on a final ranking. It takes into account the household's land ownership or business, the household's housing condition and assets, the household's social status, the household's way of life, the household's employment security among many other features¹⁰.

¹⁰ . These rankings were created by Dinesh Tiwari, Ashish Tyagi, Gajanand Ahriwal and Hemendra Ahriwar. During the discussions between investigators, there were differences among them on rankings of the household. Here are two examples of problematic cases : one household was just cultivating their own small land for three years

However, perceptions differ on the objective condition of the household but also what constitutes a source of wealth. Ranking of households based on observed means is presented below in Table 8 for 1983 and Table 9 for 2008-09. However, it must be kept in mind that the observed mean rankings are not strictly comparable because they were done by different sets of investigators. More importantly, the perception of investigators about relative well being of households is also conditioned by the general notions of wealth and assets which are contemporary. Even with the same asset endowments, it is unlikely that the perception of what is poor in 1983 and in 2008 would be the same, for example, bullocks would be much less important an asset in 2008 than 1983.

Table 8: Distribution of households within caste groups by observed means, 1983					
Caste	Very Poor	Poor	Secure	Prosperous	Rich
Thakur	0	26.7	23.3	26.7	23.3
Murao	0	0.0	22.2	37.0	40.7
Dhimar	15.4	46.2	30.8	7.7	0.0
Gadariya	0.0	25.0	25.0	16.7	33.3
Dhobhi	25.0	25.0	25.0	0.0	25.0
Teli	37.5	31.3	18.8	6.3	6.3
Passi	40.0	6.7	13.3	20.0	20.0
Jatab	73.7	15.8	10.5	0.0	0.0
Other	28.6	14.3	0.0	42.9	14.3

Table 9: Distribution of households within caste groups by observed means, 2008-09					
Caste	Very Poor	Poor	Secure	Prosperous	Rich
Thakur	5.2	12.1	34.5	25.9	22.4
Murao	3.6	20.0	40.0	18.2	18.2
Dhimar	13.6	36.4	27.3	9.1	13.6
Gadariya	0.0	13.3	53.3	26.7	6.7
Dhobhi	25.0	25.0	25.0	25.0	0.0
Teli	27.3	18.2	27.3	13.6	13.6
Passi	0.0	16.7	66.7	0.0	16.7
Jatab	7.7	43.6	41.0	7.7	0.0
Other	18.2	18.2	18.2	45.5	0.0

and was therefore pretty poor but in the last season, they leased in lots of land, got back to work and earned good money. Should we consider the last impression we had on them or an average of the different situations they went through? The long run situation eventually prevailed, they were ranked as poor. Another household's wealth was hard to perceive in the village: they do not own any land, their house in Palanpur is not really good, but they own a house in Chandausi and get a good income from a driving job in Delhi. They were eventually ranked as secure.

An interesting point from this comparison is how the distribution of households across various categories changes within groups. While 40% of Muraos were among the rich households in 1983, less than 20% are considered so in 2008. On the other hand, while 74% of Jatabs were considered very poor in 1983, only 8% are considered as very poor in 2008.

The final ranking used in our analysis is the PRA ranking which was generated after discussion with resident households about their perception of household rankings. While these were independent exercises with no involvement of Palanpur investigators, these were very similar to the ranking by investigators. Incidentally, most of the households were classified as poor or very poor households with very few being counted as rich.

Variation across different rankings

All these methods of assessing the well being of households and the relative rankings of households have their own merits and demerits. In general there were agreements amongst the different rankings on most of the households (roughly 60%); but there were clear disagreements across rankings for many households. Table 10 gives the correlation matrix for the correlation of various rankings by all the five measures. All the rankings were categorised into five equal groups except for PRA where it was not possible¹¹.

Table 10: Correlation matrix of various rankings, 2008-09					
	Observed Means	Consumption Expenditure	Asset Scores	PRA	Income
Observed Means	1				
Consumption Expenditure	0.3289	1			
Asset Scores	0.7027	0.2764	1		
PRA	0.7245	0.2668	0.5992	1	
Income	0.4582	0.3063	0.3629	0.3128	1

Clearly, no two rankings are very close. Although there is close correlation between qualitative rankings of observed means, PRA and asset scores, they have little correlation with either income or consumption expenditure. Interestingly, even the correlation between income and consumption is very low. However, these results are not necessarily surprising, as the notions or concepts being measured are genuinely different. The low correlation between productive assets and income is entirely consistent with the fact that income sources have diversified and incomes are no longer dependent on access to resources whether land or other productive assets. This is particularly true for regular incomes, which are more a reflection of the returns to human endowments such as skills and education or connections rather than physical assets. It suggests that the notions of 'productivity' of assets in a village life being used may be out of date if assets are narrowly defined— human capital now should be more prominent. Similarly, most of the qualitative rankings are not only a reflection of current income but more of

¹¹ The Participatory Rural Appraisal (PRA) method uses households' perception to categorise households in various categories from poorest to richest. Since this is based on households' perception, imposing any strict cut-off violates the basic principle of this method where every household have a subjective opinion about other households. Therefore, PRA rankings do not necessarily divide the population in equal groups.

“permanent income” and in some cases potential income of the households. Nonetheless, there is some agreement across various rankings for those who are undoubtedly rich or those who are undoubtedly poor. Most of the differences in rankings are for the households scattered in the middle ranges.

Economic mobility 1983-2008

Given the longitudinal nature of the Palampur data set, it is possible to look at inter-generational mobility of households. Some preliminary results for inter-generational mobility are presented below. However, since only two rankings, observed means ranking and income allow us to do a comparative analysis, this is presented with just the two of them.

The first exercise involves observed means which we think is a useful measure of the relative well being of households. However, since there were only 143 households in 1983 and now there are 217 households for which this information is available, we have retained the 2008 households as the base. The 1983 households which have split have all been assigned the same observed means as that of the joint household in 1983. Since income or wealth is generally a household attribute, problems of comparability may be limited. Secondly, the observed means ranking in 1983 divided households in equal quintiles but in 2008 the households were classified in five groups but not necessarily equal quintiles.

Observed Means

There are 217 households for which this analysis is possible. The south west corner of Table 11 represents downward mobility; the north east corner represents upward mobility. Households on the diagonal and around the diagonal are the ones who have not seen any or much change in their status. 23 households (11% of the households in 2008) have experienced upward mobility and 42 households (19% of the households in 2008) have experienced downward mobility. The upward mobility seems to be locked up at the secure level. There are 43 households which climbed from very poor or poor to poor or secure, but only 5 households could move from very poor or poor to prosperous or rich. The rigidity or lack of mobility is again more visible at the top level: 17 households which were rich in 1983 are still rich today whereas only 5 households which were very poor in 1983 are still very poor. 50 households (23% of the households in 2008) remained in the same category and 102 households (47% of the households in 2008) moved to an adjacent category.

Table 12 gives the distribution of households which have moved up and down by caste. What is noteworthy is the share of Jatavs among households which have moved up. Of the 23 households which have seen significant improvement in their status, 11 or almost half are from the Jatavs. There are only 5 Thakur households which have seen upward mobility (this is one household with five brothers) but only 1 Muraos household has seen any significant improvement in its status. On the other hand, households which have seen downward movement in their status are mostly Thakur and Muraos. While a definitive assessment of the reasons for the upward mobility of some of the lower castes and Jatavs and downward mobility of Thakurs and Muraos is not yet available, some conjectures can be made based on their involvement in employment market and tenancy. It does appear that strong dependence on agriculture for the Thakurs and

Muraos may have contributed to some of the households not diversifying their income sources. On the other hand, Jatabs seem to be taking advantage of the access to opportunities outside the village and thereby to some extent, overcoming their handicap of not having productive resources such as land.

Table 11: Cross-tabulation of households by observed means in 1983 and 2008								
		Observed Means Household Ranking 2009					All Households	Households in 1983
		Very Poor	Poor	Secure	Prosperous	Rich		
Observed Means Household Ranking 1983	Very Poor	5	13	11	2	0	31	31
	Poor	6	4	19	2	1	32	28
	Secure	4	16	13	9	7	49	28
	Prosperous	2	7	20	11	3	43	28
	Rich	1	8	20	16	17	62	28
	All Households	18	48	83	40	28	217	143

Table 12: Caste wise distribution of households which have moved up and down				
	Households Moving Up		Households Moving Down	
	Number	Percent	Number	Percent
Thakurs	5	21.7	15	35.7
Muraos	1	4.3	18	42.9
Dhimars	0	0.0	1	2.4
Gadariyas	0	0.0	3	7.1
Dhobhis	0	0.0	1	2.4
Telis	4	17.4	1	2.4
Passis	2	8.7	1	2.4
Jatabs	11	47.8	2	4.8
Others	0	0	0	0.0
Total	23	100	42	100.0

Per Capita income

Similar cross tabulation by per capita income is presented in Table 13. This analysis could only be carried out for 169 households. These 169 households in 2008 correspond to 92 original households in 1983. The low number of households is due to households which are missing at present in the income calculation. 28 households (16.6% of the households in 2008) have experienced upward mobility and 40 households (23.7% of the households in 2008) have

experienced downward mobility. The rigidity at the top is also seen in this case. 11 households which were rich in 1983 are still rich today whereas only 5 households which were very poor in 1983 are still very poor. 39 households (23.1% of the households in 2008) remained in the same category and 62 households (36.7% of the households in 2008) moved to an adjacent category. Also, the degree of mobility is higher in terms of per capita income than it is with the investigator's rankings and the downward mobility seems more important than the upward mobility. Table 14 gives the distribution of households which have seen upward and downward mobility by caste.

Table 13: Cross-tabulation of households by rank quintiles in 1983 and 2008								
		Household Ranking based Income in 2009					All Households	Households in 1983
		Very Poor	Poor	Secure	Prosperous	Rich		
Household Ranking based on Income in 1983	Very Poor	5	8	3	3	4	23	17
	Poor	8	5	11	6	5	35	19
	Secure	11	7	7	5	7	37	20
	Prosperous	5	7	8	11	6	37	19
	Rich	5	7	5	9	11	37	17
	All Households	34	34	34	34	33	169	92

One problem with the comparison based on per capita income is also the fact that incomes in 1983 were biased downwards because of a bad agricultural year. It is possible that those households whose incomes were largely dependent on agriculture would have seen lower incomes per capita even though, their normal income would be among the prosperous and rich. Since 2008 was a normal agricultural year, such variations would not be so important. However, even with these caveats, the broad trend as far as upward and downward mobility is concerned remains very much similar to those observed in the case of observed means ranking.

Although Jatabs do see upward mobility even based on per capita income, they are not the dominant group with Jatabs accounting for only one-fifth of the total households which have seen upward mobility. On the other hand, while Thakurs and Muraos did not figure predominantly among the households which have seen upward mobility, Thakurs appear to be a dominant category by per capita income. However, among the households which saw downward mobility, Muraos continue to remain the single largest caste group accounting for half of all the households which have seen downward mobility.

Table 14: Caste wise distribution of households which have moved up and down				
	Households Moving Up		Households Moving Down	
	Number	Percent	Number	Percent
Thakurs	9	32.1	9	22.5
Muraos	3	10.7	20	50
Dhimars	2	7.1	3	7.5
Gadariyas	3	10.7	1	2.5
Dhobhis	0	0.0	1	2.5
Telis	4	14.3	1	2.5
Passis	0	0.0	1	2.5
Jatabs	6	21.4	3	7.5
Others	1	3.6	1	2.5
Total	28	100	40	100

We essentially find the same two castes experiencing upward mobility: Jatabs and Telis. Jatabs are supplementing their income by diversification whereas Telis are focusing more on non-farm activities; their wealth comes from the regularity of their non-farm income. Interestingly, most of the downward mobility cases have split from the same household (household number 224 in 1983). This household was mentioned in the 1983 book as “one of the best-off in the village”, with an impressive endowment of land and other assets (the only functioning tube well in the village, the only tractor and the only flour mill). Now it has split into ten new households: only two of them remained in the prosperous and rich categories (coded 22421 and 22422). 22421 is into cultivation and tailoring. 22422 is into cultivation and receives remittances from a migrant. Four of them are now very poor, one is poor, and three are secure. The process of nuclearisation of households already underlined in the Lanjouw and Stern (1998) is still relevant. But there is also evidence that diversification and migration prevent former joint families from declining. The scope for further analysis of these mobility issues is great. And the Palanpur data provides a special opportunity.

Conclusion and Future Work

This paper looked at various measures of poverty, inequality and mobility among households of Palanpur. Different measures of well being measure different things and full agreement among them is not to be expected, but there are certain broad themes which are common to all these measures. First, Palanpur has seen increase in incomes over the last twenty five years which are comparable to the broad trends emerging from other secondary data sources. Although, this growth in incomes is slower than that seen during 1962 and 1975 a period of strong expansion of irrigation and double cropping immediately following the “green revolution”, the growth of incomes during the most recent period (1983-2008) does suggest that lives of Palanpur residents have improved. Second, consistent with inequality estimates at national and state level, this growth has also been accompanied by increasing inequalities. Third, there is evidence of a strong increase in non-farm income as a source of livelihood; a fundamental change for Palanpur

associated with a changing India. While this move is evident for most caste groups, Muraos seem to be reluctant to diversify. Fourth, among the caste groups which have gained are the Jatabs while Muraos appear to have missed out on the growth momentum. Finally, the diversification of income sources and decline in reliance on agriculture and land seems to have contributed to mobility for some relatively poorer households to improve their income status. All this reminds us that greater mobility is not the same as declining inequality.

This exercise was a limited exercise based on available data that have been cleaned. Although far from perfect, they do indicate certain elements of the story which are interesting and ripe for further investigation. Some of these are mentioned below.

1. An important aspect of households moving up has been their ability to diversify their income sources. It will be interesting to document and describe the diversification of incomes by caste, education and income groups etc. A related issue that needs further research is the reason for diversification. Is it to hedge against risk in their predominant occupation such as agriculture? If yes, then in what ways?
2. How important is the initial wealth position of the households in predicting their future income stream.
3. Do factors such as health and education contribute to the ability of households to diversify their income portfolio?
4. What is the role played by macro economic factors in the relative growth of income of Palanpur residents?
5. Which of the measures is appropriate for examining which questions on tracking well being of households across space and over time?
6. What are the important policy lessons for inclusive growth and poverty reduction?
7. Do social and political factors play a role in households accessing opportunities? This is particularly relevant in the context of improvement of Jatab households. Does the presence of a Scheduled Caste party help their economic empowerment?

The research agenda is rich and the Palanpur data provides a special opportunity. Further work can illuminate the vital questions surrounding just how the changing circumstances in India can change life in a village like Palanpur and how the mechanisms can be influenced by policy.

References:

- Bakshi Aparajita (2008), “A Note on Household Income Surveys in India”, Paper presented at Studying Village Economies in India: A Colloquium on Methodology, December 2008
- Bliss Christopher and Nicholas Stern (1982), “Palanpur: The Economy of an Indian Village”, Oxford University Press, Delhi
- Lanjouw Peter and Nicholas Stern (1998), “Economic Development in Palanpur Over Five Decades”, Clarendon Press, Oxford
- Lanjouw, Peter and Shariff, Abusaleh (2004), Rural Non-farm Employment in India: Access, Incomes and Poverty Impacts, Economic and Political Weekly, Vol. 39(40)
- Mukhopadhyay Abhiroop (2011), “Stepping Out of Palanpur: Employment Outside Palanpur”, Asia Research Centre Working Paper No.46
- NCAER (1987), Changes in the Structure of Household Income and Distribution of Gains in the Rural Household Sector – An All India Temporal Analysis, 1970-71 – 1981-82
- NSSO (1993), Report on the Pilot Survey of Income, Consumption and Savings, Part I and II, Department of Statistics, Delhi
- Rawal Vikas (2008), “Estimation of Rural Household Incomes in India: Selected Methodological Issues”, Paper presented at Studying Village Economies in India: A Colloquium on Methodology, December 2008
- Sen, Abhijit and Bhatia, M. S. (2004), “Cost of Cultivation and Farm Income, State of Indian Farmer, A Millennium Study”, Vol. 14, Academic Foundation, New Delhi
- Tyagi Ashish and Himanshu (2011a), “Change and Continuity: Agriculture in Palanpur”, Asia Research Centre Working Paper No.48
- Swaminathan Madhura and Vikas Rawal (2010), “Is India Really a Low Inequality Country? A Village view of Household Incomes”, Processed
- Vanneman, Reeve, Cecily Adams, and Amaresh Dubey. (2007), “Income, Consumption, and Assets in India.” Presented at the Annual Meetings of the Population Association of America. New York, N.Y
- Walker, T. S and J. G. Ryan, 1990, Village and Household Economies in India’s Semi-arid Tropics, The Johns Hopkins University Press

STEPPING OUT OF PALANPUR:

Employment outside Palanpur: From short visits to long-term migration and how they are linked

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ABSTRACT

As India integrates into the global economy, its villages are integrating into a rapidly growing urban economy. One of the links through which this is happening is labour markets, where demand for labour to undertake non-farm jobs has been growing. This has led to a rise in the share of non-farm incomes in total income. These jobs often take people out of the village to engage in labour markets in nearby urban/semi-urban centres. The village of Palanpur is an illustration of a similar trend and we delve deeper into understanding what has led to the rise of non-farm incomes for the last 25 years. An important first step in this endeavour is to understand how villagers allocate time among different job activities and how non-farm activities takes them out of the village. In this paper, we take this first step by examining trends in employment outside the village of Palanpur over the period 1983-2008. We classify activities as primary and subsidiary on the basis of the amount of time spent doing them. We find that, compared to 1993 and 1983, a higher proportion of the adult male labour force works outside the village in 2008. The key driver of outside work is subsidiary jobs that last for short periods of time. Somewhat surprisingly we find that the share of people who work outside the village as a primary occupation has not risen since 1983. This can be understood, however, as part of a process of selective migration. We find evidence, for example, that people who held regular jobs outside the village in 1983, have migrated out in disproportionate numbers. Further scrutiny reveals that there has been a rise in self-employment and non-farm casual labour; activities that take villagers outside Palanpur on a short-term, often daily, basis. We also find that land ownership is an important determinant of working outside the village and that the structural link between land and employment has not changed over time.

INTRODUCTION

During the last two decades, the non farm sector in rural India has been growing steadily. NSS data reveal that, “over the...period, 1983 to 1993-94, the average annual growth in non-farm jobs was...over 2%. Between 1993-94 and 1998-99, this increased to 3%, and from 1999 to 2004-05, this increased again to 4%” (Himanshu et al 2010). Alongside employment growth, non-farm incomes have also been rising over time. These developments offer the hope that the growing non farm sector will accelerate rural poverty reduction.

The growth of rural non-farm incomes indicate that there is, now, a greater demand for labour outside agriculture. For example, the growth of the construction sector has led to an increase in demand for construction workers, masons, marble polishers and brick-kiln workers. These have led people living in villages to seek and successfully find jobs outside the village. The increasing demand for non-farm casual labour has meant that those without education or with low land ownership may now have a greater chance at getting more remunerative jobs than before.

Over the past 25 years, trends in Palanpur are similar to those observable at the all-India level. There has been a rise in the share of total income that comes from non-farm activities. Since the major source of such non-farm income has been from employment (as opposed to remittances or transfers), it is important to step back and look at the occupation profile of the village and how that has changed over the years.

The village of Palanpur is located on a railway line between the busy urban centre of Moradabad and the smaller rural town of Chandausi. Access to either of these urban centers, as well as other neighbouring villages, is relatively easy given the ready access to and ease of railway transportation. It is likely therefore that any trend rise in non-farm employment among the village residents is linked to an increase in the proportion of residents who travel outside the village for their employment. Such outside employment activities range from daily commuting to nearby towns/villages to short visits to nearby states. In this paper, we look at trends in employment outside the village and explore their determinants. In doing so, we investigate whether non farm employment is a consequence of push factors like falling land ownership (as has

been contended by some (Ranjan 2009)) or alternatively, due to accumulation of capital (including information networks), the formation of skills or a secular increase in the demand for non-farm labour.

Palanpur has been the subject of close study for over 5 decades (Bliss and Stern 1982, Lanjouw and Stern 1998: referred to as LS 1998 from here on). Data are available for households from 1957 to 2008 on an almost decadal basis (1957-58, 1962-63, 1974-75, 1983-84, 1993 and 2008). In this paper we seek to use individual level data for the years 1983, 1993 and 2008. The dataset, especially for 2008, is rich in that it includes information about all activities people do over the year. Moreover it has information on whether (and where) people go out for work. In the case of businesses, we have information on fixed capital expenditures and an estimate of variable costs and the profits. In the case of casual non-farm activities, we have information on the job search process and how many days people seek work and how many days they get work. Of course, the greatest asset of the dataset is that we have the history of all households over 5 decades (and for all members over the last 25 years). In this paper, we use a fairly small part of our overall dataset: we look at the various activities performed during the year and whether the activity takes villagers out of Palanpur, as well as some important household and individual characteristics. We also take into account migration of members from 1983 onwards. This additional dimension brings out the strength of this dataset and shows how crucial such data can be in understanding temporal changes.

Using data for 1983, 1993 and 2008, we scrutinize the structural relationship between engaging in non-farm work outside the village and household/individual characteristics. Further we examine if these relationships have changed over time. If they haven't, are the observed trends then due to changing levels of the state variables? For example, does low land ownership make more people undertake non-farm work now or do we observe a stronger connection between land ownership and non-farm work simply because average per capita landholdings have fallen over the years?

In this paper, we also take into account the possibility that access to non-farm work may differ across different castes. This possibility was already investigated in earlier studies. For example, LS (1998) observed that in 1983, a large proportion of

jobs undertaken outside Palanpur were regular jobs. These required connections and were therefore concentrated among particular castes. Using data for the three periods, we investigate if some castes have a disproportionate advantage in getting certain jobs and how this advantage has evolved over the span of twenty five years.

A crucial requirement in studies that aim to improve understanding of how individuals' occupations have changed over time is that there should not be a systematic attrition bias. For example, as we will show in this paper, if in the past individuals from a particular community had greater involvement in outside jobs and if this also made them more likely to migrate, then those left in village from this community may be a selected sample of individuals with steady jobs in the village (or individuals without the requisite education/connections to get certain kinds of outside jobs). This may lead us to make the wrong temporal conclusion that the community now behaves differently. In fact, if initially, this community had a large share in the pool of those going out, then due to their migration, it may appear that those who remain in the village are less likely to go out. We investigate this dimension of the problem by incorporating information on migration over the years 1983-1993 and 1993-2008. Long-term migration reflects a more drastic response to either the supply side pressure or a demand side attraction. Much in the same vein of earlier analyses, we investigate if structural relationships between supply side factors and migration have changed over the decades and whether prior experience of working outside matter for migration decisions.

The sections are organized thus: In section 2.1, we look at some of the stylized facts about the employment of Palanpur adult men over the various survey years. Section 2.2 looks at the determinants of working outside while section 2.3 examines the covariates of working out by each activity. In section 3.1 we investigate some stylized facts about migration flows. We delve into the determinants of migration in section 3.2. Section 4 concludes the discussion by summarizing the results and offering general remarks.

2.1 EMPLOYMENT OF PALANPUR RESIDENTS OUTSIDE THE VILLAGE

Working outside Palanpur is intrinsically linked to occupational choice. Some occupations, such as construction work, portering, masonry and marble polishing, are oriented towards a market well beyond Palanpur. These are largely carried out outside the village. On the other hand, cultivation is undertaken entirely inside the village. Hence we start off by looking at snapshots of occupations (broadly classified) held by village residents. We focus on adult males aged 15 and above¹. Table 1 compares the primary occupations over the years. We define primary occupation as that activity in which a person spends most working time during the last 365 days². The list of activities includes leisure (being out the labour force), being a student/apprentice or looking for a job (unemployed).

It is important to note that we have two options in terms of what base to consider when reporting occupational shares. One option would be to report the share of each occupation category as a proportion of the adult (15 and above) male population. Another possibility is to report the shares with the members in the labour force as the base. In 1983, 89 percent of adult males were in the labour force while in 1993 84 percent of adult males were in the labour force. In 2008, 82 percent of adults were in the labour force reflecting the growing importance of education among young adults. We will mostly report our results with the adult male population as the base since we want to look at determinants of choice. Not entering the labour force is endogenous and in order to avoid biasing our results, we consider the whole adult male population. The flavour of the arguments does not change greatly if we consider the labour force as the base.

As can be seen in Table 1, there is a fall in the share of people who are cultivators and who take care of livestock (who work in the village) over the period 1957-2008. While this is largely consistent with the general sectoral shift of labour out of agriculture in India as a whole (see, for example, World Bank, 2011), the modest drop between 1983 and 2008 seems to indicate that the movement towards non farm in recent years, if any, is not led by a large drop in cultivation as a primary

¹ As explained in LS 1998, this is largely done because women's participation in outside labour market is limited.

² Alternatively, we could have also classified primary occupations on the basis of their share in total income.

activity. While 49 percent of adults were primarily focused on cultivation in 1983, this was only slightly lower, at 48 percent, in 2008. The other farm activity is casual agriculture labour. A breakdown of casual labour (Table 2) shows that agriculture labour has almost disappeared as a primary occupation by 2008. Taking the two farm activities together, we find that while farm activities account for 53 percent of the total adult population in 1983, they account for 48 percent of the adult male population in 2008. This share is much higher at 60 percent in 1993. Keeping in mind that some males do not participate in the labour market, we find that while 36 percent were engaged in non farm activities in 1983, the shares were 24 percent in 1993 and only 32 percent in 2008³. Therefore, while there has been a substantial increase in non-farm employment shares since 1993, over the longer-run between 1983 and 2008, there has been, on balance, a slight fall. The decline in the non-farm share between 1983 and 1993 had been remarked on in LS (1998) and was largely explained by the loss of regular jobs due to the closure of a cloth mill nearby. While there was some recovery between 1993 and 2008, the rise has not been large enough to offset the fall in the earlier period. As we will see later, however, this is only part of the explanation.

Let us now look closer at the non-farm activities. The bulk of non-farm jobs come from three major classes of activities: Wage Employment (including regular and semi regular jobs), Self-Employed (skilled and unskilled business)⁴ and non-farm casual labour. Over the last 25 years, there has been a shift in the mix of the three activities. While wage employment accounted for the bulk of non-farm activities in 1983, this declined in 1993 and had then fallen further by 2008. As noted above, LS (1998) explain the fall in 1993 levels as a consequence of shut down of a factory that had employed a relatively large number of regular and semi-regular workers from Palanpur. However the share did not recover after 1993 (though the number of wage employment jobs between 1993 and 2008 are more or less similar). Indeed this detail is important to an understanding of why the share of non-farm activities are not as high in 2008 as in 1983. But we will come to this in more detail later. Suffice to

³ As a proportion of the labour force, the proportions are 58 percent in 1983 and 57 percent in 2008.

⁴ There are 2 cases of mechanized farm activity that have been put in cultivation so as to be consistent with the definition of self employed in earlier years where self employed was seen as entirely non-farm.

note here that the greatest fall in wage employment over time is due to the decline of unskilled regular jobs.

The component of non-farm employment that has shown the greatest rise over time is self-employment. There is a 6 percent increase in 2008 from 1983 or 1993 levels (Table 1). This is primarily due to the rise of marble polishing and opening up of motor repair shops as business enterprises. The rise of self employment in rural India has been documented by others (Ranjan 2009, World Bank 2011) who have debated if this rise is due to push or pull factors. We will look at this in more detail later but at first glance, the activities mentioned above do not seem to be endeavors of people pushed into a corner. Rather they may represent the outcome of a process of capital formation (like acquisition of marble polishing machine) or training (like learning how to repair engines). Moreover, they also represent an increased demand for such services. For example, the growth of marble polishing can be linked to increase in construction around Moradabad, that make such capital investments by the villagers worthwhile.

As noted before, those involved in casual labour in 2008, are almost exclusively engaged in non-farm activities. While non-farm activities only represented 56 percent of total casual labour activities in 1983, by 2008 94 percent of casual labour activities in 2008 were in the non-farm sector (the percentage in 1993 was 53). These constitute daily commuting to the brick kiln, portering jobs at the Moradabad station (“malgodaam”) or working for people who own marble polishing machines. The growth of these activities again point to the increasing demand for casual labour in non-farm activities.

So far, we have been treating non-farm activities synonymously with working outside the village. However, not all non-farm work is outside the village and since the activities that come under each of these classifications is changing over time, it is important to keep in mind what proportion of activities in each category is conducted outside Palanpur. Table 3 summarizes the proportion of outside work from amongst those activities that have some non-farm content. While the rise of the outside work within casual labour reflects the rising importance of non-farm casual labour (note though that not all non-farm casual work is outside the village), the rising proportion of self employment that occurs outside the village reflects the rise of marble polishing

machine owners. Wage employment outside the village has more or less remained stable since 1983.

Given the proportion of the adult male population in various activity categories and the share of outside work in each of them, we are now ready to look at the evolution of the population shares that work outside (Table 4a). In 1983, 28 percent of adult males worked outside the village, declining to 19 percent in 1993, and subsequently rising back to 23 percent in 2008. While there was a rise compared to 1993, the percentage of adult males working outside the village in 2008 is still lower than was observed in 1983⁵.

To understand better this decline, let us look more closely at the specific activities of those who work outside the village. Table 5 reveals a clear decline in regular jobs. While regular unskilled jobs contributed as many as 49 percent of total jobs outside in 1983, their share amounted to only 16 percent in 2008. Moreover there is an absolute decline in the number of such jobs. Why did this happen? Answering this may lead us to understand better why Palanpur does not show rising employment outside the village in 2008 as compared to 1983. And we may also obtain a clearer grasp of why the non farm sector in Palanpur does not seem to show a emphatic rising trend over the last 25 years.

Before we get into this deeper, however, there are other ways in which Palanpur may have become more dependent on the outside world for employment. It is possible that while the males in Palanpur are not more likely in 2008 to go outside the village for their primary work than in earlier years, they may do so for their secondary/subsidiary work. It has been contended (Himanshu et al 2009, World Bank 2011) that there has been a diversification of activities in rural India. As Table 2 shows, compared to the earlier years, there are more people who do either self employed or non farm casual work as a secondary activity in 2008 than in previous survey years. In many cases, such diversification may lead to visits outside the village, some even as far as Delhi and Punjab for short term seasonal work. To capture this phenomenon, we calculate the proportion of adult population that has gone out of the village for any work in the last year (Table 4a). Table 4a reveals that

⁵ As a proportion of adult male labour force, the percentages for 1983, 1993 and 2008 are 32, 24 and 32 percent.

while 33 percent of the adult population go out for some work in 2008, only 25 percent of the population went out in 1993, but as many as 34 percent went outside the village in 1983. These statistics are influenced by what we take as the base population. To compare, Table 4b presents the proportion of the labour force that has gone out of the village for *any* work during the last year. Using this measure over the period of study, we see that amongst the working labour force, there has been a 4 percent increase in villagers working outside Palanpur between 1983 and 2008. What are these secondary activities that people go out for? In Table 6, we tabulate the occupation profile of outside work. For each of the survey years, we find that it is mainly non-farm casual work that engages additional workers. This can be seen from a comparison of Tables 5 and 6, where it is casual labor that rises most as a share of activities.

Tables 7a, 7b and 7c provide details of the caste-wise proportion of adult males who are in each activity in 1983, 1993 and 2008 respectively. One of the biggest changes since 1983 is the fall in proportion of each caste engaged in regular wage employment. This reduction is largest for Thakurs and Others (which includes Passis).⁶ Thakurs show a 12 percentage point decrease in regular wage employment whereas the castes comprising the category “Others” record an even larger fall of 25 percentage points. The picture is reversed somewhat when we focus on the narrower period between 1993 and 2008. During this interval there is a slight increase in regular employment for both castes, but the rise is very small.

Muraos also show a slight decline over time too but on the whole they remain the most stable of the castes in terms of occupation structure. Muslims (Dhobi/Telis) show a rise in skilled self-employment (largely motor repair shop owners) while showing a decline in casual labour. On the whole they do more non-farm work than before. The most interesting occupation profile change is for the Jatabs, who have moved out of casual agricultural labour as a primary activity. They show a marked increase in casual non-farm work. But at the same time Jatabs also reveal a rise in cultivation (consistent with the general observation that Jatabs are leasing in more land in 2008). Since non-farm jobs have higher incomes than agriculture casual labour activities, this reflects a rise in income for Jatabs over time. This can be seen

⁶ The groupings follow the classifications followed in LS 1993 for similar tables.

as an example of the Indian growth process, with its greater demand of non-farm labour, leading to greater prosperity for the lower castes.

Given this occupation profile of the village, how many in each caste go out of Palanpur for their primary work? In 2008, Gadarias and Telis were most likely to work outside. This is in contrast to 1983 and 1993. In 1993, the two castes most likely to go outside were Dhimars and Passis; while in 1983, the two castes with the largest proportion of people going outside were Passi and Others.

Are people from within a caste more likely to go outside in 2008 than 1983? Clearly the Thakurs are working more outside Palanpur. This is equally true for Telis. Other castes show slight declines. But the most astounding statistic is the proportion of Passis going out of Palanpur. Notice two important details in Tables 7a-7c. First the proportion of Passis going out of Palanpur in 2008 is zero. Second the number of Passis in the labour force is just 7 in 2008 as compared to 26 in 1983. This is part of the answer to why a greater proportion of the village does not go outside for jobs. Given that Thakurs and Telis are a significant group in the village and that the proportion of them going out has risen by 8 to 10 percentage points each, one might have expected the village as whole to have shown a higher proportion of people going out. However, the loss between 1983 and 2008, of a community whose members worked outside has dampened considerably the overall village proportion. This is a classic case of selective attrition that can distort verdicts based on cross sectional averages. How much does the disappearance of the Passis contribute to the pool of those who go out? Table 8 shows the evolution of caste composition of those who go out of Palanpur for their primary work. Males from the Passi community constituted 20 percent of the adults that went out for their primary work in 1983. In 1993, this proportion had fallen to 11 percent. As pointed out above, there were non from this dwindling community that go out in 2008. Lastly, notice that Telis and Jatabs show an increased presence in this pool in 2008 and we will come to them later.

To get a rough idea of the impact of Passi disappearance from the adult male population, let us re-calculate the proportion of those working out excluding the Passi community for 1983 and 2008. Now the shares of those who work outside are the same (24 percent). If we consider the labour force as the relevant base, we find that the proportion of those working out for their primary work is 28 percent in 1983 and

30 percent in 2008. This is now a modest rise instead of a fall. However, this is merely for illustration. A similar sample selection argument can be made more generally if households/members working outside in 1983 have migrated out of the village. We look at this later when we look at migration in more detail.

Our results already suggest that if we consider the labour force, there is an increase in going out for some work over the years. Moreover, if we drop the Passi community from the population, the difference between 1983 (35 percent) and 2008 (43 percent) becomes even larger. Interestingly, when one compares the caste composition of those who go out on primary work and those who go out on any work (Tables 8 and 9), both tables show that individuals from the Murao community, though largely cultivators in both 1983 and 2008, do larger amount of additional work outside Palanpur than before. This is equally true for Thakurs. While only 4 percent of them were doing some additional work outside in 1983 (comparing 25 percent in primary job and 29 percent in any job), 16 percent of them do some additional work outside in 2008. This establishes that not only has there been a rise of people going out on secondary work, there are particular castes that show a big increase over the period.

2.2. DETERMINANTS OF EMPLOYMENT OUTSIDE PALANPUR:

In this section, we explore what are the covariates of working outside and how their influence has changed over time. First we estimate the marginal effects of covariates on the probability of working outside on a primary job. We also calculate similar marginal effects for the probability of working out on any job. We use probit models estimated separately over 1983, 1993 and 2008 to allow for structural flexibility, in particular because we want to tease out if there are robust caste differences within each year. Finally we estimate the probit models pooled over 1983 and 2008 data in one exercise and 1993 and 2008 in another exercise to examine changes over time⁷.

⁷ We could have equivalently reported results only from the pooled estimation but that has the problem that sometimes a community that is particularly relevant in one year becomes totally irrelevant in another year. For example, Passis are important in 1983 but they predict not going out in 2008 perfectly. If we were to pool the 1983 and 2008 data together, we would have to put Passis in a broader category (so that this category does not predict not going out perfectly in 2008). But this would hide how important Passis are in 1983.

There are two motivations for carrying out these estimation exercises. The most important motivation is that we want to separate confounding factors at play. We do so by taking a multivariate framework that takes into account land ownership, age of the adult male, his years of education, number of adult males in the family and dummy variables representing caste. The motivation for most of the variables is laid out in LS (1998) and will be discussed further below when we get to the results. What we add to the original list of variables is age of the adult male. Our specification is estimated using the whole sample of adult males instead of selecting only those working in the labour force. The latter would require us to estimate additional models of sample selection into the labour force. While this is an important exercise, it requires variables that explain participation but not the choice to go out thereafter. Finding such variables requires more investigation and we leave it as an exercise to be conducted in future work. Our estimation, done on the whole sample, however, produces consistent estimators.

A second motivation is that we can easily conduct statistical testing. It can be argued that since we are looking at a census of Palanpur, conducting statistical testing is not needed. However, as in other work conducted before on Palanpur, we choose to look at Palanpur as a part of a super population.

First we look at the probability of working outside as a primary occupation. A summary table of covariates for each year and caste are presented in Table 10. Columns (1), (3) and (5) in Table 11 present the relevant probit estimations done for each survey year. The most robust variable that is significant through all the regressions is land owned. The more the land owned by the household of the individual (controlling for the total number of adult members in the households), the lower the probability of the individual working outside. This implies that lower land ownership pushes people to seek work out of Palanpur. However the structural relation between land ownership and going out has remained more or less constant over time. The marginal effect is around 0.01 and additional statistical tests show that we cannot reject the null (at 10 percent) that the marginal effect has stayed the same over time. This has a rather significant implication for the Palanpur economy. Notice in Table 10, the average land size has fallen from 24 bigha in 1983 to 14 bigha in 1993 and down further to 11 bigha in 2008. This implies that if we were to predict working outside, the lower land holdings in 2008 would make going out more likely

(although note that one would also have to factor in the constant term). This is a level effect of falling land ownership over time. An intriguing finding is that the number of male adults is insignificant. This suggests that it is the size of land holding of the household that matters and not the land/labour ratio. In a setting such as Palanpur land ownership is a good indicator of wealth. We might expect therefore that wealthy households are less likely to send their family out to work. On the other hand, wealth could also proxy access to networks and connections. In this case one might have expected wealth to be positively associated with outside work. As we have noted above, in 2008, the jobs that people do outside Palanpur are mostly business and casual labour. There are very few regular jobs outside Palanpur. These are the jobs that wealthy people would have better access to, through networks and connections. But it would seem that at least in 2008, this is not the case. However, to the extent that connections are linked to caste and not only to wealth, this does not imply that networks and connections have no role to play in earlier years.

The contrast between 1983 and 2008 (and 1993) becomes apparent when we examine the marginal effect of education. In 1983 there is a significant positive marginal effect of education indicating that people with higher education were working outside (this has been interpreted as a pull factor by Ranjan 2009). This is largely due to the regular jobs held by people: jobs that required some education. However both in 1993 and 2008, education has no significant marginal effect on the probability of working out. This points out that the jobs outside Palanpur in 1993 and 2008 do not require much education and is consistent with decline in regular employment outside the village.

The two results together suggest that going out of Palanpur for work in 2008 has been due to falling land size and due to disappearance of regular jobs. It raises the question why are there so few doing regular jobs? After all, there has been a significant increase in the number of employers providing non farm jobs in the rapidly growing city of Morababad in the last decade. One possibility is that those villagers who remain in Palanpur in 2008 are not as well-networked to get regular jobs as before.

Controlling for the effect of other covariates, some caste dummy variables come out to be significant, pointing to advantages/natural preferences for outside

work. As has been remarked earlier, in 1983 the Passis in the village, who held railway jobs and jobs in a cloth factory, appeared to possess an inherent advantage for such outside work. This was still evident in 1993. By 2008, however, the Passi community had more or less abandoned Palanpur, leaving Thakurs as the best placed of the remaining social groups to get outside jobs. Gadarias display the most variability in working outside. The closure of the cloth mill hit them hard in 1993, for example, but they seem to have recovered substantially by 2008. This raises natural questions as to why some castes seem to be doing better than others even after controlling for wealth.

While it is interesting to see how castes perform relative to a reference category for each year (Murao in 1983 and 1993 and Murao/Passi in 2008), one must be careful when drawing inferences about changes over time because these also depend on how the base itself is changing over time. Taking this into account, we run a pooled probit estimation where we interact a dummy that represents 2008 with all the caste dummies (we make Murao/Passi the reference group). Table 12 reports the results of the interaction terms (all the other results are similar to the ones reported in Table 11). We conduct two pooled exercises, one with 1983 and 2008 data to examine the long-term changes and the other with 1993 and 2008 to examine the shorter run changes. In the long run, we find that once we control for other covariates, the only caste dummy that shows a significant change is the reference category that shows a decline (since it includes Passis) and “Others”. Thus, there is no clear increase or decrease in the influence of any of the other castes over time. In the shorter run regression (1993-2008), Gadarias show higher outside work, which, as remarked before, reflects their being able to come out of the loss of outside work just before 1993.

Do these conclusion change if we look at any outside employment rather than outside work as a primary occupation? We have noted before, that, at least as a proportion of labour force, this indicator has shown an increase over the period 1983-2008. Probit Estimation for each year (Columns 2, 4 and 6 in Table 11) shows that the results are not wildly different from those discussed above. However the marginal effect of land ownership becomes slightly greater, indicating that it is individuals with low landholdings that go out for supplementary work. This is not very surprising as a

good job requiring education is hardly something that would be done on a supplemental basis. These are mostly casual non farm jobs.

Results from pooled estimation (Table 13) show that controlling for other covariates (including land ownership), the marginal effect of a dummy representing 2008 is insignificant for most castes except the base category (Murao/Passis) which , as in the case of primary work, shows a fall. Similarly Gadarias show a rise in the short term from 1993 but over the period 1983-2008, they show a fall. The argument for these results is the same as were presented above and are therefore not repeated.

To summarize, the lower land holdings in Palanpur seem to be the biggest driver of working outside. However, it is important to note that in a village with growing population, it is inevitable that land ownership will fall over time. The result that the marginal effect of land ownership has not change over time indicates that people with low land ownership are as likely to work outside as before. Some communities have shown slightly different trends but these are largely governed by the loss of regular jobs by 1993 and subsequent recovery. Thus when we look at the period between 1983 and 2008, and control for land ownership, we see that working outside has not changed for most communities and in some cases (like Passis), has in fact gone down.

2.3 Determinants of Employment Activities outside Palanpur :

Given the overall picture described in the previous section, it is important to appreciate that the types of jobs for which people go out of Palanpur are varied and have changed. The mix of activities for which people go out has changed. (See Table 14 for the various activities and their classification in 2008). We thus turn to a deeper examination of these outside activities. It is important to note, however, that it is not always possible to interpret each coefficient in a consistent manner because the reference category will be a mixture of both activities for which people don't go out and activities for which people do go out. For example, when we model outside non-farm casual labour, the reference category is everyone else including regular job holders within and outside the village, casual labour in the village as well as cultivators. A more involved model would estimate all the activities together as a

multinomial logit model or an unordered probit model, but interpretation in those models is not always straightforward. This is work for the future. In the mean time examining each activity in isolation does yields insights, subject to the cautionary note above concerning the reference category.

2.3.1 Outside Non Farm Casual Labour:

The proportion of those with non-farm casual labour in 1983 was 4.5 percent, 5.3 percent in 1993 and was 7.3 percent in 2008. Thus there has been a secular rise in outside non-farm casual labour. To examine the link between various covariates and the probability of outside non-farm casual work, we run three probit estimations for each year (Table 15). We find that while in 1983, more educated and more landed people were less likely to be non-farm casual workers, in 1993 and 2008, this is no longer true. This is an interesting result because it suggests that working out on non-farm casual jobs is not driven by land ownership in these years. However in 2008, Jatabs (a caste with low landholdings) are more likely to work outside on these jobs than others. If we drop caste dummies, land ownership becomes significant, indicating that the caste dummies in 2008 are picking up some of the effect of the lower amount of land owned. The negative significant coefficient of education in 1983 reflects that the reference category contained regular outside work that people with some education had access to. However in 1993 and 2008, people with regular jobs have disappeared and therefore education is no longer significant. It is also true that the average years of education have gone up over the years, albeit to only a modest extent.

Pooled regressions (results not shown) show that there is no increase over time (short run and long run) for any caste. To some extent, this is because Jatabs also have lower ownership of land over the long run. If we drop land ownership from the pooled regression, the dummy for Jatabs shows a significant rise between 1983 and 2008.

This rise is especially relevant when we think about how Jatabs have been affected by the growth process. Our results, in conjunction, with the result that there has been an increase in non-farm income for Jatabs (Himanshu et al 2010) show how

the increased demand for non-farm casual jobs have made the lower social groups better off.

2.3.2 Outside Self Employed:

In 1983, there were only 6 people who were self employed and worked outside the village. The rise in self employment outside Palanpur is a recent phenomenon. Table 16 compares probit estimation results for the years 1993 and 2008. It is noticeable that in 2008, Thakurs, Telis and Gadarias were mostly involved in self employed businesses outside of Palanpur. The two important businesses that take these three communities out of the village are repair shops in Chanduasi (mostly Telis) and Marble polishing enterprises (Gadarias and Thakurs). While the regression in 2008 points out that people with low ownership of land partake in these activities, the move to these businesses do not seem to be a step taken out of desperation. It is quite interesting to note, for example, that some of the Telis had been working as apprentices in repair shops in the 1990s. Marble polishing was first introduced to the village in the 1990s. Indeed two people in 1993 survey worked for marble polishing enterprises. At some point thereafter, some people who were in the trade realized that they could do better if they owned a marble polishing machine. Thus we see a process of capital accumulation as a deliberate choice and it is difficult to reconcile these observations with a process of villagers having been pushed into these business activities. It is also relevant to the story that people in the trade were reacting to the increased demand for marble polishing. As noted earlier, the increase in construction around Moradabad has been substantial over the last 10 years with new houses and hotels coming up. Anecdotal evidence also suggest that even in smaller areas like Chandausi, over the last decade, there has been a spurt in demand for marble polishing in houses. The decision to buy marble polishing machines may well have been in response to this rising demand. Since the growth of housing and construction industry has been an important feature of India's growth experience, this illustration is especially relevant in trying to understand how this may have affected occupation choice and incomes in rural India.

2.3.3 Outside Regular and Semi Regular Employment:

In 1983, 16 percent of the male adult population were engaged in outside regular work. By 1993, this number had fallen to 6.5 percent. As has been argued earlier, this was to some extent due to the closure of the cloth mill which employed regular workers. There was no sign of recovery in regular employment by 2008 however, the proportion stayed at a lowly 6.2 percent. It seems that Palanpur residents have never recovered the regular jobs they lost in 1980s. As we have argued above, this is a major explanation for why Palanpur does not show more non farm work outside now relative to the past.

Looking at the covariates in each year (Table 17), Gadarias and Passi's were more likely to have regular jobs in 1983 but this advantage had shifted to Thakurs, Telis and Dhimars by 1993 and 2008. Land ownership matters but the strength is much weaker now, indicating that getting a regular job is not merely driven by wealth. Indeed, it requires contacts and education (which is a significant variable in 1983 and 2008).

Looking over time (Table 18), we see that there has been a fall in regular employment for Thakurs over 1983-2008. Have the Thakurs lost the advantage they had in the past or did the more networked Thakurs leave the village? Again it is important to remind ourselves that these are partial effects. Thakurs would still enjoy an advantage because of their higher education - which we have seen above matter for regular jobs. But it does mean that there is no snowballing effect that one might expect if, for example, Thakurs had access to networks to get regular jobs and more and more members of their community took advantage of this network over time. However, it is important to appreciate here again that selective migration of Thakurs who had regular jobs would also lead to a similar trend.

We next look at the probability of doing an outside semi-regular job (Table 19). In 1983, the proportion of male adults working outside on a semi regular basis was 6 percent. By 1993, it had fallen slightly to 5 percent. By 2008, it had fallen further to 3 percent. While Passi's had an advantage in doing such jobs, it would seem that this has disappeared with them.

3.1 Migration: Some Stylized facts

At various stages above, we have pointed to the possibility that selective migration might have a big say in how the snapshots of the village look. Hence we look at long-term migration, that is, people who left the village all-together (including some who leave the village for 8 months per year for brick kiln work). But before we turn to individuals, let us look at the migration of whole households. Table 20 lists the migration of households over the different years of the survey. In the earlier years till 1983, natural attrition like death and marriage were not excluded. However for the 1993 and 2008, we have taken out natural attrition. It is important here to point out that if we include natural attrition, 34 of the 1993 vintage households disappeared by 2008. This seems like a very large number of households, but notice how the number falls to 27 when we exclude death and marriage. It was noted in LS (1998) that there was an increased nuclearization of households and that in 1993 there were some households with just a few old members. Taking that in account, the disappearance of 7 complete households due to attrition is not surprising.

Table 20 also provides a decomposition of the migrating households by caste. It can be clearly seen that the biggest change since 1993 has been the out migration of the Passi households. Passi's had been remarked on in earlier studies of Palanpur as having a higher propensity to migrate in and out the village, and are generally seen as a more mobile community than others. Having said that, the village has also seen migration of 6 Thakur and Murao households.

Has migration changed over the last 25 years? We have to keep in mind that the two periods 1983-1993 and 1993-2008 are of unequal length and that the base number of households is larger in the latter period. Therefore the larger numbers of households migrating in the latter period is deceptive. Table 21 provides a breakdown of migration flows between 1983 and 1993 and between 1993 and 2008. Among households that showed some migration between 1993 and 2008, 33 percent refer to instances where all the household members migrated. This number was however larger at 38 percent between 1983 and 1993. Hence it would seem to be the case that conditional on migration, it is more likely now to be of a kind where some members go out instead of the whole household.

Since the base year households in 1983 and 1993 are different, it is important to focus on individuals. As before we concentrate on the migration of adult males. Between any two years, say 1993 and 2008, we look at the migration of adult males who are 15 at the time of the base year 1993. We could have taken an alternative criterion, for example, we could have calculated the number of males who would have been above 15 in the end year had they not migrated from the village. However we would then have to include children who left with their parents between 1993 and 2008⁸.

Migration has clearly gone up between 1993-2008 as compared to 1983-93 (Table 22). The annualized migration rate in the period 1983-93 was 0.95 percent while the annualized migration rate in the period 1993-2008 is 1.16 percent.⁹ This is an increase but not a dramatic one over the periods. To some extent the possibility of outside daily work may diminish the need to go out. Thus the proximity of Palanpur to Moradabad and Chandausi is one reason why we don't see huge migration rates.

However between castes, there is a big difference in migration rates. While Passis and "Others" constituted the major share of migration between 1983 and 1993, Thakurs and Jatabs also came into the picture between 1993 and 2008. The disappearance of Passis that started between 1983 and 1993 continued at an accelerated pace post 1993. The migration rate among Telis and Dhobis has remained low throughout the period.

3.2 Determinants of Migration

The key purpose for studying migration in this paper is to examine selective attrition. Therefore it is important to ask what determines migration. In particular we are

⁸ Of course our criterion leaves out males who could turn 15 somewhere mid way between our period and who may have migrated. But given migration of whole households (discussed below) and the problems in getting the age accurate, it is difficult to get the timing of who left when correct.

⁹ It is not always clear why individuals migrate. This is especially true at ages between 15 and 20. Often when the head of the household moves to get a job outside, the son moves along with him. The son will within a year (or immediately) also work in the new place. So he is also a migrant for employment. But when answering to surveys, they list themselves as being a part of family that moves and not a move explicitly for employment. We therefore report two rates one of which includes those who said they explicitly moved for employment. The annual migration rate for this case is 1.05 percent which is still higher than in the period 1983-93.

interested especially in learning if there are factors, like low ownership of land, or networks that come about when people from the same family have migrated out before. We would also like to ask if people with particular job profiles are more likely to migrate out or whether there are some communities who, for some (historic) reason, are more likely to migrate.

We answer these questions into two ways. First using probit regressions we examine the determinants of migration over the two periods 1983-1993 and 1993-2008. Second we want to see if people are more likely to migrate if there were larger migration flows from the same root family period in the previous periods. This will help us look at effects of possible familial networks that establish with members from a larger root family migrating in the past.

The covariates that we look at are land ownership of the household, education, age, the primary job the person did in the base year and whether the occupation required the person to go out of the village. There are contrasting results between 1983-93 and 1993-2008 (Table 23). Most variables in the estimation are significant in 1983-93. Landed people migrate out less, suggesting that wealthy households were less likely to migrate. But the members who left were educated. Larger households (in the base year) have lower migration. This result indicates that it is not pressure on land that made people migrate. One possible explanation is that households in this period tended to move together as a unit. This would be more difficult if there were a larger number of people to support. However this is not a fully satisfactory explanation as the number of members who migrate from a family is endogenous. So one needs to think deeper into why this was the case in the 1980s.

People in regular/semi-regular jobs inside the village were less likely to migrate while those who went out for work in 1983 had a greater chance of migrating. This last result implies that there was an exodus of people who had regular jobs outside between 1983 and 1993.

In 1993-2008, interestingly, some of the trends change. Most importantly, if an individual was working outside the village, he is more likely to stay in the village. However, we need to be careful with this interpretation. If individuals working out in 1983 lost their jobs and many of them left, those left in the village are more likely to

be ones whose jobs were more secure (or those who hadn't lost their job earlier). Hence they may be less likely to migrate out post 1993.

Land ownership became a more important variable post 1993. This implies people with less land were more likely to migrate in this period. Education had no role to play, indicating that both educated and uneducated people were equally likely to migrate. This is consistent with the observation that post-1993 more households have some member who have migrated. Thus education seems to matter less for migration.

Next we would like to explore whether past migration that create family networks outside are important for migration decisions. For this we estimate the migration outcome between 1993 and 2008 and in addition to standard covariates considered above, we introduce a variable that measures the number of 1983 root family members that have gone out between 1983 and 1993. We find that the variable is insignificant (result available on request). However, this regression necessarily omits households who have no member of their root family in the village by 1993. We have noted earlier that between 1983 and 1993, families tended to leave as a group. The insignificance of this variable is not surprising given that migration is not very high in Palanpur. So for families that survive through the years, there are not many members who have migrated. It is possible that this will change in the future given that members from more families are migrating out (without the whole family moving out).

3.4 Conclusion

In the last two decades, as the Indian economy has grown rapidly, there has been a increase in demand for labour in non-farm jobs. This has resulted in higher incomes as labour is reallocated from low paying farm activities to a more dynamic and remunerative non-farm sector. Therefore, in rural India, where incomes from non-farm jobs now constitute a higher share of total income as compared to before, total incomes have risen. Since non-farm jobs are largely outside the village, the growth of such jobs reflects an increasing level of connectedness to urban India and its rapid growth. Such jobs may well be an important reason why rural poverty has fallen over

the last decade. It is thus important to ask what kinds of non-farm jobs people in rural India are involved in and what their determinants are.

It is in this context that we look at Palanpur, a village in the state of Uttar Pradesh, for which data are available from 1957 to 2008. In this paper, we explore whether Palanpur residents go out of the village for primary employment and how this has changed over the last 25 years. In this paper, we look at time allocations to different activities in defining what primary activities are. This is in contrast to categorizing activities on the basis of incomes. We know from Himanshu et al that the share of income from non farm activities has gone up. Here we wish to understand what are the activities that people spend their time doing and how that has changed over time. Such rich time series data are available at the individual level from 1983 onwards and represent a strength that cannot be matched by larger data sets such as those collected by the National Sample Survey Organization.

We find that, compared to 1993, males in 2008 are more likely to work outside Palanpur. In 1993, 19 percent of the adult male population work outside while the proportion is 23 percent in 2008. However, taking a longer-term view back to 1983 (with 29 percent of adult males working outside the village), this does not seem to be the case when we look at only primary occupations. Once we allow for multiple activities and we look at the labour force as opposed to the adult male population, we find that there has been a rise in work outside Palanpur even over this longer time horizon. While 38 percent of the labour force went out for some work in 1983, the number fell to 33 percent in 1993 but has risen to 42 percent in 2008. Thus secondary or additional jobs, which are for much shorter duration, drive the growth of outside jobs in Palanpur.

It is important to note that even with the inclusion of secondary employment outside the village, the change over the period 1983-2008 is not spectacular. We delve deeper into why this is the case. We find that this has to do primarily with disappearance of regular jobs that took people out of Palanpur. We find that there has been selective migration of people with regular jobs, especially, people from the Passi community. Since regular jobs were a large fraction of all outside jobs in 1983, the disappearance of people doing them has led to a selected sample, one where people

left in the village have a lower likelihood of working outside on regular jobs. Indeed, even the absolute number of people with regular jobs has not risen in the last 15 years.

For other jobs, on the other hand, residents of Palanpur are now more likely to work outside the village. Casual non-farm jobs are mostly outside Palanpur and newly emergent self-employment enterprises also take people out of Palanpur. While in the case of casual jobs, it would seem that falling wealth is an important contributor, for self employment enterprises, this is not the case. There has been some capital accumulation (albeit small, in buying marble polishing machines) and training (leading to engine repair shops). These are not traditional enterprises like barber or carpenter shop (which also explains why they are more outside the village now). In explaining the growth of these activities, the importance of a growing economy cannot be over-emphasized. A growing India with increase in urban housing, greater trade and commerce, has resulted in increasing demand for skilled and unskilled labour. In the context of Palanpur, these are reflected in the increase in casual non-farm labour and establishment of small enterprises like marble polishing.

When we don't control for any covariates, some castes show greater tendency to work out of the village. We find that Jatabs are more likely to work outside on non-farm casual labour jobs and that they have given up casual agriculture labour. Given that non farm incomes are higher than incomes from agriculture casual labour, this reflects how a greater demand for non-farm casual labour may lead to higher incomes for the poorest social classes.

We show most of the trends of outside employment for different castes are dictated by falling land ownership. While in this paper, we contend that land ownership reflects wealth, there can also be other explanations, some of which we plan to pursue in subsequent work. For example, there may be land threshold effects, where landholdings may have become so small that it is not profitable to grow on them. Intriguingly, the number of male adults in a household is insignificant, suggesting that land labour ratios may have a limited role to play. However, one needs to be careful on how to interpret this. Often it's the land cultivated rather than land owned that is an important correlate of going outside for a job. However the choice of how much land to cultivate (which involves leasing in or out) is endogenous and inclusion of this characteristic on the right side as a covariate would not be

correct. To understand this better, we need to integrate the farming choice with the choice to go outside. Future work along these lines may be possible given that the Palanpur data set is very strong in information about agriculture.

An important technical contribution of this paper is to point out the problems of looking at snap shots of a village economy and making inferences about dynamics. The case of Palanpur shows that when those who migrate are also people more likely to be working outside when living in the village (as our migration regressions show), then the village as a unit will tend to report lower outside employment over time, at least in the short run, as it does in 1993. Therefore while people in various professions are going out of Palanpur more than before, the selection bias will tend to paint a different picture unless one looks more closely. In this paper, we have not explicitly considered the choice of migration. Why do people working outside find it optimal to migrate? Is it merely the closure of a factory that lead people to migrate or are there other reasons why some communities find it easier to migrate. We do not confront these questions in this paper. However in many cases, we have data on migrants themselves after they have moved to a newer place. In future work we intend to look more explicitly at the migrant households.

In this paper, we have only just begun to understand what are the covariates of occupation choice. So far we have not modeled the process of job search itself. How do people get jobs outside? Are labour markets segmented? Do people get the amount of work that they seek? In 2008, we have detailed questionnaires that will explicitly help us go into these issues. Similarly, an interesting observation about the last 15 years is the rise of entrepreneurship. What are the costs of establishment of business? Anecdotal evidence suggests an interesting divergence between the experience of Telis and Jatabs. Though both had very little land in 1993, Telis learnt the art of engine repair through apprenticeship, mostly outside the village. In contrast, Jatabs moved to cultivation and casual non-farm labour. The acquisition of skills outside the village among Telis may reflect a tighter community willing to pass on important skills and leading to setting up of enterprises. We have not explored these issues fully in this paper.

While in this paper, we study how time allocation among activities has been changing, we have not integrated these trends, in great detail, with how they have

resulted in higher incomes. An important component in understanding working outside is the returns from such activities. These depend on both the duration of work in a year (which is endogenous) and the wage rate (profit). Our dataset provide details of the total amount of work that people do and the hourly/piece wage rates. Clearly if non-farm employment is to be panacea for poverty, understanding occupation choice and how it reacts to wage rates becomes very important. Moreover, in the bigger scheme of things, it is important to understand what affects the income earned by individuals and households and how it has changed over time. As India integrates into the global economy, and the village economy integrates into a rapidly growing India, it is important to investigate the role of rising non-farm income in increasing prosperity. Our preliminary investigation on changing occupation choice is only one aspect in understand rising incomes. Our initial forays have thrown up interesting ideas to explore and we expect to pursue them in the future.

References:

- [1.] Bliss, C. and Stern, N. (1982) “Palanpur: the Economy of an Indian Village” (Oxford and New Delhi: Oxford University Press).
- [2.] Himanshu , P. Lanjouw , A. Mukhopadhyay and R. Murgai (2010), “Non-Farm Diversification and Rural Poverty Decline in India: A Perspective from Sample Survey and Village Study Data”, Mimeo
- [3.] Lanjouw, P. and N. H. Stern. (eds). (1998). “*Economic Development in Palanpur Over Five Decades.*” New Delhi and Oxford: Oxford University Press.
- [4.] Ranjan S. (2009), “Growth of Non Farm Employment in Uttar Pradesh: Reflections from recent data”, Economic and Political Weekly, VOL 44 No. 04 January 24 - January 30.
- [5.] World Bank (2011) *Perspectives on Poverty in India: Stylized Facts from Survey Data* (Washington D.C.: World Bank).

Table 1: Occupation Structure in Different Survey Years (Adult Males 15+):						
	1957-58	1962-3	1974-5	1983-4	1993	2008
Cultivation and Livestock	141 (80.5)	125 (72)	140 (65)	141 (49)	187 (55)	184 (48)
Self Emp (Non Farm)	6 (3)	8 (5)	na	17 (6)	16 (5)	45 (12)
Wage Employment (Reg+Sem Reg)	5 (3)	16 (9)	46 (21)	73 (26)	46 (14)	43 (11)
Casual Lab (Ag and Non Ag)	22 (13)	16 (9)	na	23 (8)	34 (10)	36 (9)
Others (Out of lab force, Student, Vocational Training, Retired, Unemployed)	1 (0.5)	8 (5)	na	31 (11)	57 (17)	79 (20)
All Occupations	175 (100)	173 (100)	214 (100)	285 (100)	340 (100)	387 (100)

Percentages may not add up to 100 due to rounding

Table 2: Occupation Status (Further Breakdown)								
	1957		1983		1993		2008	
	Prim	Sec	Prim	Sec	Prim	Sec	Prim	Sec
Cultivation and Livestock	141 (81)	12	141(50)	32	187 (55)	13	184 (48)	122
Self Employment (Non Farm)	6 (3)	2	17 (6)	6	16 (5)	7	45 (12)	26
Skilled Self Employed	6	2	5	3	9	5	13	3
Unskilled Self Employed			12	3	7	2	32	23
Wage Employment (Regular/Semi Regular)	5 (3)	6	72 (26)	2	46 (14)	3	43 (11)	8
Regular (Skilled)	1		7	1	7		13	
Regular (Unskilled)	4	4	48		21	1	17	
Semi Regular (Skilled)			1		1		6	3
Semi Regular (Unskilled)		2	16	1	17	2	7	5
Wage Employment (Casual)	22 (13)	24	23 (9)	36	34 (10)	34	36 (9)	74
Agriculture Labor	22	7	10	21	16	17	2	30
Non farm Casual Labour	0	17	13	15	18	17	34	44
Study	0 (0)		9 (3)		28 (8)		46 (12)	
Other	0 (0)		5 (2)	2	4 (1)		9 (2)	1
None	1 (1)	131	17(6)	206	25 (7)	280	24 (6)	156
Total	175 (100)	175	284 (100)	284	340 (100)	340	387	387

Table 3: WORKING OUTSIDE IN PRIMARY JOB				
Proportion of work done outside	1983	1993	2008	
Casual Labour	56	53	78	
Self-Employed	35	56	60	
Wage Employment (regular and semi-regular)	84	91	81	
Total	37	24	29	

Table 4a: Working Outside Palanpur (Base: Adult Male Population): By caste

	Thakur	Murao	Dhimar	Gadaria	Dhobi	Teli	Passi	Jatab	Others	Total
Working Outside in Primary Job (1983) %:	22	10	36	43	14	30	62	27	55	28
Working Outside in Primary/Subsidiary Jobs (1983) %	27	15	44	48	14	43	62	39	55	34
Total Freq (1983)	64	67	25	21	7	30	26	33	11	284
Working Outside in Primary Job (1993) %:	27	6	30	7	0	21	37	17	31	19
Working Outside in Primary/Subsidiary Jobs (1993) %	30	6	36	11	0	41	37	35	31	25
Total Freq (Excluding Study/Other/None) (1993)	77	81	33	28	9	34	19	46	13	340
Working Outside in Primary Job (2008) %	30	7	31	34	8	40	0	26	20	23
Working Outside in Primary/Subsidiary Jobs (2008) %:	42	20	38	38	17	51	0	36	20	33
Total Freq (Excluding Study/Other/None) (2008)	98	101	32	29	12	43	7	50	15	387

Table 4b: Working outside Palanpur (Base: Adult Male Labour force) By caste

	Thakur	Murao	Dhimar	Gadaria	Dhobi	Teli	Passi	Jatab	Others	Total
Working Outside in Primary Job (1983) %:	25	12	41	50	14	32	64	32	55	32
Working Outside in Primary/Subsidiary Jobs (1983) %	29	15	50	56	14	46	64	46	55	38
Total Freq (Excluding Study/Other/None) (1983)	55	59	22	18	7	28	25	28	11	253
Working Outside in Primary Job (1993) %:	36	10	40	12	0	23	47	22	63	24
Working Outside in Primary/Subsidiary Jobs (1993) %	43	11	48	16	0	45	47	44	75	33
Total Freq (Excluding Study/Other/None) (1993)	61	73	25	25	9	31	15	36	8	283
Working Outside in Primary Job (2008) %	39	8	42	45	13	47	0	30	33	29
Working Outside in Primary/Subsidiary Jobs (2008) %:	55	24	50	50	25	61	0	41	33	42
Total Freq (Excluding Study/Other/None) (2008)	75	85	24	22	8	36	5	44	9	308

Table 5:			
Out on Primary Job: Occupation Profile			
	1983	1993	2008
Skilled Self Employed	1 (1)	2 (3)	7 (8)
Unskilled Self Employed	5 (6)	2 (3)	20 (22)
Regular (Skilled)	5 (6)	3 (5)	10 (11)
Regular (Unskilled)	39 (49)	19 (31)	14 (16)
Semi Regular (Skilled)	1 (1)	1 (2)	4 (4)
Semi Regular (Unskilled)	16 (20)	17 (27)	7 (8)
Casual Labour (Non Agriculture)	13 (16)	18 (29)	28 (31)
TOTAL	80 (100)	62 (100)	90 (100)

Table 6: Out on Any Job: Occupation Profile			
	1983	1993	2008
Skilled Self Employed	3 (3)	4 (5)	7 (5)
Unskilled Self Employed	5 (5)	2 (2)	22 (17)
Regular (Skilled)	5 (5)	3 (4)	10 (8)
Regular (Unskilled)	39 (40)	20 (24)	14 (11)
Semi Regular (Skilled)	1 (1)	1 (1)	7 (5)
Semi Regular (Unskilled)	17 (18)	19 (23)	9 (7)
Unspecified Casual Labour	25 (26)	35 (42)	53 (41)
TOTAL	95 (100)	84 (100)	129 (100)

Table 7a: Occupation Structure in 2008, by Caste						
Primary Occupation	Thakur	Murao	Muslim	Jatab	Others	Total
Cultivation and Livestock	37	71	36	56	34	48 (184)
Skilled Self Employed	0	3	13	0	2	3 (12)
Unskilled Self Employed	13	1	7	0	17	8 (32)
Regular Wage Employment	15	3	9	0	8	8 (30)
Semi Regular Wage Employment	5	3	2	4	2	3 (13)
Casual Labour (Non Agriculture)	5	3	9	28	10	9 (35)
Casual Labour (Agriculture)	0	0	4	0	0	1 (2)
Study	18	12	4	6	13	12 (46)
Other	3	0	9	0	2	3 (10)
None	3	4	7	6	11	6 (23)
All Occupations	100 (98)	100 (101)	100 (55)	100 (50)	100 (83)	100 (387)

Table 7b: Occupation Structure in 1993, by Caste						
Primary Occupation	Thakur	Murao	Muslim	Jatab	Others	Total
Cultivation and Livestock	45	75	60	48	46	55 (187)
Skilled Self Employed	3	4	2	0	3	3 (9)
Unskilled Self Employed	3	1	0	2	3	2 (7)
Regular Wage Employment	9	7	7	0	13	8 (28)
Semi Regular Wage Employment	13	0	2	4	5	5 (18)
Casual Labour (Non Agriculture)	5	1	7	11	5	5 (18)
Casual Labour (Agriculture)	1	1	14	13	2	5 (16)
Study	13	6	0	9	10	8 (28)
Other	3	1	0	0	1	1 (4)
None	5	2	7	13	11	7 (25)
All Occupations	100 (77)	100 (81)	100 (43)	100 (46)	100 (93)	100 (340)

Table 7c: Occupation Structure in 1983, by Caste						
Primary Occupation	Thakur	Murao	Muslim	Jatab	Others	Total
Cultivation & Livestock	52	73	51	48	29	50 (141)
Skilled Self Employment	2	1	0	3	2	2 (5)
Un-Skilled Self Employment	3	0	0	6	10	4 (12)
Regular wage employment	27	9	11	3	33	19 (55)
Semi-regular wage employment	3	1	5	9	11	6 (17)
Casual Lab (NON AGR)	0	0	14	9	6	5 (13)
Casual Lab (AGR)	0	3	14	6	1	4 (10)
Study	5	6	3	0	1	3 (9)
Other	3	1	0	3	1	2 (5)
None	6	4	3	12	6	6 (17)
All Occupations	100(64)	100(67)	100(37)	100(33)	100(83)	100(284)

Table 8: CASTE PROFILE OF THOSE WHO WORK OUTSIDE ON PRIMARY WORK			
CASTE	1983	1993	2008
Thakur	14 (18)	19 (31)	29 (32)
Murao	7 (10)	5 (8)	7 (8)
Dhimar	9 (11)	10 (16)	10 (11)
Gadaria	9 (11)	2 (3)	10 (11)
Dhobi	1 (1)	0 (0)	1 (1)
Teli	9 (11)	7 (11)	17 (19)
Passi	16 (20)	7 (11)	0 (0)
Jatab	9 (11)	8 (13)	13 (14)
Others	6 (7)	4 (6)	3 (3)
All Castes	80 (100)	62 (100)	90 (100)

**Table 9: CASTE PROFILE OF THOSE WHO WORK
OUTSIDE (ANY WORK)**

CASTE	1983	1993	2008
Thakur	14 (18)	23 (27)	41 (32)
Murao	9 (10)	5 (6)	20 (16)
Dhimar	11 (11)	12 (14)	12 (9)
Gadaria	10 (10)	3 (4)	11 (9)
Dhobi	1 (1)	0 (0)	2 (2)
Teli	13 (13)	14 (17)	22 (17)
Passi	16 (16)	7 (8)	0 (0)
Jatab	13 (13)	16 (19)	18 (14)
Others	6 (6)	4 (5)	3 (2)
All Castes	95 (100)	84 (100)	129 (100)

Table 10: Summary year and caste wise of covariates:

2008					1993			
	# Adult Males	Education (Yrs)	Age(Yrs)	Land Owned	# Adult Males	Education (Yrs)	Age(Yrs)	Land Owned
Murao/Passi	2	6	32	17	2	5	33	21
Thakur	2	7	31	12	2	5	34	16
Dhimar	2	5	37	5	3	3	34	4
Gadaria	3	6	30	12	2	2	35	13
Muslim	3	3	34	5	2	1	37	11
Jatab	2	2	36	5	2	1	32	9
Others	2	6	36	5	2	13	33	4
Total	2	5	33	11	2	4	34	14
1983								
	# Adult Males	Education (Yrs)	Age(Yrs)	Land Owned				
Murao/Passi	4	3	32	39				
Thakur	3	5	32	28				
Dhimar	2	2	36	7				
Gadaria	2	2	35	20				
Muslim	2	1	32	9				
Jatab	2	0	34	12				
Others	2	3	30	2				
Total	3	3	33	24				

Table 11: Probit Estimation of Probabilty of being out of Palanpur for primary and any work

	1983		1993		2008	
	Out (Prim)	Out(Any)	Out (Prim)	Out (Any)	Out (Prim)	Out (Any)
	(1)	(2)	(3)	(4)	(5)	(6)
Age (yrs)	-0.006	-0.006	0.000	-0.002	0.002	-0.001
	(0.001)***	(0.001)***	(0.753)	(0.304)	(0.331)	(0.415)
Thakur	0.022	-0.005	0.225	0.274	0.275	0.213
	(0.798)	(0.961)	(0.011)**	(0.003)***	(0.001)***	(0.007)***
Dhimar	0.098	0.087	0.145	0.214	0.214	0.075
	(0.447)	(0.571)	(0.096)*	(0.043)**	(0.028)**	(0.417)
Gadaria	0.272	0.256	-0.034	0.017	0.375	0.180
	(0.059)*	(0.092)*	(0.692)	(0.892)	(0.000)***	(0.062)*
Dhobi/Teli	0.009	0.024	0.051	0.246	0.267	0.154
	(0.923)	(0.847)	(0.535)	(0.016)**	(0.003)***	(0.096)*
Passi	0.397	0.318	0.238	0.252		
	(0.009)***	(0.070)*	(0.076)*	(0.082)*		
Jatabs	0.089	0.124	0.052	0.240	0.203	0.078
	(0.472)	(0.374)	(0.505)	(0.017)**	(0.034)**	(0.395)
Others	0.144	0.060	0.192	0.192	0.067	-0.114
	(0.340)	(0.732)	(0.183)	(0.226)	(0.615)	(0.429)
Referemce Cat:						
Murao (1983,1993)						
Murao/Passi (2008)						
Education (yrs)	0.022	0.018	-0.003	-0.003	0.008	0.000
	(0.003)***	(0.024)**	(0.313)	(0.369)	(0.212)	(0.944)
Land Owned	-0.009	-0.011	-0.008	-0.010	-0.011	-0.013
	(0.000)***	(0.000)***	(0.001)***	(0.000)***	(0.001)***	(0.000)***
# Adult Males	0.013	0.026	-0.002	-0.015	-0.007	-0.006
	(0.376)	(0.213)	(0.918)	(0.369)	(0.679)	(0.766)
Observations	284	284	340	340	387	387

*Robust p values in parentheses: * significant at 10%; ** significant at 5%; *** significant at 1%*

standard errors clustered by Households

Table 12: Pooled Probit Estimation: Marginal effects

Probability of Going Out on Primary Work (Pooled Estimation)

Derivative w.r.t.		1983-2008	1993-2008
Dummy 2008	Average	-0.18 (0.00)***	0.02 (0.59)
	Murao/Passi	-0.38 (0.00)***	-0.06 (0.13)
	Thakur	-0.09 (0.29)	-0.02 (0.81)
	Dhimar	-0.11 (0.42)	0 (0.97)
	Gadaria	-0.19 (0.18)	0.25 (0.003)***
	Muslim	0.01 (0.86)	0.12 (0.16)
	Jatab	-0.08 (0.48)	0.05 (0.57)
	Others	-0.36 (0.03)**	-0.1 (0.55)

Table 13: Pooled Probit Estimation: Any work

Probability of Going Out on Any Work (Pooled Estimation)

Derivative w.r.t		1983- 2008	1993- 2008
Dummy 2008	Average	-0.13 (0)***	0.05 (0.15)
	Murao/Passi	-0.24 (0)***	0.05 (0.36)
	Thakur	-0.02 (0.83)	0.07 (0.37)
	Dhimar	-0.13 (0.29)	0.01 (0.89)
	Gadaria	-0.24 (0.05)**	0.25 (0.013)**
	Muslim	0 (0.97)	0.04 (0.68)
	Jatab	-0.13 (0.21)	-0.03 (0.76)
	Others	-0.32 (0.08)*	-0.13 (0.47)

Table 14: Various activities in each Classification

Casual Lab (NON AGR)	Regular(skilled)	Semi-regular(skilled)
Bakery	Compounder	Car Driver
Brick Kiln	FSS clerk	Compounder
Cereal Shop	Insurance Agent	Cook
Construction	Railway	Electricity Meter
Labour	Teacher	Guard
Malgodaam	Utensil Factory	Shop worker
Marble Polishing		Steel Factory
Rikshaw puller	Regular(unskilled)	Semi-regular(unskilled)
Sac Repairing	Bank Cashier	Assistant
Tile polishing	Gas Hawker	Brick Kiln
Tractor Driving	Guard	Guard
	Metal Polishing	Tailor
Self-employed	Paper mill	shop worker
Shops	Railway	
Doctor	Shop worker	
Marble Polishing operators	Utensil Factory	
Mason	Guard	
Engine Repairing		

Table 15: Probit Estimation of Outside Casual Non Farm

**CASUAL NON AG OUTSIDE PALANPUR:
PRIM OCCU**

	1983	1993	2008
Age	-0.000 (0.821)	-0.001 (0.049)**	-0.001 (0.235)
Muslim	0.012 (0.093)*	0.012 (0.674)	0.012 (0.767)
Jatab	0.006 (0.434)	0.030 (0.304)	0.126 (0.006)***
Education	-0.002 (0.069)*	-0.001 (0.572)	-0.002 (0.471)
Land Owned	-0.0004 (0.086)*	-0.002 (0.244)	-0.002 (0.156)
Adult Males	-0.004 (0.031)**	-0.012 (0.085)*	-0.013 (0.183)
Observations	284	340	387

Robust p values in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 16: Probit Estimation of Outside Self Employment

SELF EMP OUT	(1)	(2)
	1993	2008
age	0.000 (0.239)	0.000 (0.581)
education	-0.000 (0.632)	-0.000 (0.876)
land_own	-0.000 (0.115)	-0.002 (0.074)*
adult_males	-0.001 (0.000)***	-0.002 (0.786)
Thakur	0.001 (0.527)	0.163 (0.003)***
Murao	0.002 (0.304)	
Dhimar	0.001 (0.326)	0.090 (0.143)
Gadaria		0.389 (0.000)***
Teli		0.276 (0.001)***
Others		0.161 (0.123)
Observations	340	387

Robust p values in parentheses: * significant at 10%; ** significant at 5%; *** significant at 1%

Table 17: Probit Estimation of Outside Regular Job

REG OUTSIDE	1983	1993	2008
age	-0.001 (0.231)	0.001 (0.016)**	0.002 (0.002)***
education	0.013 (0.003)***	-0.000 (0.787)	0.006 (0.002)***
land_own	-0.004 (0.003)***	-0.003 (0.017)**	-0.002 (0.017)**
adult_males	0.000 (0.994)	0.007 (0.425)	0.005 (0.235)
Thakur	0.152 (0.142)	0.022 (0.598)	0.138 (0.005)***
Murao	0.099 (0.380)	0.023 (0.617)	0.027 (0.472)
Dhimar	0.179 (0.151)	0.092 (0.077)*	0.091 (0.073)*
Gadaria	0.302 (0.035)**	-0.005 (0.926)	0.057 (0.321)
Teli	0.029 (0.772)	0.032 (0.515)	0.153 (0.009)***
Passi	0.286 (0.039)**	0.039 (0.498)	
Jatab	-0.047 (0.621)		
Observations	284	340	387

Table 18: Pooled Estimation: Outside Regular Jobs

Regular Outside Job		1983-2008	1993-2008
Marg Eff			
Dummy 2008	Thakurs	-0.18 (0.01)***	0.05 (0.23)
	Dhimar	-0.23 (0.03)**	-0.1 (0.12)
	Gadaria	-0.34 (0)***	-0.01 (0.86)
	Teli	-0.03 (0.62)	0.0001 (0.99)
	Others	-0.16 (0)***	-0.03 (0.08)*

Table 19: Probit Estimation of Semi regular Outside work

SEMI REG OUT	1983	1993	2008
age	-0.002 (0.002)***	-0.001 (0.051)*	-0.000 (0.398)
education	0.003 (0.015)**	-0.001 (0.579)	0.001 (0.403)
land_own	-0.001 (0.016)**	-0.002 (0.042)**	-0.002 (0.000)***
adult_males	0.006 (0.091)*	0.010 (0.101)	-0.000 (0.945)
Thakurs	-0.005 (0.823)	0.121 (0.002)***	0.016 (0.435)
Murao	-0.008 (0.649)		0.006 (0.738)
Dhimar		-0.008 (0.800)	-0.005 (0.801)
Gadaria	0.016 (0.638)	0.011 (0.759)	0.015 (0.575)
Teli	0.026 (0.327)	0.012 (0.736)	-0.007 (0.677)
Passi	0.156 (0.000)***	0.047 (0.310)	
Jatab	0.078 (0.052)*		
Observations	284	340	387

Robust p values in parentheses: * significant at 10%; ** significant at 5%; *** significant at 1%

Table 20: Out Migration of Complete Households

OUT MIGRATION OF COMPLETE HISTORY (No of Households)	1962-63 (INCL DEATH)	1974-75 (INCL DEATH)	1983-84 (INCL DEATH)	1993 (Not including natural attrition)	2008 (Not including natural attrition)	2008 (INCL "NATURAL ATTRITION")
Thakur	0	1	2	3	6	7
Murao	0	3	0	0	6	6
Dhimar	2	1	0	4	1	2
Gadaria	0	1	1	0	1	4
Dhobi	1	1	0	1	0	0
Teli	0	0	0	0	1	1
Passi	0	6	0	2	7	9
Jatab	3	0	0	0	4	4
Others	3	2	1	2	1	1
TOTAL	9	15	4	12	27	34

Table 21: Status of Households: Migration

STATUS	1993 Households in 2008		1983 Households in 1993	
	Freq.	Percent	Freq.	Percent
FULL HOUSE MARRIED OUT OR DEAD	7	4	2	1
NO MEMBER MIGRATED	103	55	112	78
SOME (BUT NOT ALL) MEMBER MIGRATED	52	28	18	13
WHOLE HOUSE MIGRATED	27	14	12	8
TOTAL	189	100	144	100

Table 22 : INDIVIDUAL MALE MEMBERS (ABOVE AGE 15 IN BASE YEAR)

Caste	1993-2008			1983-1993	
	% Migrated by 2008 (All Reasons)	% Migrated by 2008 (For Employment)	Total 15+ Males	% Migrated by 1993 (All Reasons)	Total 15+ Males
Thakur	25	21	77	9	66
Murao	15	14	81	0	68
Dhimar	12	12	33	24	25
Gadaria	7	4	28	10	21
Dhobi	0	0	9	0	7
Teli	6	6	34	3	30
Passi	63	63	19	31	26
Jatab	20	17	46	3	32
Others	23	23	13	45	11
Total	19	17	340	10	284

Table 23: Determinants of Migration

Probability of Migrating	(1)	(2)
	1983-1993	1993-2008
Dhimar/Gadaria/Others	0.003 (0.468)	-0.078 (0.084)*
Muslims (Dhobi/Teli)	-0.004 (0.018)**	-0.125 (0.024)**
Passi	0.041 (0.103)	0.273 (0.012)**
Jatab	-0.003	-0.043
Reference Category: Thakur/Muraos	(0.074)*	(0.423)
Regular/Semi Regular Jobs in Base Year	-0.009 (0.028)**	0.000 (0.993)
Self Employment in Base Year	0.002 (0.718)	0.033 (0.711)
Casual Year in Base Year	-0.001 (0.625)	0.072 (0.405)
Other/Study/None		0.054 (0.297)
Reference Category: Cultivators in Base Year		
Land Ownership Base Year	-0.001 (0.000)***	-0.004 (0.052)*
Household size in Base Year	0.001 (0.068)*	0.006 (0.401)
Age	-0.00001 (0.003)***	-0.004 (0.000)***
Education	0.001 (0.045)**	0.002 (0.466)
Worked Outside in Base Year	0.022 (0.019)**	-0.172 (0.001)***
Observations	222	336

Robust p values in parentheses: * significant at 10%; ** significant at 5%; *** significant at 1%

Tenancy in Palanpur

Ashish Tyagi and Himanshu

Introduction

Village surveys have long offered a window through which to closely examine production conditions in Indian agriculture. There is a large literature which has analysed the nature of agricultural production in developing countries, a large part of which has been in the Indian context. Within this literature, the institution of sharecropping has received a great deal of attention. It is increasingly recognised that in order to understand the purpose and role of this institution one needs to understand as well the nature of inter-linkages¹ between markets for, and choices concerning, factors of production, especially in light of the fact that markets are often imperfect and risk is important.. Various explanations for the existence of sharecropping have been put forward. Most of these are built on neo-classical assumptions of complete and well-functioning markets. These explanations have generally failed to receive widespread acceptance as it is generally acknowledged that reality is generally far more complex than the assumptions of neo-classical economics would allow. After all, if markets functioned perfectly they would achieve all that is needed for efficiency and as a result, sharecropping would be redundant. The reality is that many markets are absent; many are imperfect and some factors of production indivisible. Share tenancy may represent an institutional response to such missing markets, thereby providing a more efficient outcome than what is possible without such institutions; full efficiency is unlikely to be achievable in such a context.

One of the early writers to suggest that share cropping might lead to an inefficient outcome was Marshall. The notion of Marshallian inefficiency arises from the fact that in share cropping, labour application by the tenant is a fraction of the maximum that would equate his marginal product of labour with to its opportunity cost. That is, if the tenant chooses his labour allocation there is no incentive for the tenant to apply labour to the most efficient level but rather to only apply his labour to the point where his returns are equal to the opportunity cost of his labour². Cheung (1969) proposed that the existence of sharecropping is a result of a combination of high transaction costs and the benefit of risk-sharing that sharecropping entails. These together determine whether fixed-rent tenancy would be dominant, or sharecropping. In his model, Cheung assumed that the landlord is in a position to observe the efforts of the tenant and can enforce the terms of the contract in an inexpensive and effective way. He then proved that in the absence of risk and transaction costs required to enforce the contract, the presence of many landlords and tenants would bring in an element of competition and consequently, the share rent and the labour allocation which follow from sharecropping would be the same as in the case of fixed rent tenancy. In other words, under these assumptions, the sharecropped land would be cultivated in the same

¹ By inter-linkages, we mean transactions in different markets (e.g. labour, land and credit), taking place at the same time and in a linked way, between related, or the same individual agents.

² Marshall, wisely as ever, noted that in this context the landowner would wish to press for or insist on labour application and practices.

way as owned or rented on fixed rent, and therefore, sharecropping would be an efficient system.

Comparison between a family's average inputs and yield on own land versus that on sharecropped land has been used in many empirical studies to test the efficiency of sharecropping. The results have been mixed. Shaban (1987) conducted an empirical study on eight ICRISAT villages and rejected the monitoring approach of Cheung in modelling share tenancy. In a similar study, Bliss and Stern (1982) could find no significant evidence to suggest that in Palanpur tenancy makes any difference to the level of output per acre or the level of inputs between owned and sharecropped land.

A second type of explanation for different tenurial contracts is based on asymmetry of information between the landlord and the tenant regarding the tenant's abilities. This approach was originally developed by Hallagan (1978) and Newbery-Stiglitz (1979). In their framework, it is argued that tenants of different ability self-select into different contracts available. Sharecropping plays a role in matching the most productive tenant with the most productive contract. In particular tenants with high ability choose a fixed-rent contract despite a high rent stipulated by the landlord, because they get the returns to their productivity. This approach has been criticised on many counts and the strongest criticism is that in villages, people know each other quite well and it is hard to believe that the abilities of prospective tenants are unknown. Even if the abilities are unknown at some point of time, once the tenants self-select, their abilities will be revealed and the asymmetric information cannot persist over time. As a result, sharecropping can only be a temporary feature and a continuous influx of new tenants is needed for the institution to continue to exist. In practice, sharecropping has been seen to persist over long periods of time, also in environments characterized low turnover of tenants. This casts some doubt on this line of argument.

Another approach to tenancy theory, which can be seen in the works of Bell and Zusan (1979), Pant (1983), Bliss and Stern (1982) among many others, focuses on market imperfections beyond simply the land market to explain the emergence of tenancy. Bliss and Stern (1982) found that in Palanpur the bullock market and the market for family labour were highly imperfect. A farmer will generally be unwilling to rent out his bullock for fear that it would be mistreated, and at the same time be loath to plough another farmer's field because of the demeaning "labourer" status this would impart. Being a "labourer" in Palanpur is associated with membership of a low social status, low income group which is unlikely to own valuable assets such as bullocks. Labourers will thus be unable to provide the ploughing services required for successful cultivation. In order to use the services of these two markets, the landlord has to make the owners of these factors residual claimants; hence, a role for tenancy. These arguments are in addition to important element of risk sharing, provided by share tenancy. According to Bliss and Stern (1982) information, monitoring and observation also play a role in this decision. The landlord cannot be present to monitor every action of the tenant. Moreover, cash rent requires liquidity which is often binding constraint for village households. Liquidity shortages can thus also provide a reason for sharing cash inputs.

Eswaran and Kotwal (1985) have argued that the comparative advantage of the tenant may lie in supervising labour, while that of the landlord may lay in managing production operations. If the tenant is relatively more efficient at supervising than at management and at the same time, the landlord is relatively more efficient at management than supervision, then the contract chosen will be sharecropping. However, if the tenant becomes relatively more efficient at management, then the contractual choice, to provide the appropriate incentive, will shift towards fixed rent. A further contribution within this framework by Ghatak and

Pandey (2000) is novel in the sense that it allows for existence of moral hazard in risk taking, as well as in effort, and explains the existence of sharecropping contracts as a result of the mechanism which balances the moral hazard among its two components. However, the Ghatak and Pandey (2000) model is applicable only in conditions where the tenant faces limited liability. In Palanpur and similar areas of Northern India, limited liability is conspicuous in its absence. It is thus difficult to see this particular model explain the existence of sharecropping in Palanpur.

It is clear that available theories on tenancy and contract choice, despite being rich in their intellectual content, leave quite a lot to be explored and explained empirically. Some of these issues were considered important during the early phases of the “green revolution” in India and some of these concerns have continued to remain important for understanding the formation of factor markets and their functioning in developing country settings such as Palanpur. The previous surveys of Palanpur have dealt with some of these issues in detail, in particular Bliss and Stern (1982). This paper offers a preliminary attempt at looking at some of these issues with the most recent round of data collected from Palanpur during 2008-2010. The scope of this paper is limited to analysing various issues related to tenancy in Palanpur. Discussion of some of the issues related to farm size productivity debates from the Palanpur survey of 2008-2010 is available in Kawatra (2009). Details on the nature of changes in agriculture in Palanpur are available in the accompanying paper (Tyagi and Himanshu, 2011).

Tenancy in Palanpur

A fairly detailed description of changes in agricultural production and tenancy can be found in Tyagi and Himanshu (2011). We highlight here the major changes in the nature of tenancy in Palanpur as compared to previous surveys. First, tenancy continues to remain a prominent feature of the Palanpur economy. In fact, the area under tenancy continues to show an increasing trend since 1974-75 with land under tenancy accounting for almost one-third of the operated area of the village. Second, although the area under tenancy shows an increase, the percentage of households engaged in the tenancy market out of total village households shows a decline from 1983. Third, in 1983 there were more landlords compared to tenants, but by 2008, there are more tenants than landlords. Fourth, batai³ remains the largest form of tenancy but is no longer the dominant form of tenancy with fixed rent tenancy and chauthai jointly contributing to almost half of total tenanted land. Fifth, chauthai has emerged as the new form of tenancy. This tenancy contract, which is closer to a “pure” labour contract than a “pure” tenancy contract, is a new development in the village. Sixth, there are only two households which are simultaneously involved in leasing in and leasing out as against 16 households (11%) in 1983.

These developments in the tenancy market need to be situated in the broader context of changes in the labour market, incomes and distribution of assets⁴. A preliminary analysis

³ ‘Batai’ is the sharecropping contract in which the tenant pays half of cash inputs, performs himself or hire the labour required in the cultivation and receives half of the total output at the harvest time. Peshgi is the fixed rent contract with the payments to the landlord made before the season starts (if cash-rent) or at the harvest time (if kind rent). Chauthai is a contract where the tenant’s sole responsibility is performing labour (his own or hired) and he receives one-fourth of the total output. See Tyagi and Himanshu (2011) for a detailed description of the contract arrangements in Palanpur.

⁴ It should be noted that the issues of incentive, risk allocation, asymmetric information, indivisibility etc play very important role in markets, transactions and institutions in all countries.

of some aspects of change in the labour market and migration is available from Mukhopadhyay (2011). The essential point emerging from the analysis of the Palanpur economy over the decades is that agriculture appears to have a weakening role in determining the growth and distribution of incomes. While Palanpur has continued to integrate itself with the outside world in the form of employment opportunities and access to markets through better communication with the outside world, it has also benefited from the changing environment of economic policies which have been important in building such backward and forward linkages. Although our understating of the many ways in which these factors operate is limited, there is certainly some evidence to indicate that outside jobs are playing an important role in determining the demand and supply of labour in the village and also in the determination of both agricultural and non-agricultural wages in the village. Some of these developments have affected the way agriculture is organised in the village, in particular, the institution of tenancy.

Findings from Discussions

This paper presents some preliminary results on the possible economic roles played by tenancy. It also provides some explanations as to the reasons for dominance of certain tenancy contracts and changes over time. Along with questionnaire-based information, opinions on some of the issues which have been raised in the existing literature were also collected from a sample of households which were engaged in tenancy. A discussion questionnaire was designed and a random sample of landlords and tenants were interviewed. The sample consisted of 83 farm households (which are 61 percent of all farm households in Palanpur engaged in tenancy), with a caste distribution that matches the share of each caste in the village's population. The sample consisted of 48 pure tenants and 23 pure landlords. This proportion resembles the distribution of tenants and landlords in the population of total farm households of Palanpur participating in tenancy. We were unable to interview any non-resident of Palanpur who is in a tenancy contract with a Palanpur resident.

Figure 1 shows that the major reason for leasing-in land among tenants is the desire to earn a higher profit. Apart from this, a majority leases-in land to utilise the excess family labour. Utilisation of other household assets like a diesel pump set and money is also a reason for leasing in. Figure 2 highlights the major reasons for leasing out for a landlord. A majority leases-out because they just do not have adequate family labour to work on the land: a mirror-image of the situation of tenants. In this sense, the needs of landlords and tenants are clearly complementary to each other.

Another major reason for leasing out land is the existence of an urgent cash requirement. Leasing out land on a fixed rent serves as a substitute for taking loans for these households. In fact, there are farmers who believe in the dictum "neither a borrower, nor a lender be" and are strictly averse to taking loan. For them, leasing-out land on fixed rent is a secured means of meeting urgent cash requirements of the household.

Among the other reported reasons for leasing-out, an unusual one is the monkey menace on plots. Monkeys are a big menace for the farms in Palanpur and a lot of labour time has to be devoted to vigilance and protection against monkeys. So, landlords lease the land out on sharecropping, preferably to a tenant who lives close to the land.

Figure 3 shows that sharing of cost and risks are the major reasons for tenants to prefer sharecropping to fixed-rent tenancy. Landlords mainly prefer sharecropping as against fixed-rent tenancy because it gives them higher profits (Figure 4). Cost-sharing also figures in

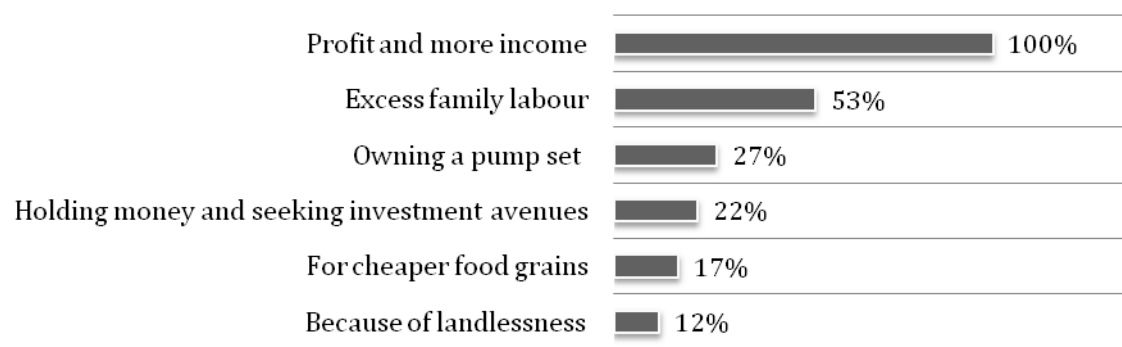
the landlord's motivation behind sharecropping. Among the other prominent reasons, one stands out from the rest. There is a feeling among some farm households that they find it difficult to save if they have cash in hand. If they lease-out land on fixed-rent (given they can lease it out on sharecropping too), then they will spend the cash earned on consumption (or wasteful expenditure, as some said) and by the end of the season they will have neither the money, nor the food grains to consume in the next season. Therefore, they find it reasonable to lease land only on sharecropping, unless other reasons like cash requirement are dominant.

Tenants prefer fixed-rent leases to sharecropping because there are no hassles or coordination problems with the landlord (Figure 5). Also, it gives them the highest profit among all the other standard leases. We do not have exact statistics on the reasons why landlords prefer fixed-rent to sharecropping, as we did not interview the absentee landlords who constitute the majority of landlords in fixed-rent. But it should be clear that they find it difficult to manage a sharecropping contract when they stay far away and hence find it easier to get cash rent for the land.

Figure 6 indicates the traits tenants look out for in a prospective landlord and figure 7 shows the reverse. The trait which matters a lot to both of them is trustfulness. The landlord wants the tenant to stay faithful in application of inputs, while the tenant wants the landlord to stay faithful regarding the terms of contracts and payment of his input-costs share on time. They also seek out a partner who is resourceful with regards to working capital and ownership of diesel pump sets. Apart from these, a landlord would like his tenant to be hard-working and possessing plentiful family labour. The Landlord would also prefer to choose tenants from amongst his friends or relatives. Tenants look out for the quality of the soil, irrigation facilities on the land and proximity of the tenanted land to owned land.

Figure 1

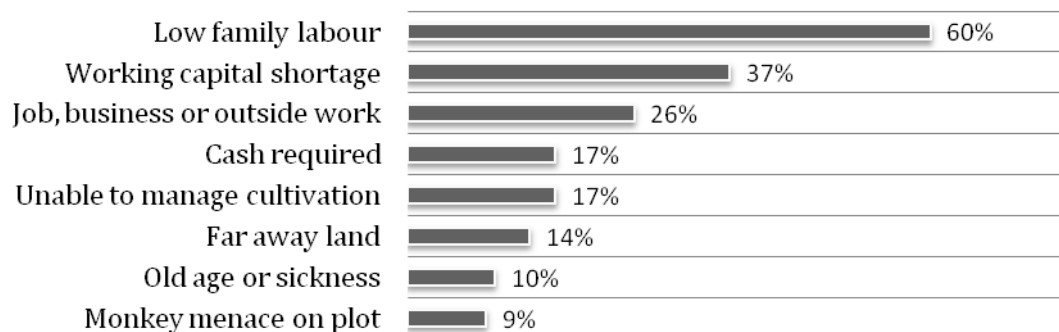
Major Reasons for Leasing-in Land (for Tenants)



Note: The figures are a percentage over the total number of tenants interviewed. Multiple options were allowed.

Figure 2

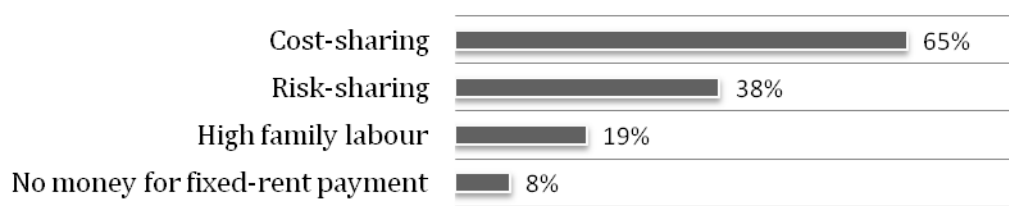
Major Reasons for Leasing-out Land (for Landlords)



Note: The figures are a percentage over the total number of landlords interviewed. Multiple options were allowed.

Table 3

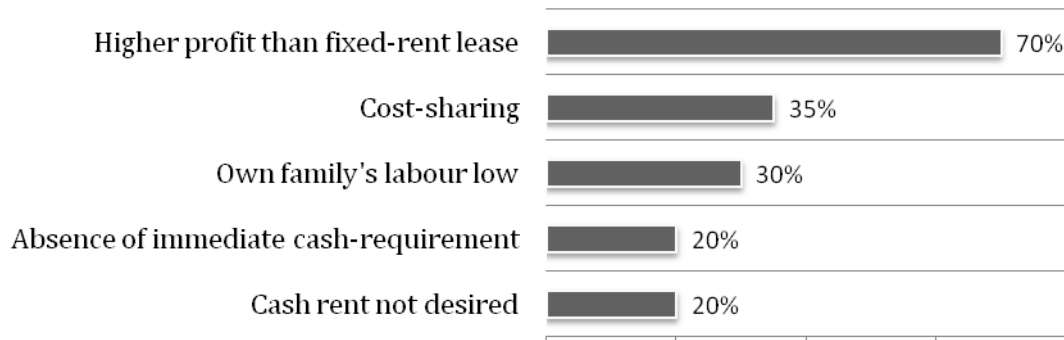
Major Reasons for Preferring Sharecropping (for Tenants)



Note: The figures are a percentage over the total number of pure tenants who prefer sharecropping to fixed-rent lease in the sample. 65% of the pure tenants prefer so. Multiple options were allowed.

Figure 4

Major Reasons for Preferring Sharecropping (for Landlords)



Note: The figures are a percentage over the total number of pure landlords who prefer sharecropping to fixed-rent lease in the sample. 87% of the pure landlords prefer sharecropping to fixed-rent leases. Multiple options were allowed.

Figure 5

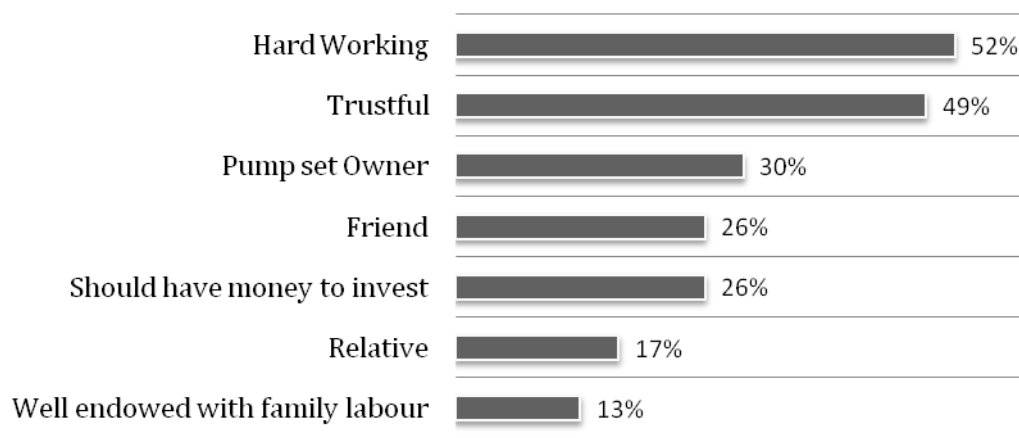
Major Reasons for Preferring Fixed-Rent Leases (for Tenants)



Note: The figures are a percentage over the total number of pure tenants who prefer fixed-rent lease to sharecropping in the sample. 35% of the pure tenants prefer so. Multiple options were allowed.

Figure 6

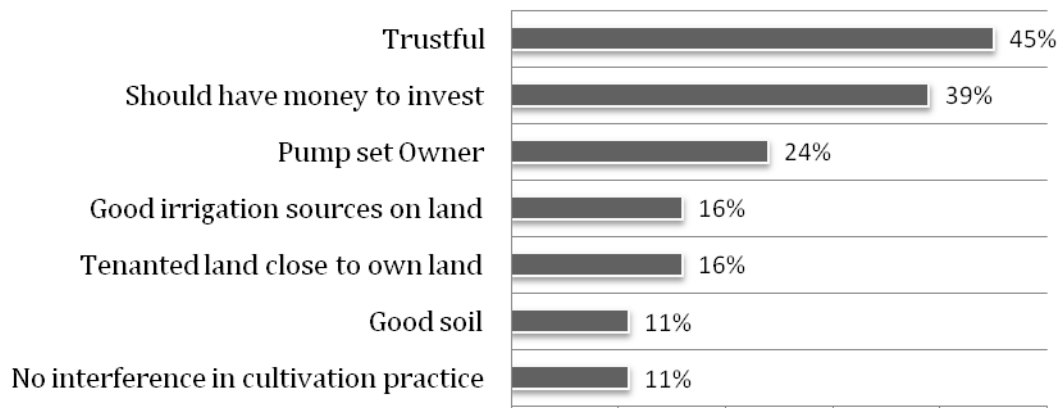
Traits Landlords Look Out for in a Tenant



Note: The figures are a percentage over the total number of pure landlords in the sample. Multiple options were allowed.

Figure 7

Traits Tenants Look Out for in a Landlord



Note: The figures are a percentage over the total number of pure tenants, who were not looking only for fixed-rent lease, in the sample. Multiple options were allowed.

Productivity analysis

In this section we test the hypothesis that sharecropping is an inefficient system of tenancy relative to own cultivation, at least in the particular sense of labour output per bigha. We first run simple t tests to find differences between the yields on sharecropped and non-sharecropped land. We can reject the null hypothesis if we find no significant difference between the yields on sharecropped and non-sharecropped land. Subsequently, we use Data Envelopment Analysis (DEA) to examine the efficiency of sharecropping.

We employ two methodologies for testing the hypothesis. The first approach is to test the yields of a given crop for households cultivating the crop either on self-cultivated owned land or sharecropped land, but not both. We run unpaired t-tests to check if the average yields belong to the same categories.

Table 1 highlights the summary statistics for this methodology for major crops. The column 'Significance level' denotes the significance level beyond which the means are statistically different from each other. If it is less than 5, then the yields are statistically different from each other at 5% level. As the table shows, only for Bajra we can say that the yields are statistically different under own land and sharecropped land. But yields are higher on sharecropped land than on self-cultivated land; a perverse result, relative to the null hypothesis.

The second method is to use the data on the households who have cultivated the crop on owned land as well as on sharecropped land and then test if the difference in yields as obtained on these 2 different groups of land is significantly different. This method is more precise in testing the question of efficiency as it controls for various aspects which can vary across farm households. We test the hypothesis by running paired t-tests to check if the means belong to the same population.

Table 1: Efficiency - Methodology I

Crops	Self-cultivated own land			Sharecropped land			Significance Level ^a
	No of Obs.	Mean	Std. Dev.	No of Obs.	Mean	Std. Dev.	
Wheat	71	216.07	51.24	9	239.18	48.15	20.37
Mentha	83	2.8	1.71	16	2.43	1.94	43
Paddy	47	186.04	83.74	25	199.57	48.15	52.5
Bajra	63	50.5	42.7	7	84.7	60	5.7
Urad	62	28.6	31.7	4	17.83	6.48	50.2

a. Level shows the minimum significance level at which the means are statistically different across two categories

Table 2: Efficiency - Methodology II

Crops	Self-cultivated own land			Sharecropped land			Significance Level ^a
	No of Obs.	Mean	Std. Dev.	No of Obs.	Mean	Std. Dev.	
Wheat	31	213.06	59.99	31	230.28	54.44	16
Mentha	15	3.18	2.25	15	3.28	1.76	85.6
Paddy	7	191.66	95.44	7	166.3	49.29	52.3

a. Level shows the minimum significance level at which the means are statistically different across two categories

Table 2 shows the results and the significance level for means to be different is not sufficient to conclude that yields are different among self-cultivated own land or sharecropped land. For urad and bajra, the number of observations is insufficient to produce any reasonable analysis.

We can reject the null hypothesis as we fail to find any significant difference between self-cultivated land and sharecropped land for major crops. We find no evidence to suggest that sharecropping is an inefficient mode of cultivation as compared to own cultivation, in the sense of resulting in lower yields.

Data Envelopment Analysis

Data Envelopment Analysis (DEA) is a non-parametric approach used to test the efficiency and productivity of production units, taking into account a given set of possible inputs and outputs. It involves the use of linear programming methods to construct a non-parametric piecewise frontier over the data, in order to be able to calculate efficiencies relative to this frontier. A major advantage of this approach is that there is no need to assume an underlying production function for estimating efficiencies. Also, the technique obviates the need for price data to arrive at the relative efficiencies of the production units (in this case, farmers). This is an appealing feature relative to over those approaches that examine efficiency by comparing the value of marginal product with the price of the input⁵.

The model in this paper is based on Charles, Cooper and Rhodes (1978). Assume that i^{th} Decision Making Unit (DMU), $i \in [1, n]$, uses $x_i = \{x_k\}$ of inputs ($k \in [1, r]$) and produces a single output y_i , then X will be a $(r \times n)$ input matrix and Y will be a $(1 \times n)$ output vector for all n DMUs. In the *ratio form* of the DEA, we will obtain a measure of the ratio of the output over all inputs, $\hat{u} y_i / \hat{v} x_i$, where u is a scalar denoting output weight (as there is a single output) and v is a $r \times 1$ vector of input weights. We select the optimal weights by specifying the following problem:

Maximize $(\hat{u} y_i / \hat{v} x_i)$ by choice of u and v , subject to:

$$\hat{u} y_j / \hat{v} x_j \leq 1, j = 1, 2, \dots, n$$

$$u, v \geq 0$$

The above problem finds the value of input weights and output weight such that the DEA efficiency measure of the i^{th} unit is maximized, subject to the constraint that all efficiency measures are less than or equal to one. A further condition, $\hat{v} x_i = 1$ is imposed because the above problem has infinite number of solutions. The maximization problem, therefore, takes the *multiplier* form and becomes:

Maximize $(\hat{\mu} y_i)$ by choice of μ and v , subject to:

⁵ The major point of difference from the methodology used in the previous section to examine the efficiency of production units is that the DEA method takes into account not only the output, or yield to be specific, but also the input bundle used in the process. Suppose 2 farmers; let us call them A and B, obtain the same amount of yield, but farmer A uses lower level of inputs than farmer B. Then, in the productivity analysis approach described above would find both to be equally efficient, but with the DEA approach, the farmer A, who uses lower inputs, will be judged more efficient than farmer B.

$$\begin{aligned}\mu' y_j - v' x_j &\leq 0, j = 1, 2, \dots, n, \\ v' x_i &= 1, \\ \mu, v &\geq 0\end{aligned}$$

Here, μ and v reflect the transformation from u and v . Using *duality* in linear programming, we derive an equivalent *envelopment* form of this problem, which is as follows:

Minimize θ (by choice of θ and λ), subject to:

$$\begin{aligned}-y_i + Y\lambda &\geq 0, \\ \theta x_i - X\lambda &\geq 0 \text{ and} \\ \lambda &\geq 0\end{aligned}$$

$\theta \in [0, 1]$ denotes the technical efficiency score for the i^{th} DMU, obtained with input orientation and under constant returns to scale. A score of 1 denotes the most efficient DMU, the efficiency decreases as θ decreases and a DMU with $\theta = 0$ is the most inefficient DMU. λ is a $(n \times 1)$ vector of constants. It is constrained to be non-negative in order to keep the θ within the limits of 0 and 1. The envelopment form imposes fewer constraints and is easier to solve than the multiplier form.

The above LP problem has been solved n times, once for each DMU to obtain the efficiency score which is being evaluated under different sets of observation as an envelope. We have used the DEAP software (version 2.1) for our calculations.

We undertake the Data Envelopment Analysis separately for kharif 2008 season (July 2008 to November 2008) and rabi 2009 season (November 2008 to June 2009). A similar analysis for rabi 1984 (November 1983 to April 1984) and kharif 1984 (July 1984 to November 1984) has also been undertaken. The analysis of both the survey years excludes the sugarcane crop. (This exclusion is due to the fact that sugarcane, once cultivated, can last for 3 years. Initial costs like land preparation and seed expenditure will be present for the crops in first year but will be absent for the mature crops, thereby favouring mature crops in efficiency estimation.) Other low-valued crops which were primarily cultivated for home-consumption and are difficult to value have also been excluded.

The variables to be included in the efficiency estimation need to be selected carefully because an increase in the number of inputs or outputs tends to increase the number of efficient units. It is very likely that when an extra variable is added to the DEA model, an inefficient unit will dominate on the added dimension and will become efficient. Hence, a parsimonious use of variables is essential to avoid losing the explanatory power of the model. Accordingly, we have selected only those inputs which are a common practice in the agriculture of the village (excluding for example, expenditure on sowing by machine because it is a relative infrequent practice, generally seed is sown manually with no cash input cost for the sowing itself).

Prices of inputs do not pose such a problem because they have stayed more or less constant during the agricultural year in question. We are viewing efficiency here as producing

higher output value on a bigha per rupee spent on each input, therefore the inputs and outputs are not in physical terms. The prices used for valuing inputs have been kept the same for all the farmers and have been carefully selected to reflect the actual price during the year.

In the 2008-09 analysis, the inputs we have included in the DEA model are: land preparation, seeds, basal fertilizer, top dressing fertilizer, irrigation, labour and harvesting. For 1983-84, we have excluded the land preparation variable because of the lack of data on this input.

We consider only one output variable, which is the value of output per bigha⁶. Prices for certain crops fluctuate on a daily or weekly basis. Variations in the output value per bigha based on price changes will distort the estimation of efficiency in the favour of those farmers who sold their output when the price was high. Therefore, crop prices have been carefully selected to reflect the average prices during the time of harvest and a single price value is used for each crop.

For testing the differences in the efficiency of self-cultivated and leased farms in Palanpur, we employ 2 major sets of methodologies. The first methodology takes into account only those farms, which leased-in area under batai contract and also cultivated on owned land. For each of these farm households, we therefore, have 2 separate input and output variables. We treat each household as 2 decision making units, one for a self-cultivation farm and the other for batai, and for each DMU, we run the DEA model as described above. If farmers in Palanpur treat batai as secondary to self-cultivation, then we should expect to see a clear domination of self-cultivation in efficiency estimates.

Table 3 presents the summary of the technical efficiency estimate ' θ ' for the seasons in question. For the kharif 2008 season, the mean efficiency score of self-cultivated farms in this group is 0.68, which is slightly lower than the corresponding score for batai. For rabi 2009, the score is the same for both self-cultivated farm and farms under batai. When we calculate the difference between the means of efficiency score on self-cultivated farms and batai farms using t-tests, the results of which are not presented here, we find no statistically significant difference. We do the same analysis for rabi 1984 (See Table 4) and we find that the mean efficiency score for self-cultivated farm is 5 percentage points higher than that for batai farms. However, the difference in mean is not statistically significant. Moreover, when we run the test for kharif 1984, the mean efficiency score for batai farms is higher than the self-cultivated plots. The difference in mean, in this case, is also statistically significant, indicating that batai farms on the average were more efficient, in the DEA sense, than the self-cultivated farms in kharif 1984.

These results clearly indicate that farmers, who operate on batai farm as well as self-cultivated farm, do not give strict preference to self-cultivated farms as against the batai farm. There is nothing to support the claim that with respect to input application and output production, the batai farms are inefficient relative to self-cultivated farms. This aligns well with farmers' responses to our 2008-09 discussion survey. When asked 'if they follow better agricultural practices on self-cultivated land as compared to land they lease on batai', an overwhelming 58 of the 60 tenants reported that practices on both the lands are the same.

⁶ In Palanpur, 15.8 bigha is equal to 1 hectare.

Table 3: Comparing technical efficiency between select farms (2008-09)

Type	Obs.	Mean of ' θ '
Kharif 2008		
Self	22	0.68
Batai	22	0.71
Rabi 2009		
Self	25	0.74
Batai	25	0.74

Table 4: Comparing technical efficiency between select farms (1983-84)

Type	Obs.	Mean of ' θ '
Rabi 1984		
Self	36	0.87
Batai	36	0.82
Kharif 1984		
Self	27	0.38
Batai	27	0.48

We also tested the relative efficiency of the farm households discussed above to other farm households in Palanpur, to see how the batai farms perform when competing against all the other farms (including the self-cultivated portion of the same farmer). As before, we run separate DEA model for kharif 2008, rabi 2009, rabi 1984 and kharif 1984.

Table 5 and 6 present the summary of technical efficiency estimates ' θ '. For Kharif 2008, the mean efficiency score is higher for batai and chauthai (among which, batai is the “real” sharecropping contract in 2008-09 survey round, while chauthai is more of a labour-contract, see Tyagi and Himanshu (2011)) than self-cultivation farms. An even higher difference in mean efficiency score between batai farms and self-cultivated farms exist for

Rabi 2009. For Rabi 1984, the mean efficiency score for batai is slightly lower than that for self-cultivated farms. However, for kharif 1984, the mean efficiency score for batai is higher relative to self-cultivated farms.

Table 7 presents the distribution of efficient and inefficient units in different lease contracts for the 2 seasons in the year 2008-09. In cultivation, there are many factors outside the control of the farmer that can affect efficiency negatively. There may be untimely rains affecting some farmers more than the others, technical failure in equipment, illness in the family among many other things. Therefore, a farmer with an efficiency score slightly below 1 may be efficient in the sense that he did his best but due to uncontrollable factors could not earn an efficiency score of 1. Therefore, we treat all the farms with efficiency score greater than or equal to 0.9 as efficient (except for Kharif 1984, where average efficiency is lower and therefore, we have used 0.8 and above as the definition of efficient units). All the rest are deemed to be inefficient.

For Kharif 2008, we find that the proportion of efficient units in batai is more than double as compared to self-cultivation. In Rabi 2009, the proportion of efficient units is almost the same in batai and self-cultivation. Table 8 presents a similar analysis for the year 1983-84. The proportion of efficient farms in batai contract is almost the same as in self-cultivated farms for Rabi 1984. However, considering the kharif 1984 season, batai farms have a higher percentage of efficient units than do self-cultivated farms.

Table 5: Summary of Technical Efficiency Estimates (2008-09)

Type	Kharif 2008		Rabi 2009	
	Obs	Mean of ' θ '	Obs	Mean of ' θ '
Self	142	0.52	123	0.52
Batai	49	0.62	35	0.66
Peshgi	35	0.55	27	0.5
Chauthai	4	0.71	-	-

Table 6: Summary of Technical Efficiency Estimates (1983-84)

Type	Rabi 1984		Kharif 1984	
	Obs	Mean of ' θ '	Obs	Mean of ' θ '
Self	71	0.8	70	0.34
Batai	41	0.75	37	0.45
Peshgi	10	0.76	7	0.43
Chauthai	2	0.89	2	0.14

Table 7: Distribution of Efficient and Inefficient Units (2008-09)

Type	Inefficient		Efficient		Total
	Freq	%	Freq	%	
Kharif 2008					
Self	104	85	19	15	123
Batai	22	63	13	37	35
Peshgi	22	81	5	19	27
Total	148	80	37	20	185
Rabi 2009					
Self	110	83	22	17	132
Batai	27	82	6	18	33
Peshgi	22	76	7	24	29
Chauthai	3	100	0	0	3
Total	162	82	35	18	197

Table 8: Distribution of Efficient and Inefficient Units (1983-84)

Type	Inefficient		Efficient		Total
	Freq	%	Freq	%	
Rabi 1984					
Self	56	79	15	21	71
Batai	33	80	8	20	41
Peshgi	8	80	2	20	10
Chauthai	1	50	1	50	2
Total	98	79	26	21	124
Kharif 1984 a					
Self	62	89	8	11	70
Batai	27	73	10	27	37
Peshgi	5	71	2	29	7
Chauthai	2	100	0	0	2
Total	96	83	20	17	116

Because of lower average efficiency figure, 0.8 and above is used as a definition for efficient units, instead of usual 0.9.

Taking together the results from this, and the preceding, section, we can conclude that there is no reason to suggest that sharecropped farms are cultivated inefficiently in Palanpur. If anything, it appears that batai farms perform better than self-cultivated farms by a slight margin. There could be a number of reasons for this. First, with the exception of the quality of labour inputs being applied, landlords in Palanpur find it relatively easy to monitor the application of all the other inputs. Land preparation is a standard mechanised process and landlord can easily monitor the instances of ploughing done. Usually, either the landlord or the tenant owns irrigation equipment and therefore timely irrigation can always be arranged for. Quality of seeds and the amount of fertilisers applied (both of which are shared equally among the landlord and the tenant) are not so easy to monitor but in the event that the landlord discovers that the tenant is applying lower quality seeds and is not applying the agreed-upon quantity of fertilizer, the tenant will be discredited and the lease may not be continued the next season. Moreover, given the high number of prospective tenants as compared to landlords, it will be difficult for a tenant with a damaged reputation to find another lease. For a landlord, ensuring that manual labour of good quality is being applied remains a tricky issue but the problem is not so severe because a landlord can always be careful to choose only a hard-working tenant. Palanpur is a small village, people know each

other well and information on the skills of the prospective tenant is easy to acquire. Therefore, as far as monitoring and supervision is concerned, Palanpur landlords can do a good job if they put in a reasonable level of effort.

Moreover, there are some obvious gains from an arrangement like batai. Some of them have been mentioned in the ‘findings from discussions’ section. It is not uncommon that farmers find themselves unable to provide timely inputs such as fertilizer or, irrigation because they are running low on working capital. In batai, it is very common for one partner (be it landlord or tenant) to incur a cost in full, so that the cultivation operation can be completed on time, and to then be repaid by his partner later. This is normally an interest free loan from one party to the other. For a self-cultivating farmer, working capital shortages imply that he would have to take a small loan from the village money-lender (with interest between 3 to 5 per cent per month). If such a loan is not readily available, he would have to compromise on the cultivation practice, leading to inefficiency in production. This is not to say that there are no disagreements between landlord and the tenant. But for the village as a whole, the instances of disagreements are a lot fewer in number than the instances of mutual cooperation in time of need. In addition to the advantage of timeliness, where more than one input source or its finance might be available, there is the general argument that discussion may produce better decisions – “two heads may be better than one”.

Therefore, neither empirically, nor theoretically do we find any strong reason to expect that sharecropping is an inefficient institution relative to self-cultivation in the village.

Why tenancy and sharecropping?

Management and supervision are generally the key ingredients when more than one person is involved in cultivation. Both of these inputs depend on various observable and unobservable factors. Management of the farm is influenced by and is related to the land preparation assets the household owns, ownership of irrigation equipments, cash-flows at the household’s disposal which also includes credit availability, cultivation knowledge and organizational skills. Supervision on the other hand deals with executing the work to be done as well as possible in order to raise productivity (in the context of the incentive structure in place) of land and other factors as far as possible. Supervision is influenced mainly by the dexterity, physical ability and sincerity of the labour. A household may be strong in both the components at a given time or may be weak in one or other.

We use the term “management ability” here to cover both the ownership of assets which allow the farming of land (tractors, diesel pump set etc) and the ability to organize. The former is likely to be correlated with the latter. Supervision being labour intensive, is characterised particularly in terms of the availability of the appropriate type of labour.

We can broadly categorize Palanpur farm households in the following categories:

I. Management categories:

1. Households with high management ability relative to land owned - such households own cultivation assets like tractors, diesel pump sets, tube wells cultivation experience and suitable cash-flows for cultivation but, but do not own enough land to employ these assets fully.

2. Households with management ability which fits well with land owned – these households own cultivation assets which are just enough, or we can say “optimal”, for self-cultivation.

3. Households with lower management ability relative to land owned - such households possess larger landholdings than can be optimally cultivated given the households’ cultivation assets such as a tractor, tubewell, diesel pump sets, cultivation experience and suitable cash-flows for cultivation.

II. Supervision categories:

4. Households with high supervision ability relative to land owned– These are households whose labour to land owned ratio is quite high. Agricultural labour tends to be seasonal in nature and getting a wage job is not assured. Due to social norms, women do not work as a daily wage labourers on farms. Outside jobs are not regularly available and not all the labourers possess the necessary skills for specialised jobs. As a result, a considerable number of household members may remain unemployed for a significant number of days in a month.

5. Households with supervision ability fitting well to land owned – this group has family labour available for work in agriculture, appropriate to that required for the cultivation of the land in their possession.

6. Households with lower supervision ability relative to land owned– this group owns large amount of land relative to labour power to work the land optimally. It includes the households who are on the richer scale of income and could afford sending their children to better schools and colleges. Many of them found employment in services within or outside the village and are unable to devote themselves full time to cultivation practices. As a result, the labour power required to work on farm is very limited within the household. This group also includes those who on the basis of ownership of the farm mechanized assets have started providing mechanized services like tube well irrigation, land preparation by tractor, etc, to other farmers in the village.

Both management and supervision are, to some degree, difficult to market and cannot, therefore, be adjusted in the short run to the household’s requirement for them. The household takes account of the management and supervision at its disposal and decides the potential area it can cultivate. Tenancy arises, or at least, is sought, when the owned land amount is different from the potential area that the farmer can cultivate.

Based on the discussions with a sample of landlords and tenants (as presented before), we can broadly outline the factors influencing the choice to enter the tenancy market and the contract to be chosen. Table 9 highlights the general preferences of households given the management and supervision categories to which they belong.

Table 9 indicates that households try to adjust their land under cultivation and tenancy contract to fit with their management and supervision ability and thus to make appropriate use of these not-so-perfectly marketed factors. That is the basic hypothesis. It is based on the above reasoning and on the discussion material (Table 9).

We have tried to examine this hypothesis using our data on tenancy. Table 11 presents regression results of leased-out land using area under particular leases as a dependent variable. Table 10 presents the descriptive statistics for this exercise. Important results from

the regression are as follows. First, absence of appropriate management and supervision ability combined with or without a credit need, is the main motivation behind leasing out on Peshgi. The dummy variable on Loan outstanding is significant only at the 10% level but this is perhaps not surprising; loan and peshgi are substitutes for each other to a considerable degree, although they are not perfect substitutes. Informal credit is the primary source of loans in Palanpur for a majority of the households and considering the high interest rates these are associated with, many households prefer to lease out land on Peshgi rather than taking out loans. In our sample we therefore observe some households who do not have a loan outstanding but who have leased out the land on Peshgi in order to meet their credit needs. As the coefficient on the loan outstanding dummy is significant at 10% level, this offers some support to the notion that households with a credit crunch are likely to lease out land on Peshgi. It appears that many households choose a middle path of leasing out some land on Peshgi and taking out a loan as well.

Secondly, households who lease out on batai are likely to have low family labour along with a certain lack of cash flows to invest in agriculture. We can regard households with life insurance policy and salaried employment as those who have sufficient cash flows to invest in agriculture. The significant negative coefficients on both these variables highlight that lack of cash flows is a main reason to lease out on batai. It is instructive to note that salaried employment also implies a lack of family labour to a certain extent and can work in favour of leasing out land to access the labour power of a potential tenant. But the supervision component here is already significant indicating that the effect of salaried employment is purely financial in nature.

Thirdly, the education of the head is positively related to leasing out land on batai. There is a view in the village that educated young adults are not inclined towards agriculture because they look down upon the physical labour or because they believe that they are better at managing farm operations as compared to working themselves on agriculture. The coefficient is small in absolute value but may be capturing this growing perspective.

Fourthly, rich households with high management ability lease out on Chauthai. The supervision component is not significant here but possibly in this case we are unable to capture the actual factor influencing the supervision ability of the household. Even if rich households have sufficient labour power to devote to cultivation of their own land, they may feel inclined to divert some of that labour power to activities that take them off the farm.. Given a choice between strenuous manual labour on their own field or a relatively comfortable job of land preparation on the farm of others through the hiring out of tractor or tube well services a richer farmer can reject the physical labour work while leasing out his land on Chauthai to ensure that the appropriate amount of labour is applied on his farm.

Table 9: Tenancy decisions

Management category	Supervision category	Contract
1 (high)	4 (high)	Lease in on Peshgi.
1 (high)	5 (optimum)	Lease in on Peshgi and if required, hire labour to do the work.
1 (high)	6 (low)	Lease out on Chauthai.
2 (optimum)	4 (high)	Lease in on Batai.
2 (optimum)	5 (optimum)	No lease.
2 (optimum)	6 (low)	Lease out on Chauthai.
3 (low)	4 (high)	Lease in on Chauthai.
3 (low)	5 (optimum)	Lease out on Batai with certain member of the household not actively engaged in agriculture anymore.
3 (low)	6 (low)	Lease out on Peshgi.

Table 10 : Descriptive Statistics

Variable	All households		Land owning households	
	Mean	Std. Dev.	Mean	Std. Dev.
Tractors owned	0.07	0.25	0.09	0.28
Diesel Pump sets owned	0.38	0.55	0.46	0.57
Loan Outstanding dummy	0.50	0.50	0.57	0.50
Kisan Credit Card (KCC) dummy	0.26	0.44	0.32	0.47
Kuccha house dummy	0.14	0.35	0.13	0.34
Adult males engaged in agriculture	1.36	1.05	1.48	1.05
Total land owned	9.52	11.99	11.79	12.31
Pucca house dummy	0.33	0.47	0.35	0.48
Business/enterprise dummy	0.28	0.45	0.30	0.46
Maximum education of household head	6.50	4.47	6.90	4.49
Life insurance policy dummy	0.27	0.44	0.30	0.46
Salaried employment dummy	0.19	0.40	0.20	0.40
Tubewell owned	0.06	0.23	0.07	0.25
Thakur dummy	0.23	0.42	0.27	0.44
Murao dummy	0.26	0.44	0.30	0.46
Members who worked in agriculture per bigha of own land	0.32	0.50	0.40	0.53
Asset rank lowest quintile dummy	0.19	0.40	0.16	0.36
Jatab caste dummy	0.17	0.37	0.17	0.38

Table 11: Regression results - Leased-out Land

	Peshgi	Batai 1	Batai 2	Chauthai
Constant	0.65 ** (.312)	0.471 (0.681)	1.168*** (0.676)	-0.574 (0.629)
Tractor	- 1.597* (0.575)			6.833* (1.236)
Diesel Pump sets	-0.466*** (0.275)			-1.435** (0.647)
Loan Outstanding	0.487*** (0.283)			
KCC dummy				1.856* (0.73)
Kuchha House	0.716*** (0.409)			
Adult males in Agri.	-0.419* (0.136)	-0.801* (0.315)	-0.9* (0.312)	-0.197 (0.327)
Total own land	0.061* (0.014)	0.186* (0.029)	0.205* (0.029)	
Pucca house dummy				1.572** (0.712)
Business dummy		-1.267*** (0.737)	-1.453** (0.733)	0.812 (0.772)
Max education of head		0.157* (0.08)	0.188** (0.08)	
Life insurance policy		-1.683** (0.716)	-1.323*** (0.724)	
Salaried employment dummy		-1.663** (0.849)	-1.54*** (0.824)	
Tubewell				3.645* (1.376)
Thakur dummy		1.665** (0.742)		
Murao dummy			-2.01* (0.723)	
R2	0.154	0.3	0.31	0.25
N	176	176	176	176

* significant at 1% level

** significant at 5% level

*** significant at 10% level

Standard errors in the brackets.

Notes:

1. The dependent variable is area under the particular lease.

2. Landless households have been ignored in this regression as they practically cannot lease out land. There has been a case of a household leasing in land to lease it out further but it is an exception.

3. Two regressions on batai differ because of the caste dummy included. The first one includes Thakur caste, while the second one includes Murao caste.

Table 12: Regressions Results - Leased-in Land

	Peshgi	Batai	Chauthai
Constant	0.024 (0.337)	0.733 (0.579)	-0.183 (0.25)
Tractor	1.659*** (0.895)	1.512 (0.734)	
Diesel Pump sets	1.035** (0.423)	2.161* (0.035)	
Adult males in agriculture	0.126 (0.192)	0.77* (0.65)	
Members working in agri per bi of owned land			0.752** (0.384)
Total own land	-0.053** (0.021)	-0.109* (0.66)	
Pucca house dummy	0.264** (0.121)	1.184*** (0.071)	
Business dummy	1.403* (0.451)	1.282*** (0.765)	
Max education of head		-0.137** (0.677)	
Life insurance policy	0.63 (0.451)		
Salaried employment dummy		0.031 (1.401)	
KCC dummy		-0.324 (0.579)	1.856* (0.73)
Asset rank lowest quintile			1.49* (0.496)
Jatab dummy			2.385* (0.548)
R2	0.16	0.16	0.19
N	217	218	201

* significant at 1% level

** significant at 5% level

*** significant at 10% level

Standard errors in the brackets.

Note:

1. The area under specific lease is the dependent variable.

Table 13: Summary of Regression Results

Management ability	Supervision ability	Outcome
Low	Low	Peshgi Leased out
Lacking on Cash-flows	Low	Batai Leased out
High	Low	Chauthai Leased out
High with significantly higher cash flows	Low, moderate or high	Peshgi Leased in with hiring in labour if lacking on supervision ability
Moderate	High	Batai Leased-in
Low	High	Chauthai Leased In

Table 12 presents similar regression results for the leased-in land under different contracts. The main findings are as follows. First, the main motivation behind leasing in land on Peshgi appears to be management related in nature, with an excess of labour power not playing such an important role. Households who have sufficient cash flows to invest in agriculture (run own farm business, own a pucca house) and who also own farm equipment are likely to lease land in on Peshgi. The family labour variable in this case is not significant. This is not surprising considering the alternatives the household has when faced with an excess of management but a lack of supervision ability. A farmer with an abundance of farm equipment and enough cash to keep the cultivation process running smoothly is in a very good position to hire labour to work on the Peshgi land. It would not be efficient to lease in land on batai, hire labour to work the land, and settle for a smaller share than in Peshgi. It is impractical to lease in land on Chauthai when the farmer is relatively weak with the supervision component.

Secondly, households leasing in on batai are likely to have high supervision ability but relatively moderate management ability. The variable for diesel pump sets is significant with a high coefficient but other indicators of management ability like own business, salaried employment, tractor, and Kisan credit card are not significant. Households leasing in land on batai appear to be cash-flow constrained households with ownership of farm equipment and family labour in excess of what is required to work on their own farm. Their asset position seems to motivate them to look for a partner who can share costs with them.

Thirdly, Chauthai is the preferred contract for relatively poor households who own very high family labour relative to the land they own. These households belong to the lowest of asset category in the village and are mainly Jatabs, a caste group which has very low ownership of land per capita but high population.

Table 13 summarises the results from the regression exercise. The results go well with our hypothesis that households attempt to adjust their operational holding to the supervision and management factors they command and resort to sharecropping to achieve this end. This line of reasoning also explains the rise of Peshgi and Chauthai contracts at the cost of Batai post 1983-84. Due to household partitioning, sale of land to outsiders and migration of a

number of households, we observe a considerable decline in land owned per capita. So, the population pressure on land in 2008-9 is higher than in 1983-84. Technological change has occurred in irrigation and land preparation but the distribution of assets remains very unequal. Thus, on the one hand we have rich households with cultivation equipment and machinery, but who are unable to employ these assets fully on their own landholdings due to their small size. On the other hand, we have relatively poor households in terms of land owned and farm equipment, with an excess of family labour able to work in agriculture. The former group of households find Peshgi to be a suitable contract while the latter group of households favour a Chauthai contract. As a result, we see a reduction in the share of Batai contracts in the total leased in area and a rise in Chauthai and Peshgi.

A related comparison over time

A model proposed in Bliss and Stern (1982) to identify the determinants of the Net leased in area bears some resemblance to the approach taken here. The Bliss and Stern (1982) model concluded that family labour and bullock power for land preparation are two major non-marketed factors which determine the area a household will lease in⁷. We present a similar model here to highlight how changes in the market have shaped tenancy decisions. Table 14 presents the major variables and the descriptive statistics. Before proceeding, some notes on the variables are in order.

The number of adult males aged 15-61 engaged in agriculture is a suitable indicator for the labour power at the disposal of the household but it is not fully satisfactory. It neglects the role of women and to some extent the role of children engaged in agriculture. Women in Palanpur are actively engaged in agriculture (except in the richer households). Moreover, agriculture in Palanpur during this time was afflicted with a problem of monkeys damaging the crops and the labour of children played an important role in protecting the fields from monkeys. So, we need a measure of not only the males engaged in agriculture but the actual labour power engaged in agriculture. To this end, the variable AGMEM has been included.

The variable used for land preparation equipment (V1) is the number of items of equipment owned and not their actual value; the same goes for irrigation equipment (NPSO1, ENGINE and TW). The calculation of the value of these equipments is not a difficult task but it has not been included because the value of these assets is not a reliable indicator of the current services they render. A 10 yr old tractor worth Rs 100,000 in the village is able to do almost the same task as a Rs 600,000 new tractor. The smaller horse-powered engine with lower value irrigates a field somewhat less rapidly than a large engine, but this does not make such a big difference. There is a difference in the fuel consumption among the assets with differing values but it is not great enough to offset the variation attributable to differences in value for the purpose of measuring performance.

The asset ranking variable which has been presented here is the quintile ranking obtained through principal component analysis and those assets groups have been chosen (productive or non-productive) for which the ranking had the highest correlation with the per capita annual expenditure of the households.

The regression equation for the model is:

$$NLIR = a.LANDO + b.AGRIMEM + c.ENGINE + K + \varepsilon$$

⁷ For further details, refer to chapter 5 in Bliss and Stern (1982).

Where ε is an error term with mean zero and the error terms for different households are independently and identically distributed.

Table 15 presents the results from this regression. Owned land is negatively associated with the NLIR: for a bigha of extra land owned, the NLIR is expected to decline by 0.6 bighas. Having one extra member in the household to work in agriculture leads to 1.5 bighas of more land leased-in. Owning an engine is the most important variable in its marginal effect and leads to 4.4 bighas of land being leased-in net.

Table 14: Description of major variables

Variables	Description	Mean	S.D.
NLI	Net Leased in Area in Rabi 09	1.6	9.9
CULT	Operational Area in Rabi 09	12.3	11.3
LANDO	Land Owned in Rabi 09	10.6	11.0
F3	Number of adult males between the age 15-61 engaged in agriculture	1.8	1.3
V1	Number of Tractors or ox-plough available, basically a dummy for own land preparation equipments.	0.2	0.4
NPSO1	Number of diesel pump sets plus tubewell owned	0.5	0.7
LOFA	Land owned per standardized family member. $LOFA = (LANDO)/(1 * \text{No of Adult Males} + 0.8 * \text{No of Adult Females} + 0.5 * \text{No of Children})$	2.5	2.6
C1	Dummy for caste Thakur	0.3	0.4
C2	Dummy for caste Murao	0.3	0.5
C7	Dummy for caste Passi	0.0	0.1
C56	Dummy for Muslim	0.1	0.3
C8	Dummy for caste Jatab	0.2	0.4
AGMEM	Number of household members which actually worked in agriculture for more than 10 days in Rabi 09.	2.8	1.9
SAL	Dummy for any member being employed in regular	0.2	0.4
HOUSING	Number of total rooms in the house	2.8	1.7
ARANK	Asset Ranking of the households ⁸	3.2	1.4
ENGINE	Number of Engines owned	0.4	0.6
TW	Number of Tubewell owned (either 0 or 1)	0.1	0.2
KCC	Dummy for Kisan Credit Card	0.3	0.5

Among the variables not in the equation, LOFA is significant if included in the equation as a single extra variable. Among the caste variables significant under 10% level, being a Passi imply that the household will be leasing out around 8 bighas of the land in net.

⁸ The variable has been calculated over the productive assets (eg: tractor, thresher, diesel pump set, land etc) and durable non-productive asset (eg: cycle, motor vehicle, mobile phones, TV etc) through Principal Component Analysis (PCA). It excludes financial assets and should not be seen as an “overall wealth” indicator.

Passis migrated in Palanpur many years ago from Eastern U.P. Members of the caste were employed in well-paid outside employment and came to own a substantial land area in the village over time. Despite substantial land ownership in the village, it is very common to see some of the household members, generally male adults, working out of Palanpur. It can be said that outside employment is a persistent characteristic of this caste. Many of the Passi households with some land in Palanpur, migrated out fully for work, thereby increasing the per capita land ownership for this caste. Those that remain in the village face a shortage of labour power and resort to leasing out land. Being a Jatab implies that the household will be leasing in 3 bighas of land in net and the coefficient is almost significant at the 5% level. The remaining variables not in the equation are not significant if included in the model.

Table 15: Regression Results			
Dependent variable: NLIR			
Number of observations		181	
R-squared		0.3383	
Adj R-squared		0.3270	
Root MSE		8.19	
Variables in the equation			
	Coef.	Std. Err.	P>t
LANDO	-0.59	0.06	0
AGMEM	1.5	0.35	0
ENG	4.4	1.3	0.001
_K	1.6	1.1	0.156
Variables not in the equation			
LOFA	-1.62	0.4	0
TW	2.65	2.72	0.33
Caste 1	-0.6	1.48	0.67
Caste 2	0.15	1.3	0.91
Caste 7	-8.1	4.7	0.085
Caste 8	3.05	1.6	0.057

Comparing the results for this model with the similar model in Bliss and Stern (1982), we find a striking change. Instead of the ‘value of draught animal’ which was significant in the model, we have number of the diesel pump sets owned as significant in the model. This is an important change and is a direct result of the change in the nature of the markets, technology and assets.

In 1974-75, bullocks were the main sources for land preparation. The market for the hiring out of bullock services was absent because of the particular care bullocks require for usage in agriculture. Bullocks are not the same as any mechanical equipment and mistreatment can lead to ill health of bullocks or even death. Also, ploughing other person’s farm with one’s own bullocks was seen as ‘manual labour for others’, which was not a particularly respectful occupation in the village. Today ploughing of land has been taken over almost entirely by tractors and a farmer can get as much land ploughed as he wants at a fixed rate per bigha. There are now 13 tractors in the village and around 10 of them are employed

commercially. Driving your own tractor and ploughing another person's farm is not seen as 'demeaning' in the village.

The practice of tilling and harrowing is standardized with rates the same across all the service providers (except in case of personal relations). The market is competitive in nature and the tractor owners can plough almost as much land as they want at the given price. There is no tendency seen among the tractor owners to offer a lower price to attract more customers. In sum, the imperfection associated with the land preparation has disappeared. Those who own a tractor do not necessarily have to lease in land to reap the advantages of owning a tractor. They can easily enter the business of providing land preparation services and make money. Ownership of a tractor is an important part of a household's management ability, but there are other more important factors affecting management ability and influencing the tenancy decision.

The market for irrigation, on the other hand, has become quite imperfect. While superficially it may appear that the market for irrigation is the same as the market for hiring-in equipment, it is actually three markets for providing one homogenous good. The good involved here is water, or as we measure it, the irrigated area per hour (because the rates are generally charged per hour for irrigation). There are three ways to irrigate a field:

- (i) Own pumpset: If the farmer owns a diesel pumpset then he will generally use it to irrigate his fields. A diesel pumpset is portable (it is attached to a wheeled cart) and can be transported to and from the field using manual labour or using bullocks. The cost of irrigating one bigha from an owned engine is in the range of Rs 35-37 depending on the diesel cost. There are problems associated with attaching the pumpset to a boring, transporting it to the field and bringing it back, inconvenience associated with going to the nearest town for fetching diesel etc.
- (ii) Hired pumpset: Those who do not own an engine can hire a diesel pumpset to irrigate their fields. During Kharif 2008, the per hour rent (known as 'aapasi') for the engine was Rs 35 per hour. So, the average cost to irrigate a bigha with a hired pumpset is Rs 70-72. A hired pumpset presents all the inconveniences associated with diesel pumpsets and poses some additional problems of its own. The market for diesel pumpsets appears almost competitive in nature as the rate is given but the buyer cannot transact as much as he wants at the going rate. The owner of the pumpset is a farmer himself and may require the pumpset for his own usage. So, at times it can be difficult to find a pumpset for hire. Also, hirers of a pumpset are not generally as careful with it as the owner do and so hired-out units depreciate more quickly than non-marketed pump sets, making owners selective in terms of who they agree to hire-out to. So, the market for hired pump sets is not as competitive as one might suppose it to be.
- (iii) Tubewell (hired): The market for tube well services is a fairly restricted one, because tubewell owners cannot sell as much as they want. It is easy to saturate the market. This is because tubewells are not portable like diesel pumpsets. They are erected on the field and can only serve the plots nearby through water channels or flexible plastic tubes. There are 13 tubewells in the village. During kharif 2008, one hour of tubewell irrigation use cost Rs 30-35 per hour. Tubewells avoid many of the inconveniences associated with

pumpset irrigation as the setting up time is more rapid and relatively few pieces of equipment have to be transported to the field. But, they are concentrated mainly around the residential areas of the village and beyond this circle, are not generally available.. Thus, not all farmers can avail of tubewell irrigation. Moreover, electricity supply is erratic and may not be available for days at a time. There are queues at the tubewell for irrigation and in busy periods waiting times can be prolonged. Tubewell owners give preference to their relatives, caste members or friends and side payments sometimes occur, such as the offer of a liquor bottle. Tubewells thus present their own sets of problems.

- (iv) Tubewell (Own): Large farmers whose landholdings are concentrated in one place may own a tubewell for irrigation of their own plots. They may also hire the tubewell out when they have no need for it. These farmers pay an electricity payment of Rs 690 per month, irrespective of electricity consumption, and also incur depreciation and repair costs. Since they also hire out their tubewell services these farmers do not normally end up incurring any running costs for their own irrigation.

So, in the market for irrigation, a randomly selected farmer may either be using his own pumpset, using his own tubewell, using a hired pumpset or paying for tubewell irrigation. Depending on the category he belongs to, he pays a different cost. In this sense, it can be said that the market for irrigation is actually a combination of four different markets, with four different prices. A farmer may be in more than one market at a time (example: he can irrigate his field by tubewell and may also have an engine or be hiring-in an engine).

The market for irrigation is, thus, quite imperfect. And yet irrigation is one of the most important factors in Palanpur agriculture. Hiring out your own pumpset involves some complexities and leasing in land may be an appropriate method to increase earnings. If the farmer owns a tube well, then hiring out tubewell services is an easy way to increase earnings and the family may even opt to lease out land to solely concentrate on the tubewell business. In sum, imperfections in the irrigation market have become more prominent than imperfections in the land preparation market were in 1974-75. It is for this reason that we see a change of variables in the model.

Nonetheless, the changing nature of the markets still supports the original Bliss and Stern model's essence that tenancy exists in order to remove imperfections and indivisibilities associated with markets other than land.

Conclusion

In Palanpur, the two-and-a-half decades since 1983-84 have been marked by a significant reduction in per capita owned and operated land. The proportion of households participating in tenancy markets has declined but the area under tenancy has remained roughly the same in absolute terms. Given the decline in total land owned and land operated by villagers, tenanted area has come to exert a greater influence on the livelihood of farm households in Palanpur.

Sharecropped land was found to be at least as productive as self-cultivated land, a conclusion which, in the circumstances of Palanpur, and arguably much of rural India can be understood in terms of basic economic reasoning. The mechanization of farm processes, almost equal cost-sharing among the partners in batai contracts and efficient stipulation of

labour efforts in Chauthai contracts provide little reason to believe that productivity will be different in these two sets of land.

We used regression analysis to examine the factors influencing the tenancy decisions of the households and their choice of contracts. We concluded that tenancy exists when there is a mismatch between the cultivation potential of the assets a farm household possesses (many of which assets are not fully marketable) and its owned landholding. If the farm households own more supervision ability than its owned land and relatively lower management ability, it will go for sharecropping (Batai). This also explains why there has been a shift towards Peshgi and Chauthai contracts. The nature of development since 1983-84 has resulted in lower per capita landholding and two classes of farm households; one with more management ability relative to own land and second, households with more supervision ability relative to own land. The former opt for Peshgi, while the latter opted for Chauthai contracts.

Finally, we looked at the tenancy model of Bliss and Stern (1982) which argued that imperfection in labour market and bullock ploughing market leads to tenancy in Palanpur. In our adaptation of the model to 2008-09 data, we found that despite important changes in markets for agricultural inputs, the original model's essence that tenancy exists in order to remove the imperfections associated with markets other than land is supported.

As research agendas for the future, a first point is that a lot more can be done to attempt to understand better the relations between land and labour inside the village and outside. This paper makes it clear that land and labour interactions in the agricultural process are responding to changes, and in turn changing, the nature of institutions and markets. There is a need to study these interactions in detail in order to understand their impact and what they imply for the future. Keeping in view the quality of the cultivation data collected, there is also a great potential here for a detailed input-output analysis in agriculture.

Secondly, this paper does not utilise a large part of the data set collected in 2009 Kharif. These could help us look at the response of households to external shocks such as drought. Although preliminary analysis of cropping pattern suggests that such changes were significant, it would be interesting to analyse these changes with respect to other determinants of agricultural productivity.

Third, most of the debate in the Indian context on production conditions in Indian agriculture has revolved around the 'mode of production debate', 'size class productivity debate', 'interlinkage of factor markets' and finally 'tenancy'. The 'mode of production' debate has centred on the nature of social and production relations which characterise the production conditions. The second debate has been on the efficiency and productivity of small farmers compared to large farmers, also known as the size productivity debate. The third crucial debate has been the debate on sharecropping and its efficiency. All the three debates have largely been analysed in isolation and village surveys have played an important role in this primarily because most of these issues requires close observation of relationship between various factors of production which are not easy to capture in large scale secondary surveys.

However, although various theories have been tested and alternative explanations provided, conclusive answers to many of the puzzles remain relevant, yet remain elusive.. An important reason for the inconclusiveness of these debates lies with the great heterogeneity of the Indian agrarian landscape, characterised by variations in the nature of land endowments,

agrarian practices, cropping patterns and above all historically-grounded social relations. A second problem was methodological, where more often than not these issues were analysed in isolation without an underlying integrated model of the agrarian economy in a developing country context. Understanding the nature of inter-linkages between the factors of production under imperfect market conditions is important to understanding the emergence and survival of institutional responses such as sharecropping. It is in this context that issues of efficiency and incentives need not be analysed from the perspective of static efficiency of farms but should be seen as a response to issues of allocative efficiency of the system given land and labour endowments and their distribution. A further methodological issue has been the analysis of production conditions in agriculture in a closed economy model. Most of the models and analysis have not been able to adequately factor in the role played by the non-farm sector which has emerged as a major driver of change in the factor market for labour as well as land. The Palanpur survey has always provided an ideal platform to analyse some of these theoretical constructs. An agenda for future research would be to develop an integrated framework of analysis of all these dimensions in the context of recent changes, institutional as well as at the household level.

Finally, a multitude of factors have led to changes in portfolio of activities and incomes for village households. Some income sources have disappeared; other has declined in importance, while new activities and income sources have risen to prominence owing to development and changes within the village and nearby areas. Understanding the changes in income and activity portfolios of households in light of these broader forces of change will highlight the nature and extent of the development processes at work in the village. Also, given these choices and portfolios, it will be interesting to examine the attitudes to risk and uncertainty. Given the richness of Palanpur data and the fact that much of rural India is experiencing similar changes; this topic grows in both interest and importance.

References

- Bell, C. and Zusman, P. (1979), 'New Approaches to the Theory of Rental Contracts in Agriculture', Development Research Centre, World Bank.
- Coelli, T. J. (1996), 'A guide to DEAP Version 2.1: A Data Envelopment Analysis (Computer) Program', CEPA Working Papers, Department of Econometrics, University of New England, Australia, No. 8/96
- Charnes, A., W. W. Cooper and E. Rhodes (1978), 'Measuring the Efficiency of Decision Making Units', *European Journal of Operations Research*, 2, 429-444
- Cheung, S. (1968), 'Private Property Rights and Sharecropping', *Journal of Political Economy*.
- Eswaran, M., Kotwal. A. (1985), 'A Theory of Contractual Structure in Agriculture', *American Economic Review*.
- Farrell, M. J. (1957), 'The Measurement of Productive Efficiency', *Journal of the Royal Statistical Society, Series A (General)*, Vol. 120, No. 3, pp 253-290
- Ghatak, M. and Pandey, P. (2000), 'Contract Choice in Agriculture with Joint Moral Hazards in Efforts and Risk', *Journal of Development Economics*.

- Hallagan, W. (1978), 'Self-selection by Contractual Choice and the Theory of Sharecropping', *Bell Journal of Economics*.
- Kawatra, A. (2009), 'An economic study on recent agricultural outcomes in Palanpur', Centre De Sciences Humaines' Website,
- Lanjouw, P. and Stern, N. H. (1998), *Economic Development in Palanpur over Five Decades*, Oxford University Press.
- Mukhopadhyay, A (2011), 'Stepping out of Palanpur', Asia Research Centre Working Paper No.46
- Newbery, D. M. G. and Stiglitz, J. E. Roumasset, J., ed. (1979), *Sharecropping, Risk Sharing and the Importance of Imperfect Information*, New York: Agricultural Development Council.
- Nyhan, R. C. And Martin, L. L. (1999), 'Comparative Performance Measurement: A Primer on Data Envelopment Analysis', *Public Productivity & Management Review*, Vol. 22, No. 3 (Mar., 1999), pp. 348-364
- Pant, C. (1983), 'Tenancy and Family Resources: A Model and Some Empirical Analysis', *Journal of Development Economics*.
- Shaban, R. (1987), 'Testing Between Alternative Models of Sharecropping', *Journal of Political Economy*.
- Sharma, N. and Dréze, J. (1996), 'Sharecropping in a North Indian Village', *Journal of Development Studies*.
- Stern, N. H. and Bliss, C. J. (1982), *Palanpur: The Economy of an Indian Village*, Oxford: Clarendon Press.
- Tyagi, A. and Himanshu (2011), 'Change and Continuity: Agriculture in Palanpur', Asia Research Centre Working Paper No.48

Change and Continuity: Agriculture in Palanpur

Ashish Tyagi and Himanshu

Introduction

A central theme in all the studies of Palanpur that have been undertaken to date has been the changing nature of agriculture. One of the reasons for selecting Palanpur from amongst the many villages that Christopher Bliss and Nicholas Stern considered prior to launching the 1974-75 survey was that this village was suitable for analyzing the changing nature of agriculture, particularly the impact of technological changes in the wheat economy¹. This focus on agriculture is evident in the first book on Palanpur by Bliss and Stern (1982) which documented the structure of agricultural production in detail. Importantly, in that study Palanpur was also used as a testing ground for many of the existing economic theories concerning production in agriculture relevant to developing countries. Notable among these were the various theories of tenancy (under certainty as well as uncertainty), factor market inter-linkages and formation of wage rates. The theories were probed using data which were carefully and meticulously collected by a team led by Christopher Bliss and Nicholas Stern through active observation during an extended stay in the village. It was the care and detail with which the data were collected and verified which allowed the authors to shed light on many dimensions of agrarian transformation in Palanpur that had hitherto not been available from secondary data sources².

This approach of painstaking, detailed data collection was also followed in the 1983-84 round, led by Jean Drèze and Naresh Sharma, in close collaboration with Nicholas Stern. The subsequent survey round in 1993 was relatively short, however, and did not collect information in as great detail as was collected in the previous two surveys. Nonetheless, information on land ownership details, along with demographic characteristics, was collected. And since this round was again carried out by the same team which had led the 1983-84 survey, it could draw on the experience of 1983-84 fieldwork as well as the numerous visits that had occurred in the intervening years. The current survey round (2008-2010) is the most detailed yet of the Palanpur surveys. Although the scope of the survey extends well beyond agriculture to also include data on social, political, gender and income dimensions, a substantial part of the effort of data collection in this round also revolved around agriculture.

The uniqueness of the Palanpur data arises not only from its universal coverage and the multiple waves of data that are available but also from the way the data were collected. Both canvassing on the basis of formal questionnaires as well as wide-ranging, open-ended, discussions were held, during the course of an extended stay in the village. Importantly, the richness of the data also arises from the active participation of the various researchers in the process of data collection. It is this uniqueness which has allowed past researchers to test various theories of agrarian change and production conditions in Indian agriculture. In this paper we attempt to undertake a similar exercise using the new dataset made available from the 2008-10 survey. As with earlier analysis on

¹ See Introduction, Bliss and Stern (1982). In particular, they were keen to analyse the impact of the “green revolution”. An important factor which favoured Palanpur was the existence of two previous surveys by Agro-Economic Research Centre (AERC) of the University of Delhi, for the pre green revolution period. Also, wheat was the predominant crop in the village and tenancy was frequent.

² Palanpur was surveyed twice earlier by the Agro-Economic Research Centre in 1957-58 and 1962-63. Even for these two surveys the primary focus was agriculture.

Palanpur, the purpose is not restricted to documenting the changes in agricultural production in the village, but also to explore and understand the various dimensions of interaction between agriculture and non-agriculture as well as within agriculture across the various factors of production. However, since a significant share of the data is yet to be analysed, the results and conclusions drawn in this paper should be treated as preliminary.

In many parts of India, agriculture remains a key driver of change and source of dynamism for the rural economy. Palanpur is no exception to this and a preliminary reading of the evolution of agriculture in Palanpur suggests that this assessment holds not only with respect to changing cropping patterns, intensification of mechanisation and irrigation, but also in the evolution of factor markets such as the land and labour markets. For example, the introduction of new forms of tenancy alongside the continuation of old forms, albeit on a smaller scale, also points to a degree of dynamism in this setting. Palanpur's agricultural economy is not only responding to globalisation and liberalisation of the Indian economy through introduction of new crops such as mentha; its ability to transform itself in response to new challenges of migration and outside employment are yet further signals of dynamism in a rural economy which in many other respects changes only slowly. At the same time, the developments in agriculture have also continued to influence the choice of livelihood and diversification of income and employment opportunities both as a recipient of investment and as a source of surplus and livelihood.

While the introduction of mentha indicates dynamism, the decline in the village's operated land and deceleration in yield growth suggest the need for situating agrarian change within the larger changes and reforms experienced in the Indian economy since the 1990s. Some of this is also evident in the evolution of credit markets and in the distress sales of land by the villagers. While the percentage of total leased area has increased marginally – counter to the widespread prediction of all those who expected a decline in tenancy – the changing nature of tenancy contracts with specialised contracts such as fixed rents and labour contracts gaining prominence also point to a greater interaction of the agricultural land market with the labour market. These changes confirm the inadequacy of attempting to characterise the nature of agricultural production in India in simplistic categories of “semi-feudal” or “capitalistic” modes of production. The complexity of the production system, the linkages in the factor markets, which remain imperfect, and the broader context of a rapidly changing non-farm economy also suggest that any attempt to study tenancy or farm size productivity in isolation would suffer serious limitations. This paper looks at some possible explanations of the changing nature of tenancy in the village, highlighting the importance of the context and linkages, and thus the shortcomings of such standalone exercises. The main objective of this paper is to describe the changing contour of agricultural production in the village economy, particularly in relation to the changing nature of tenancy and its linkage with the changes in the land and labour markets. It is beyond the scope of the present paper, however, to provide a detailed analysis of the inter-linkages in factor markets. In particular, we have not yet been able to analyse our data for the most recent agricultural year and to make full use of our special and detailed survey of credit and inter-linkages. The availability of data on Kharif 2010 would not only enable us to compare variations in agricultural practices for two consecutive years, it will also allow us to delineate the impact of changing natural factors such as drought in the village economy.

This paper is organised in four sections. The first section describes certain salient features of data collection for this round of the survey and of our empirical methodologies. Section II describes some of the basic characteristics of agricultural production in Palanpur. This is followed by section three which looks at the changing nature of production in agriculture with respect to cropping patterns and tenancy. The final section concludes with some issues for future research.

This paper is largely descriptive and is concerned about highlighting changes in the agricultural economy of Palanpur over the years, in particular since 1983. The paper does not undertake any in-depth analysis of household decision making, such as choice of tenancy contract, and extent of involvement in the tenancy market. These issues are discussed in a companion.

Data and Methodology

The present round of data collection was the longest-running of all the survey rounds undertaken so far. It was spread over two agricultural years, 2008-09 and 2009-10³. Data for two rabi seasons (2008 and 2009) and two kharif seasons (2009 and 2010) were collected as part of the survey. Alongside maintaining continuity over the subjects of data collection, the fieldwork methodology was also similar to that applied in previous surveys of 1974-75 and 1983-84. However, in addition to the usual focus on agricultural practices, this round also collected extensive data on inter-linkages across factor markets, in particular credit and tenancy. The methodology was largely questionnaire-based but was supplemented with a discussion questionnaire aimed at collecting qualitative information on various aspects of agricultural production and tenancy. This was further supplemented by the information collected through a daily diary which was distributed to a selected sample of households. These were followed rigorously and data from the diaries was also utilised to validate some of the information on expenditures and outputs in agriculture.

As with the previous surveys, a great deal of effort was spent on ensuring internal consistency across various rounds of questionnaires and also validating the information collected through the questionnaires through secondary sources such as land records and through internal consistency checks. In particular, our data on the rabi 2008 is not as good as the subsequent rounds because of under-reporting of tenancy arrangements and land data. These were later made consistent with secondary data as well as through a physical verification of each and every plot. For the purpose of the present paper, we draw only on data for kharif 2008 and rabi 2009 which have been cleaned and validated. In our analysis we have used only rabi and kharif as relevant seasons although some plots of the village are also cultivated during the intervening period between these two seasons. In these cases cultivation data of these plots have been merged with the season which is closest to their sowing. One of the problems encountered during our survey was the differences in estimates of input use and outputs as reported by the tenant and landlord. In the case of a conflict between the two estimates, the data were cross-checked again and in most cases these were resolved at the field level. However in some cases, discrepancies did remain and in those cases we have used the estimates provided by the actual cultivator. The exercises underline the great importance of data quality for us and how much time, care and attention is necessary to produce accurate information.

While the land data were scrutinised in great detail using secondary data sources as well as physical verification, data on inputs used and outputs from cultivation were collected from questionnaires. Data on both inputs and outputs were collected in quantities as well as value terms. In those cases, where output was self consumed or home produced quantities were used, and imputations for values were produced using locally prevalent prices in the village at that time of survey. No depreciation was imputed at any stage. Information on labour use, both hired as well as family labour and exchange labour were recorded in the questionnaire but are subject to recall problems in some cases. Days of labour use has largely been taken as the actual number of days reported by the respondents. However, in some cases information on labour use was also verified

³ Agricultural year refers to July to June. This is the standard periodization for agricultural year used in literature. Rabi refers to the winter season with crops sown in November or December while kharif refers to the monsoon season with crops sown generally in late June or early July.

using diaries and cross-verification with tenants/landlords. The valuation of family labour was done at the locally prevalent wages which were taken to be the wages reported by the hired labourers. Since there is quite a bit of mixed cropping in Palanpur, the inputs were apportioned correspondingly across the two crops grown jointly.

Basic Indicators of Agricultural Production in Palanpur

A key focus throughout the Palanpur studies has been the changing nature of agricultural production. This was a special focus of the first book on Palanpur by Bliss and Stern (1982). This was reaffirmed in the later studies with a second book covering the two surveys of 1983-84 and 1993 identifying technological change in agriculture as one of the key drivers of change in the village economy, together with population growth and expanding outside opportunities (Lanjouw and Stern, 1998). Since then, the Indian economy has seen significant changes led by the economic reforms initiated since the early 1990s. Over the years, agriculture has become less significant in accounting for growth of the overall Indian economy or for changes in distribution of income in the economy. At present, the share of agriculture in national GDP is less than 15%. However, even though it is less relevant for growth, it still employs more than 50% of the national workforce.

Some of these changes are also reflected in Palanpur with non-farm employment and income now accounting for a significantly larger share of the total workforce and income of the village. These processes had already been noticed in previous work on Palanpur, notably in Lanjouw and Stern (1998). Nonetheless changes in agriculture remain central to an understanding of change in the overall village economy. Table 1 and table 2 present some basic indicators of the agricultural economy of the village. Note that since the 1993 survey did not collect detailed information on agriculture, the relevant comparison in most cases is with the 1983-84 and 1974-75 surveys.

There are four important observations that need to be highlighted. First is the decline in land owned and land operated per capita. These show a declining trend although there is no evidence of an accelerating decline over previous rounds. Unlike previous years, when population growth was seen as the major factor behind the decline in land holdings, this no longer appears to be the central explanation. A large part of the decline in land holding between 1983 and 2008-09 is driven by the decline in aggregate land owned by the villagers: a decline of more than 500 bigha between 1983 and 2008, from a total of around 2600 in 1983. This is in contrast to the trend seen between 1962-63 and 1983-84 when land ownership by the villagers was rising. The decline in operational landholding for the village as a whole is smaller because some of the land which is now owned by the outsiders is still cultivated by the residents of Palanpur.

The dual impact of decline in land ownership and increasing population pressure has led to the continued reduction in the size of individual land holdings. On the other hand, the number of landless households shows only a marginal increase compared to 1993 – although there are now almost twice the number of landless households as in 1983. Tenancy appears to work towards reducing inequalities in cultivated holdings arising out of unequal per capita land ownership. The percentage of leased in land has increased to almost one third of total cultivated land compared to just over a quarter in 1983. While inequality in land ownership as measured by the Gini coefficient does not show any worsening over the years, there is a significant decline in the Gini coefficient for land cultivated. The difference between the Gini coefficient for per capita land ownership and that for per capita operational holding is higher than any other survey year. However, despite the “equalizing” effect of tenancy, per capita operational holdings are still marked by high inequality.

A Second observation is that there is a clear continuation in the trend towards use of modern technologies, in particular irrigation and machine power. Persian wheels which were once an important source of irrigation have now disappeared with almost all irrigation being carried out through pump sets (diesel) and tube wells (large bore, electric). The number of tube wells in the village has increased from only one functional tube well in 1983 to 13 by 2008. Similarly as against 27 pump sets in 1983, there are now 85 pump sets in the village. Bullocks as a source of ploughing and other agricultural work has seen a steady decline with the number of bullocks falling from 141 in 1983 to 51 in 2008. Such draught power is being replaced by mechanised agricultural equipment such as tractors and threshers. There were no tractors in the village in 1983; the number in 2008 stands at 13. However, with the exception of a few cases in paddy cultivation, increased mechanization in Palanpur does not appear to be accompanied by further expansion of new seeds. Together with irrigation and double cropping, new seeds and fertilizers had contributed in a major way to rising yields in the 1970s and 1980s.

Nonetheless, there is some increase in yields of most of the major crops grown in Palanpur. There has been a perceptible and significant increase in productivity of crops in the village compared to 1983. It is important to note however, that 1983 was a bad agricultural year while 2008 was a normal agricultural year, and so a better comparison might be with 1974-75. This rise in crop productivity is likely due to increased mechanization in agriculture such as use of tractors and also irrigation equipment. Rice is the only crop that has seen some introduction of new varieties.

Despite only sluggish increases in productivity for major crops such as wheat and rice, we do not see a substantial decline in area under cultivation of these crops. On the other hand, there has been substantial decline in coarse cereals and vegetables⁴. In addition, there has not been any substantial increase in area devoted to sugarcane (an annual crop) and if at all, it appears to have declined somewhat during recent years. However, sugarcane cultivation picked up again in 2010-11 owing to sudden increase in sugarcane prices. Map 1 and 2 show the cropping pattern in Kharif 2008 and Rabi 2009.

The third major change is the introduction of mentha. This crop did not exist in Palanpur until 1993. It is now sown on almost one third of area sown in rabi. Mentha, technically known as *Mentha Arvensis* or *Mentha Shivalik* is grown for peppermint oil which finds wide usage in toothpastes, mouth wash, menthol chewing gums and candies, body pain reliever and other medicines⁵. However, the cultivation of *Mentha Arvensis* or *Mentha Shivalik* as a major rabi crop did not pick up until late 1990s in the Moradabad region. The yields were too low to bring any suitable reward for major cropping pattern shift for the farmers. The Central Institute of Medicinal and Aromatic Plants introduced improved varieties of *Mentha Arvensis* in the 1990s and some other varieties were imported from China, which was the dominant producer of *Mentha Arvensis* in the world market at that time. By the end of the 1990s, *Mentha Arvensis* had become a major rabi crop in the Moradabad region. As of now, India is the largest producer of mentha oil with almost 80% of the total world production coming from India. Around 80% of the total crop is grown in Uttar Pradesh in which the Moradabad region (Moradabad, Sambhal, Rampur, Bareilly and Chandausi) account for 40 percent. Chandausi, is in fact, a major international trading centre for mentha oil.

⁴ The decline in vegetables was explained as being primarily due to the large increase in the monkey population in the village.

⁵ *Mentha Arvensis* was first grown in Japan around 1870 and was not produced in India until 1964. Regional research Laboratory, Jammu first brought the crop to India in 1964. A cheap method of steam distillation was introduced by a US-based Multinational in early 70s and soon, many distillation units came up in the Terai region of Uttar Pradesh, including Moradabad.

There is no clear answer to the question as to who was the first farmer to grow mentha in the village and when⁶. One possible explanation (based on various discussions) is that farmers of Palanpur learned of *Mentha Arvensis* from farmers in neighbouring villages (which are more prosperous and more resourceful in adopting new crops) in the late 1990s and started cultivating the crop. In the early 2000s the price of mentha jumped to Rs 1900 a litre, up from Rs 300 a litre in the preceding season and the farmers were lured by the massive profit opportunities and started to cultivate mentha as a major Rabi crop. Unfortunately, mentha prices have not remained at those levels since then.

Mentha Arvensis is a shrubby plant sown in the first half of January, and maturing by the last week of June. Sowing takes place through root transplantation and the plant, therefore, is maintained even in the kharif season by a few farmers on a small piece of land in order to provide roots in the rabi season. Mentha can be easily mix-cropped with wheat and sugarcane in the rabi season with a few furrows left for *Mentha Arvensis* while sowing wheat in December. The crop is highly water intensive as the plant has to survive the hot summer days of May and June when the temperature sometimes soars to 48 degree Celsius. Providing timely and adequate irrigation during these months can be a real challenge as the groundwater tables generally decline around this time as well and Palanpur farmers are completely reliant on groundwater for irrigation purposes. The shrubs of *Mentha Arvensis* are cut in the first week of July and taken to a steam distillation unit for processing. The oil is extracted from the leaves, with the shrubs left to dry near the distillation plant for a day or two prior to distillation in order to reduce moisture content of the leaves. Lower moisture content helps in extraction of more oil from the leaves. However, the month of July is a rainy period and if it happens to rain while the shrubs are lying outside to dry, the yield of the whole crop can be dramatically reduced. Timing of the harvest is thus very important. After extraction, the mentha oil can act as a store of value as it is non-perishable for long periods. Households can choose to not sell their output after harvesting and wait for the best price to maximize their returns. For Palanpur farmers, mentha oil is the final product they are involved with. The oil, however, is not the final product; it is eventually converted into crystals or flakes.

Considering the harsh summer weather, the long duration of the crop and the uncertainties related with oil extraction, *Mentha Arvensis* is certainly much more risky than wheat, bajra or urad. Its inherent riskiness is exacerbated by the volatility of prices which depend to a large extent on global demand and supply conditions. There is also a great deal of speculative activity as far as mentha prices are concerned; it was one of the crops that were significantly affected by the boom in primary commodity prices in 2008. For better or for worse, *Mentha Arvensis* has connected Palanpur farmers with global agricultural markets. During times of high prices the crop has brought clear benefits in the form of higher farm incomes.

⁶ In fact, none of the previous books or articles of Palanpur has referred to mentha being grown in the village. It appears more likely that the crop was introduced in the village in late 1990s.

Table 1: Palanpur 1957–2009: Selected Indicators						
	1957-58	1962-63	1974-75 ^a	1983-84	1993	2008-09
Number of households	100	106	117	143	193	218
Population	528	585	790	960	1133	1265
Average Household Size	5.3	5.5	6.8	6.7	5.9	5.8
Owned Area	2747	2331	2498	2596	2380	2075
Operational Area ^b	2723	2783	2438	2650	n.a.	2264
Number of Landless Households	14	12	17	27	44	42
Land owned per capita (bighas)	5.2	4.7	3.3	2.7	2.1	1.6
Land cultivated per capita ^b (bighas)	4.1	4.8	3.2	2.8	2.1	1.8
Proportion of leased-in land to cultivated land (%)	10	12	22	28	26	36
Proportion of irrigated land to owned land (%)	52	46	96	96	96	100
Gini coefficient: land owned per capita	0.49	0.47	0.49	0.5	0.52	0.52
Gini coefficient: land cultivated per capita	0.48	0.45	0.44	0.51	0.52	0.47
Index of agricultural productivity ^c	25.1	24.6	57.3	34.6	n/a	40.55
<i>Ownership of selected productive assets (number per 1,000 persons in parentheses)</i>						
Bullocks and male buffaloes	124 (235)	138 (236)	157 (199)	141 (147)	104 (92)	51 (40)
Cows and She-Bufferaloes	89 (169)	79 (135)	109 (138)	129 (134)	156 (138)	242 (191)
Persian Wheels ^c	11 (21)	17 (29)	22 (28)	22 (23)	0 (0)	0 (0)
Pumpsets	0 (0)	0 (0)	7 (9)	27 (28)	40 (35)	85 (67)
Tubewells	0 (0)	0 (0)	0 (0)	1 (1)	Na	13 (10)
Tractors	0 (0)	0 (0)	0 (0)	0 (0)	9(8)	13 (10)

^a The 1974–5 reference population excludes 6 households discarded by Bliss and Stern (1982), who restricted their sample to households with at least some involvement in cultivation; figures with an asterisk include these 6 households.

^b ‘Land cultivated’ or ‘Operational area’ is calculated as (land owned) + (land leased in) - (land leased out). The figures for leased area are based on the rabi season; since most leases in Palanpur last for a whole year, this can be taken as representative for the full agricultural year.

^c Including non-functional or unused Persian wheels (quite common in 1983–4).

Table 2: Cultivation Details for Selected Major Crops in Palanpur¹

Crop	1957–8^a	1962–3^b	1974–5	1983–4	2008-09
1. Wheat					
a) Area cultivated (bighas)	879	767	1030	1573	984 (1438)
b) % of total cultivated area ²	52	48	46	57	48 (71)
c) Yield (kg/bigha)	41	41	114	101	224 (223)
d) 'Normal' Yield (kg/bigha)	40-50	50	100	150-60	230
d) Real Output Value/bigha ³	16	22	41	27	69 (69)
2. Mentha					
a) Area cultivated (bighas)	0	0	0	0	226 (728)
b) % of total cultivated area ²	0	0	0	0	11 (36)
c) Yield (litres/bigha)	n/a	n/a	n/a	n/a	3.9 (2.9)
d) Real Output Value/bigha ³	n/a	n/a	n/a	n/a	62 (47)
3. Paddy					
a) Area cultivated (bighas)	70	274	125	266	493
b) % of total cultivated area ²	5	17	6	12	24
c) Yield (kg/bigha)	11	26	103	130	186
d) Real Output Value/bigha ³	2	10	33	34	96
4. Bajra (Pearl Millet)					
a) Area cultivated (bighas)	644	638	610 (730)	137 (363)	208 (425)
b) % of total cultivated area ²	46	40	29	6	10 (21)
c) Yield (kg/bigha)	34	27	59	48	79 (54)
d) Real Output Value/bigha ³	10	12	20 (20)	12 (14)	16 (11)
5. Sugarcane					
a) Area cultivated (bighas)	391	430	463	886	214 (388)
b) % of total cultivated area	28	27	22	39	11 (19)
c) Yield (quintal/bigha)	n/a	n/a	21.3	12	31
d) Real Output Value/bigha ³	34	34	72	43	99
Index of agricultural productivity^c	25.1	24.6	57.3	34.6	40.55

Notes:

1. The figures in brackets show total figure including plots sown with mixed crops. In these cases the area figures are upper bounds on the effective areas.
 2. Proportion of area cultivated refers to percentage of area under the specified crop for the relevant season (rabi for wheat & mentha; kharif for paddy and bajra; kharif has also been taken as the reference area for sugarcane).
 3. Real values are obtained by deflating with price deflators based on the Consumer Price Index for Agricultural Labourers (CPIAL) for Uttar Pradesh. All values are in 1960–1 rupees.
- a. The 1957–8 figures are based on direct calculations from the household questionnaire, and are consistent with the corresponding figures given in Ansari (1964), reported in Bliss and Stern (1982).
- b. The average yield figures for 1962–3 in this table are somewhat misleading in that they exclude cases of zero output, which were not uncommon in that year due to total crop failure on a number of plots. The true average yields, inclusive of cases of zero output, would be lower.
- ^c value of agricultural production at 1960–1 prices divided by land cultivated

However, cultivation of mentha also comes with its own problems. First, mentha is a resource-intensive crop and the majority of Palanpur farmers are short of credit. Most of them follow the system of '*laut-badal*' in which the proceeds from the last season's cultivation are used to finance the costs for the current season. Only rich farm households store the mentha oil in substantial quantities and wait for the best price. Second, mentha oil is a valuable commodity and is an easy target for robbers. Storing large quantities of oil in the house poses serious dangers to life and property⁷. Finally, in our discussions with farmers it was clear that they have little understanding of the mechanisms of futures trading. They know that mentha oil prices fluctuate but are unable to predict even broad trends. Many of them incurred heavy losses as a result of having anticipated continued price rises and then panicking when the bull market corrected itself by selling all their output at very low prices. Nonetheless, volatility in mentha prices does not seem to have deterred farmers from sowing mentha in the way that price volatility has often been seen to act as a negative influence on decisions to cultivate traditional crops.

Along with an increase in land area devoted to the cultivation of mentha, there has been a marked decline in the acreage to sugarcane, even though yields and the real value per bigha for sugarcane have shot up. Sugarcane used to be the leading cash crop for the village and there are many reasons for the shift away from sugarcane cultivation. The most important among them is the consistently low prices of sugarcane in Uttar Pradesh during the period between 2000-01 and 2008-09. Sugarcane prices are regulated by the state government before every season and they are one of the important political issues in Uttar Pradesh. Sugar mills are one of the strongest lobbies in this political equation. Farmers complain of the government being lobbied by the sugar mills who press for sugarcane prices being kept unrealistically low. Moreover, the mills are not always punctual in their payments; there are cases where substantial sums are outstanding to farmers even 4 to 5 years after the cane was originally sold to the mill. In the end it is unclear if mentha cultivation was boosted primarily because of problems associated with sugarcane market (a 'push' factor) or if mentha cultivation lured the farmers away from sugarcane (a 'pull' factor). Most likely both factors played a role. However, there is a reversal of this trend in the last two years. This appears primarily because of a consistent fall in the acreage of sugarcane in Northern India combined with a poor crop in the south (not to mention ill advised government policies allowing the export of sugar at a time when national stocks were already low). This led to a shortage of sugar beginning in 2008-09. In that year, sugar prices sky-rocketed and sugar mills scrambled to procure as much sugarcane as they could. Sugarcane prices received by farmers, which were between Rs 60-80 per quintal in the period 2000 to 2007, shot up to Rs 110 in late kharif 2008 and touched a high of Rs 140-160 per quintal in kharif 2009.

A fourth observation about agriculture in Palanpur is that its profitability (per bigha) seems to have increased only slightly during the years, if at all. Normal wheat yields, reported in Table 2, represent the "usual" wheat yields expected in a normal season. An increase of 70-80 Kgs in 25 years works out to an annual increase in yield of around 1.6%. This is not large⁸. At the same time, however, daily wages denoted in terms of wheat per kg have doubled over the last 25 years. Along with monetisation of certain inputs, the cost of cultivation in real terms seems to have increased. An Index of agricultural productivity, which is the value of Gross Annual Output (total output for the agricultural year valued at suitable market prices which are deflated at 1960-61 prices for comparison's sake) divided by land cultivated, has not increased much. A 6 percentage point

⁷ There has been no robbery in the village during our stay of two years but the local newspapers reported incidences of mentha oil robbery in the region quite frequently.

⁸ The average annual growth rate of wheat yield has been close to 5% throughout the previous survey years. Average annual increase in wheat yield was 4.6% during 1957-62, 5.9% during 1962-74 and 5% during 1974-83.

increase over the last 25 years is a meagre increase by any yardstick. This assessment is further reinforced by the fact that 1983-84 was a not a good year for cultivation and therefore, the normal Index of agricultural productivity per bigha in 1983-84 would have been closer to the value recorded 2008-09 than the 1983-84 number presented here. Nonetheless, overall productivity per unit of land does seem to have increased because of the increase in cropping intensity and choice of cropping pattern with a move towards cash crops. We will return to calculations of changing profitability in subsequent analyses.

Along with these broad changes which suggest a strengthening of technological intensification and of changes in cropping pattern towards cash crops, there is also a significant change in the way agricultural production is organised in the village. While a large part of these changes are related to the developments in the village land and labour market, some of these are also driven by external factors - particularly those in the external labour market.

Changing Nature of Agricultural Production

An important feature of the agrarian economy of Palanpur is the absence of any dominant landlord farmer. It is essentially a small holder village economy comprising a large number of medium and small peasants. As mentioned above, recent years have seen ongoing fragmentation of land holdings. Although population pressure has been an important factor in the reduction of land holdings per capita, a new development is the reduction in the area owned by the residents of the village. Further, with the intensification of mechanisation and irrigation in the village new forms of markets have evolved around these factors of production. However, the two factor markets which continue to dominate the nature of agrarian production in the village are still the land and labour markets.

Clearly, land continues to be the major factor in agricultural production. Although there has been a steady decline in land owned by the residents of Palanpur since 1983-84 as a result of sales to outsiders, this has been partially offset by leasing-in some of the land that belongs to these outsiders. As has been reported in the previous surveys, land sales and purchases are not frequent in the village. However, we did track the land sales and purchases in Palanpur during the past fifteen years. These are based on recall and may not cover all the land transactions in the village. A detailed analysis of land sales, and the terms and conditions of such sales, will be undertaken in a separate paper. However, preliminary analysis of land transactions suggests that most of the land transactions have been a result of distress sale. These were primarily to repay loans outstanding to both institutional sources such as banks, and moneylenders in the village. The reason for taking loans in many cases was marriage, court cases, and consumption loans. A significant fraction of the total amount of land sold went to one particular moneylender in a neighbouring village. The land had been mortgaged to the moneylender. Approximately 100 bighas of land, out of net sale figure of 500 bighas between 1983-84 and 2008-09, were acquired by this moneylender via this method. Another category of land sales occurred as a result of households who completely migrated out of the village during this period. In only a handful of cases were land sales made in order to acquire productive assets. Map 3 illustrated the distribution and location of land owned by various caste groups.

Alongside changes in land ownership, changes in labour market behaviour have also shaped the decision of households regarding their involvement in agriculture. Prominent among the changes in the labour market has been a consolidation of the trend towards non-farm employment opportunities inside as well as outside the village. Some of these changes are documented in Mukhopadhyay (2011). But from the perspective of the agricultural labour market, two things stand

out. First, the category of agricultural labourers as a primary occupation has more or less disappeared from the village. While there were 17 households with primary involvement in agricultural labour in 1983, there are only two households that can be treated as agricultural labour households in 2008. Secondly, the availability of employment opportunities outside Palanpur as self-employed and casual workers has reduced the dependence of casual labour households on agricultural work and has thereby contributed to a tightening of the labour market in agriculture. This second factor has been influenced both by the increase in number of landless casual labour households who have moved away from agriculture and by those who have regular employment and for whom dependence on agriculture is now a secondary choice. Along with availability of public employment such as MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act), this has meant that finding hired labour in agriculture is not as easy as it used to be⁹. A related consequence of this has been strengthening of the tendency towards exchange labour and tenancy to circumvent labour shortages¹⁰.

Alongside developments in the land and labour markets, there have also been new developments in other agricultural markets, notably monetisation of a significant portion of input costs such as irrigation, harvesting and threshing. There is now a small but growing market for tractors and bore wells. Although there is no evidence of these markets exhibiting any signs of inter-linkages, the increased monetisation of input costs has meant that availability of cash is an increasingly important determinant of a household's ability to undertake cultivation.

Independently, and in conjunction with each other, these developments have shaped the market for tenancy which has seen significant changes since 1983. One of the important findings of the previous surveys was relative constancy in the nature of tenancy contracts over the years with sharecropping and its variants dominating the lease market. Although fixed rent tenancy was on the rise after 1983, it represented only a small fraction of the total lease market at the time. This is no longer the case today, and even though batai is still the dominant form of tenancy, it now accounts for less than 50% of total tenanted land compared to almost 80% in 1983.

Before analysing the changing nature of tenancy in Palanpur, we first offer a brief description of how this institution operates in Palanpur.

Tenancy contracts in Palanpur

There are three major standardised tenancy contracts in Palanpur along with other small contracts which are basically a mix of the three major standardized contracts.

Peshgi: Peshgi is a fixed rent contract and the terms of such contracts have not changed much since 1983. The landlord receives a rent payment and then hands over the land to the tenant for a specific duration. The tenant bears all the costs of cultivation and keeps all the proceeds to himself. The contract is oral and the rent payments can be made in cash or kind, as per the agreed arrangement. Cash payments are made before the season begins and kind payments are made generally in wheat, after the rabi season ends. The annual rent during rabi 2009 was around Rs 950 per bigha. The shorter duration leases command more rent than the longer duration on annual basis.

⁹ MGNREGA was introduced in the village in 2008 and although its performance has been less than satisfactory, there is evidence of MGNREGA creating public employment in the village.

¹⁰ While previous surveys do mention the existence of exchange labour (working on each other's farm), there is no quantification of the amount of exchange labour in the village. There is no such information even for this round but from diaries and discussions with the farmers it appears to be an important source of labour use in agriculture. It has also been reported that there has been increase in exchange labour over the years.

Batai: Batai (one-half) is a sharecropping arrangement where the tenants and landlords share costs in a specific, but not rigid, proportion and both receive equal shares of the output. In rabi 83, it was common for the landlord contribute land and half of 'cash inputs'. Tenants used to bear the full cost of land preparation (which was done by bullocks), seeds (except for certain crops like sugarcane, vegetables etc, in which case seed costs were shared equally) and the full cost of labour. Harvesting is a labour intensive process and was the full responsibility of the tenant. Irrigation, fertiliser, threshing and other cash inputs were shared equally between landlord and tenant.

In 2008, land preparation is now mostly a mechanical process involving the use of tractors instead of bullocks, and has become a cash input. However the cost of land preparation is still paid by the tenant. It is interesting to compare this transition between technology change from bullocks to tractors with the mechanical change which took place in the threshing process between 1974 and 1983. When threshing was a labour process, it was the full responsibility of a tenant under batai and the landlord did not share in the costs.. After it became a mechanical process between 1974 and 1983, the costs were shared in half. However, this is not the case with land preparation. The tenant still bears the full cost of land preparation. Whether and how this might change in the future is an interesting question.

One possible reason for the sharing of threshing costs as part of batai arrangements, but not land preparation, could be the length of the contract. It appears that most of the lease contracts involving batai are concluded or settled at the time of harvesting. Once the crop is harvested, both the tenant and landlord share the output in half. However, since threshing is a post-harvest activity, the costs are shared by the tenant and landlord irrespective of whether it is done manually or through machines. In other words, each party has possession of its share of the un-threshed output and it is their decision and responsibility over what happens next. On the other hand, land preparation is part of the cultivation activity and since it has traditionally been undertaken by the tenant, the arrangement persists even after mechanisation.

However, adjustments in cost sharing for irrigation depend on the ownership of pump sets. Cost sharing in irrigation can take different forms. If neither of the partners owns an engine/tube well, then the cost shared equally. If the landlord owns the engine, then the tenant pays the full cost of petrol and the landlord's engine is used for irrigation. This is a profitable arrangement for a landlord considering the high prices of diesel. If both partners own an engine, then they reach an arrangement which can be one of the following: they bear the cost of every alternate irrigation; the engine of the landlord will be used and the tenant will always provide diesel; or the tenant's engine will be used and the diesel cost will be shared in half. If the landlord or tenant owns a tube well, then half the cost is paid by the non-tube well owner partner based on the market rate for irrigation through tube wells. On the whole, considering the rent for hiring in a diesel pump set or a tube well service, the costs are more or less shared equally on average.

Chauthai: Chauthai (one-fourth) is a lease contract where the tenant provides only his labour and the landlord bears the costs of all the other inputs. At the end of the season, the tenant is entitled to a 25% share in output. It is essentially a labour contract with the tenant providing all the labour and no other cost. However, it must be made clear that the chauthai contract now common in the village is different from the one that was mentioned in 1983 survey. In 1983, the tenant was expected to pay 50% of the labour and seed cost, 25% of all the other costs in return for 25% output. The chauthai contract now emphasizes the benefit of family labour a marginal farmer can offer. The contract is very simple; the tenant is responsible for all the labour costs and 25% of the threshing cost (which are paid in kind when the output is threshed). The tenant is supposed to be a care taker of the crop. It is his duty to tell the landlord when the time is right for irrigation,

application of fertilizer, threshing etc. In a chauthai contract, the tenant will tend to employ family labour before hiring in labour (to save cash outflow and also for better supervision) and in general a higher quality of work can be expected. The chauthai contract tends to attract poor households with few assets and a large family because the tenant is not expected to pay for any cash input. The contract is of limited utility to landless households however, because the tenant is expected to take charge of cultivation and hence, landlords typically look out for a good and responsible farmer. Landless households cannot generally claim to be good farmers and hence, they seldom receive a chauthai contract. There is a question as to whether to call it land-tenancy or a labour contract. In our view, the answer has changed over time.

Sharma and Dreze (1996) described the chauthai contract in Palanpur as essentially a batai contract: *“It is worth noting that all sharecropping contracts in Palanpur are essentially ‘modelled’ after the batai contract. For instance, sajha batai is really a batai contract with two co-tenants, and chauthai can be formally interpreted as a special case of sajha batai (where the landlord is also one of the two co-tenants). Batai is, therefore, clearly the central sharecropping contract in Palanpur.”* This description is not obviously correct anymore; with chauthai now a very different contract from what it was 25 years ago. We have changed our classification accordingly for sharecropping and non-sharecropping contracts. For 1983-84, we include chauthai in the sharecropped farms category, but for 2008-09, we regard chauthai as a labour-contract, not sharecropping.

Other contracts: Apart from the three major standard contracts, there are other contracts as well, which are mainly combination of one or more of the above contracts. A farmer may lease in land on fixed-rent and lease it on labour-contract ‘chauthai’ or sharecropping contract ‘batai’. These are mainly sub-letting contracts where the tenant sublets the land leased in to another tenant. Another contract is “sajha batai” or joint lease where two tenants come together to lease land under sharecropping with a landlord. The cost sharing remains simple, instead of one tenant bearing all the cost, the two tenants share the costs and responsibilities and also share the output equally. This type of lease is mainly found when the plot under tenancy is larger than the input sharing ability of the tenant. Instead of managing two different tenancy contracts, it is in landlord’s interest if the tenant recommends a co-tenant. This is essentially a version of the standard Batai contract.

Table 3 indicates the breakup of area under various kinds of lease and the proportion of total leased in area under various lease arrangements. Although the total area under lease has remained almost the same as in 1983, as a share of the operated land it shows an increase from 28% to 33% of the operated land area of the village. But more importantly, the shares of various tenancy contracts have seen a change between 1983 and 2008. The area under batai has seen a massive decline in favour of a rise in all the other contracts. The area leased in under peshgi almost doubled while that under chauthai increased by a factor of four. Sharecropping used to account for 80 per cent of total leased-in area in 1983-84, but its share declined to 47 per cent in 2008-09. It should be noted that chauthai in 2008-09 is more appropriately regarded as a labour contract, not a sharecropping contract. The emergence of this new form of labour tenancy is a significant development in the village even though at present it still represents only a small share of total leased in land.

We have argued above that that the only land-labour contract which can be treated as a sharecropping arrangement is the batai contract. An important feature of sharecropping arrangements compared to other tenancy contracts is the joint management of cultivation including sharing of costs and of output. The second feature of sharecropping contracts is the joint decision making regarding cropping pattern and frequency of application of various inputs. The remaining

contracts, such as peshgi and chauthai, have none of these features. While peshgi is a lease agreement where the tenant pays the land rent in advance but then undertakes cultivation without any supervision or sharing from the landlord, chauthai is essentially self-cultivation with attached labour where the labour is attached to the land but gets his wages as kind payment which is one-fourth of the produce. However, unlike the general notion of attached labour, the tenant is free to work on other farms and non-farm jobs in his spare time. But more importantly, the tenant has no decision making power regarding the choice of crop grown or the choice of inputs and the timing of input use. He does, however, retain an incentive to increase output and the landlord shares a moderate part of the risk with him.

Table 3: Tenancy Contracts: 1983-84 and 2008-09

Contracts		Area under specified contracts		Proportion of leased-in area under specified contract ^a	
		1983-84	2008-09	1983-84	2008-09
Peshgi	Advanced Cash Rent	83.3	151	11 (3.1)	20 (6.7)
	Fixed Kind Rent	23	53	3 (0.9)	7 (2.3)
Batai		564	351	76 (21.3)	47 (15.5)
Chauthai ^b		31.7	118	4 (1.2)	16 (5.2)
Other Contracts		45	78	6 (1.8)	10 (3.4)
Total		747	751	100 (28.2)	100 (36.2)

a. Figures in brackets indicate leased in area under the specific contract as a proportion of total operated area in percentages.

b. Chauthai should be counted as a sharecropping contract in 1983-84 but a labour-contract in 2008-09

With this re-categorisation, sharecropping as represented by batai has seen a considerable decline as a share of total leased in land. As against 80% of all land under batai in 1983, it is now less than 50%. There has been a significant increase in Peshgi and Chauthai contracts in the village. Interestingly, even though the total leased area in absolute terms has remained relatively unchanged with percentage of leased area increasing, the percentage of households who are actively involved in the tenancy market has gone down considerably. While 74% of households were involved in the tenancy market in 1983, only 59% of households were engaged in the tenancy market in 2008. A second important development is that unlike 1983 when there were 16 households (11% of all households) who were both tenants and landlords, there are now only two households who are simultaneously engaging in leasing and leasing out. These exceptional cases are primarily associated with sub-letting because they are tied to longer lease contracts. Otherwise, this category is almost non-existent.

Table 4 : Incidence of Tenancy in Palanpur (2008-09 and 1983-84), by Caste and Land Ownership Class

	Proportion of households in the specified group (%)	Proportion of area owned (%)	Proportion of operational area (%)	Proportion of households leasing in (%)	Proportion of households leasing out (%)	Leased-in area as a proportion of operated area (%)	Leased-out area as a proportion of owned area (%)
Caste ^a							
Thakur	23 (21)	29 (29)	23.5 (22)	23 (27)	52 (67)	30 (20)	37 (38)
Murao	26 (19)	42 (42)	35.5 (42)	39 (52)	39 (37)	18 (14)	24 (12)
Muslim	13 (14)	7 (5)	12 (10)	50 (60)	31 (20)	66 (63)	37 (18)
Jatab	16(13)	7.5 (8)	16 (9)	67 (47)	14 (63)	60 (35)	10 (33)
Others	22 (33)	14.5 (16)	13 (17)	17 (23)	15 (47)	27 (49)	28 (39)
Land ownership class (bighas)							
0 ^b	19 (19)	0 (0)	4 (3)	33 (19)	- (n.a.)	100 (100)	--
I 0.1–5	25 (13)	8 (2)	17 (6)	49 (71)	25 (43)	67 (94)	24 (37)
II 5.1–15	40 (25)	41 (12)	43 (14)	36 (36)	37 (60)	34 (57)	23(48)
II 15.1–30	10 (25)	24 (32)	20 (32)	32 (53)	38 (50)	14 (27)	24 (25)
IV 30.1–50	4 (10)	17 (22)	11 (19)	11 (27)	82 (73)	5 (6)	34 (19)
V above 50	2 (8)	10 (32)	5 (26)	33 (36)	100 (73)	5 (10)	49 (24)
All households	100 (100)	100 (100)	100 (100)	36 (38)	31 (48)	33 (28)	28 (26)

a. In decreasing order of social status (except for the ‘other’ category); Muslims are listed as one of the ‘castes’, for convenience, but strictly speaking that term does not apply to them.

Notes:

- (i) The table pertains to only the households living in the village and excludes non-resident landlords or tenants.
- (ii) The tenancy information on which this table is based pertains to the Rabi 2009 season; most tenancy contracts last for a whole year, but some last for a single season.
- (iii) In parentheses, corresponding 1983-84 numbers are presented.

It is interesting to note that households who are simultaneously engaged in leasing-in and leasing out do not find any mention in Bliss and Stern (1982). The two exceptional cases that have been reported in 2008 are doing so because of special circumstances. These are either that the household has taken some land on a long-term fixed rent lease but is unable to cultivate due to unavoidable factors such as shortage of labour or it concerns a household that possesses land outside the village. In the first case, since fixed rent has already been paid, leaving the land fallow does not allow the farmer to recover the rent he has already paid. However, since he is unable to

cultivate himself, he leases it out on chauthai or batai. In the second case the farmer owns land outside the village boundary but it is inconvenient for him to cultivate this. As a result he leases out this land and instead leases-in some land in Palanpur. A third possible category would be those households who would like to benefit from the arbitrage that is offered by the difference in returns to various tenancy arrangements. A possible example of this could be a farmer leasing-in land on peshgi and leasing-out on chauthai. The number and nature of households in 1983 who were simultaneously engaged in the lease market as landlords and tenants is a subject that deserves to be explored further in more detail.

Some clues as to the change in tenancy contracts and the emergence of chauthai as a new form of tenancy is available by looking at the characteristics of the tenants and landlords. Table 4 gives the basic description of leasing-in and leasing-out households by caste and land size class. In the table, the figures in brackets indicate corresponding figures for 1983-84. Among the traditional castes, Thakurs are the highest in the so-called caste hierarchy, followed by Muraos, while Jatabs are among the lowest in social status. Muslims are not under the caste system as such, but in the village, their status is somewhere above Jatabs but below Muraos.

The distribution of the owned area across castes has not changed much over the last 25 years. Muraos are the major land owners, followed by Thakurs. Jatabs and Muslims own very little land. However, the caste share in the operational area has seen some major changes. Jatabs have significantly increased their operational area share and two-thirds of the Jatabs household are now engaged in leasing-in land. Three-fifths of the operational area of Jatabs is leased-in. The proportion of households engaged in leasing-out has reduced significantly amongst the Jatabs and similarly, the leased-out area as a proportion of owned area has also fallen. For the other group which owns very little land, i.e. the Muslims, we see an opposite tendency of leasing-out more. Fewer households among the Muslims are leasing-in while more are leasing-out. Leased-in area as proportion of operated has increased very slightly but leased-out area as a proportion of owned area has doubled.

For the Thakurs, the share in owned and operational holdings has remained almost the same. Thakurs in 1983-84 evinced little interest in cultivation and relatively few Thakur households leased-in land while two-thirds leased-out some land. The behaviour has not changed much over the years as far as leasing out is concerned. Although fewer Thakur households lease-out land the proportion of leased-out area as a fraction of land owned is almost the same as in 1983-84. However, leased-in area now counts as a higher proportion of operated area among Thakurs. Muraos, the caste group which own the highest share of Palanpur land, experienced a decline in the share in operated area. Muraos have historically been reluctant to participate in the lease market. Although they were the largest landowners as a group, their traditional affinity towards cultivation led them to self-cultivate. They were the caste group with lowest area under tenanted cultivation already in 1983. For the Muraos, the proportion of households leasing-in has declined; but leased-in area now accounts for a higher percentage of operational area. Leased-out area as proportion of owned area has doubled.

The distribution of tenants and landlords by land size categories is also similar as compared to 1983-84 with larger farms leasing out more and smaller farms leasing-in more. Overall, there is a decline in land holding size for reasons discussed earlier. It has also meant relative decline of large farmer category and an increase in small and marginal farmers. Almost 85% of all households in the village have landholding of 15 bighas (1 hectare) or less.

Tenants and landlords

Table 5a and 5b display the distribution of tenant and landlord households by caste and by landownership class respectively. Several interesting observations emerge from this table. First, the number of landlord households is 56, with a corresponding number of tenant households of 76. In 1983-84, there were fewer tenant households than landlord households. Further, as discussed above, the number of households which are both landlord and tenant is almost negligible now. The rise in number of tenants relative to landlords is partly a result of increasing landlessness since 1983 and partly the consequence of fragmentation of landholdings over the years. Distribution by caste also reveals the increasing presence of Jatabs in the lease market, mostly as tenants, while Thakurs can be seen to primarily lease-out. There is also a marginal presence of Muslims as tenants.

Table 5a : Distribution of Tenants and Landlords by Land Ownership Class

Land ownership class (bighas)	Number of households belonging to the specified land ownership class					
	'Landlord' households		'Tenant' households		All households	
	1983-84	2008-09	1983-84	2008-09	1983-84	2008-09
0	0	2 (4)	5 (9.2)	14 (16)	27 (18.9)	42 (19.5)
I 0.1–5	3 (4.4)	12 (21)	5 (9.2)	30 (36)	7 (4.9)	55 (25.5)
II 5.1–15	28 (41.2)	28 (50)	17 (31.5)	33 (39)	47 (32.9)	87 (40)
III 15.1–30	18 (26.5)	5 (9)	19 (35.2)	7 (7)	36 (25.2)	22 (10)
IV 30.1–50	11 (16.2)	6 (11)	4 (15)	1 (1)	15 (10.5)	9 (4)
V above 50	8 (11.7)	3 (5)	4 (7.4)	1 (1)	11 (7.9)	3 (1)
Total	68 (100)	56 (100)	54 (100)	76 (100)	143 (100)	218 (100)

Note:

(i) Percentage distribution in brackets.

(ii) 2 households are both landlord and tenant in 2008-09 and sixteen were in 1983-84. 88 households are neither landlord nor tenant in 2008-09, the number was 37 in 1983-84.

Table 5b : Distribution of Tenants and Landlords by Caste in 2008

Caste	Number of households belonging to the specified Caste ^a		
	'Landlord' households	'Tenant' households	All households
Thakur	30 (43)	12 (14)	50 (23)
Murao	22 (32)	25 (30)	56 (26)
Muslims^b	11 (11)	16 (17)	29 (13)
Jatabs	6 (5)	25 (29)	36 (16)
Others	7 (9)	8 (9)	47 (22)
Total	56 (100)	76 (100)	218 (100)

a. Percentage distribution in brackets.

b. In decreasing order of social status (except for the 'other' category); Muslims are listed as one of the 'castes', for convenience, but strictly speaking that term does not apply to them.

Further probing on the background of tenants and landlords offers an interesting insight into the role of caste in the lease market. Table 6a indicates the distribution of leased out area by the caste of landlord and caste of tenant. In 1983, for both Muraos and Thakurs, most of the area leased out was among themselves. In fact, for both Murao and Thakurs, the largest area leased out was to their own caste groups. This situation has now altered, with leasing within these two caste groups no longer the dominant category. The largest caste group in terms of leasing in from Thakurs and Muraos is now the Jatab caste group. At the same time, no Thakur household leases in land from Muslims or Jatabs. Similarly, while Muraos do lease in a small amount of land from Muslims, none of them lease in from the Jatabs.

Table 6b provides a cross-tabulation of landlords and tenants by land size holding. The distribution of leased out land by size class of land ownership suggests that it is primarily small and marginal farmers of less than 15 bigha who lease in and lease out among themselves. There are very few cases of reverse tenancy where small and marginal farmers lease out to large farmers. This does not appear to be an important phenomenon in Palanpur.

Table 6a : Caste Distribution of Leased Area Rabi 2009

Table 3.1: Caste Distribution of Tenants (Area: Patala 1909)											
Landlords	Tenants							Outsiders		Outsider Total	Total
	Castes	Thakur	Murao	Muslim	Jatab	Other	Sub-total	Native	Non- native		
	Thakur	39 (61)	20 (27)	31 (29)	65 (12)	19 (54)	174 (183)	0	21	21 (109)	195 (292)
	Murao	10 (4)	41 (59)	41 (27)	88 (21)	0 (5)	180 (116)	0	17	17 (12)	197 (128)
	Muslim	0 (0)	11 (10)	18 (4)	4 (4)	0 (0)	33 (18)	2	12	14 (4)	47 (22)
	Jatab	0 (13)	0 (6)	3 (22)	6 (28)	0 (0)	9 (69)	0	3	3 (4)	12 (73)
	Others	0 (5)	15 (44)	12 (36)	8 (9)	24 (77)	59 (171)	0	20	20 (4)	79 (175)
	Sub-total	49 (83)	87 (146)	105 (118)	171 (74)	43 (77)	455 (557)	2	73	75 (133)	530 (690)
	Outsiders Native	53	35	20	3	5	116	--	--	--	--
	Outsiders Non-native	43	5	21	9	25	103	--	--	--	--
Outsider Total	96 (31)	40 (9)	41 (52)	12 (6)	30 (88)	219 (186)	--	--	--	--	
Total	145 (114)	127 (155)	146 (170)	183 (80)	73 (224)	674 (743)	--	--	--	--	

Note:

(i) Each entry in the table indicates the total area (in bighas) leased out by the castes on the left hand side to the tenants listed caste-wise on the top.

(ii) Values in parentheses are corresponding 1983-84 values.

To summarise, it appears that the tenant class is associated with lower land ownership class and weaker caste groups which puts them in a weaker position as far as socio-economic factors are

concerned. Moreover, the number of tenant households is considerably greater than the number of landlord households and therefore, a great deal of competition is expected among the tenant class. We may describe the tenancy market in Palanpur as having excess demand for land. In our discussions, we encountered many farmers who could not find suitable land for cultivation under tenancy and many settled for contracts which were not their preferred because they were unable to obtain a more attractive contract. Receiving land under tenancy is becoming increasingly difficult and therefore, when the tenants lease-in land from a household, they generally lease in as much the landlord is willing to lease out leaving the landlord with no other tenant. Considering the difficulties associated with leasing in land, there are very few tenants with more than one landlord. This also makes sense, given that when the landlord has many prospective tenants to choose from, he will prefer one who is not pre-occupied with cultivation of somebody else's tenancy so that his farm gets the desired attention and he can choose the highest quality tenant available. Overall, tenants appear to be in a weaker position vis-a-vis landlords, in the sense that they are less able to choose those options that are of greatest interest to them.

Table 6b : Land-class wise Distribution of Leased Area Rabi 2009

	Tenants										
	Classes	0	I	II	III	IV	V	Sub-total	Outsiders		Outsider Total
		Landless	0.1-5	5.1-15	15.1-30	30.1-50	Above 50		Native	Non-native	
	Landless	0	0	0	0	0	0	0	0	0	0
Landlords	0-5	8 (0)	4 (5)	10 (14)	7 (8)	5 (0)	0 (0)	34 (27)	2	9	11 (1)
	5-15	24 (5)	49 (22)	36 (75)	9 (32)	6 (0)	0 (12)	124 (146)	0	43	43 (8)
	15-30	9 (28)	29 (12)	52 (29)	7 (40)	0 (19)	0 (17)	97 (145)	0	12	12 (60)
	30-50	0 (3)	44 (22)	52 (19)	0 (25)	0 (2)	0 (14)	96 (85)	0	9	9 (23)
	Above 50	22 (1)	38 (54)	35 (23)	9 (50)	0 (7)	0 (19)	104 (154)	0	0	0 (41)
	Sub-total	63 (37)	164 (115)	185 (160)	32 (155)	11 (28)	0 (62)	455 (557)	2	73	75 (133)
	Outsiders Native	15	26	64	8	3	0	116	--	--	--
	Outsiders Non-native	2	37	42	16	0	6	103	--	--	--
	Outsiders Total	17 (34)	63 (21)	106 (38)	24 (78)	3 (4)	6 (11)	219 (186)	--	--	--
	Total	80 (71)	227 (136)	291 (198)	56 (233)	14 (32)	6 (73)	674 (743)	--	--	--

Note:

- (i) Each entry in the table indicates the total area (in bighas) leased out by the castes on the left hand side to the tenants listed caste-wise on the top.
- (ii) Values in parentheses are 1983-84 values.

Conclusion:

It is always difficult to describe and document changes in all relevant dimensions of an agrarian economy which is changing quickly. This is difficult not just for a vast country such as India, but is also true in a single village such as Palanpur. Apart from the fact that 25 years (from 1983-84 to 2008-10) is a long period of time, what makes this analysis both difficult and interesting is also the nature of interaction that the village economy has with the local town, state, country and the globalised world as a whole. This paper represents a modest attempt at this difficult task. In the process, there are facts, interpretations and above all conjectures about the nature of interaction that various factors of production have among themselves but also with the outside world. Needless to say, our understanding of these interactions with the 'outside' world is limited at this stage. Nonetheless, the limited analysis does suggest that there are elements of change and continuity which characterise the nature of agricultural production in Palanpur.

The continuity is primarily the role of technological change in agriculture as a key driver of change in the Palanpur economy. However, within this story, the consolidation of machine-led technical change for irrigation, ploughing and threshing is a trend that was already visible in the 1970s and 1980s. On the other hand, the major technological innovation of high-yielding varieties which was a vital source of increase in productivity during earlier survey rounds is no longer an important source of productivity gain. The continuity is also seen in the rise in share of tenancy in operational land area of the village with batai contracts continuing to dominate the mode of tenancy. The trend towards an increased preference for fixed-rent tenancy was also already visible during previous survey rounds.

However, during the last two and half decades, Palanpur has also seen major changes in the way agriculture is organised. Some of these changes suggest a level of dynamism which is influenced by and is responding to new opportunities offered by expanding and changing markets in the growing Indian economy. Prominent among these is the introduction of mentha as a dominant cash crop. The opening of the economy and the improving access to new markets has allowed Palanpur farmers to experiment and take advantage of new crops and technologies. Important changes have also been observed in the way tenancy markets have adapted themselves to the changing labour markets in Moradabad and Uttar Pradesh. While outside jobs were already becoming an important force of change for the agricultural labour market during earlier survey rounds, this feature is still stronger in recent years with rising wage rates in the casual labour market outside Palanpur, external stimulus such as MGNREGA, and the expansion of educational attendance contributing to a labour market which was less dependent on agriculture for survival. The emergence of chauthai as a new form of tenancy to partly resolve problems of labour and supervision is a reflection of dynamism in the local factor market. What is also worth noticing is the evolution of new markets for irrigation and other machines such as tractors. At the same time, population growth continues to add pressure on land and to some extent, enhances the relative bargaining power landlords relative to tenants.

Issues for further research:

This survey has been the longest survey of Palanpur with data collected covering two entire agricultural years. Alongside the traditionally discussed features of North Indian agriculture such as prevalence of tenancy, cultivation costs and farm output, we have also collected data on credit, inter-linkage of various factor markets and so on. Moreover, alongside questionnaire-based information, a large amount of information about agricultural practices in Palanpur is available from

discussion questionnaires and diaries. The present analysis is based on only a subset of all the data and interviews on agriculture that have been collected. While the present analysis documents the elements of change and continuity in Palanpur agriculture, we hope to have a better understanding of these changes with the full data. Some of the issues that could merit additional attention with the final data set are described below. The list is not exhaustive of all the issues that can and shall be taken up for further research.

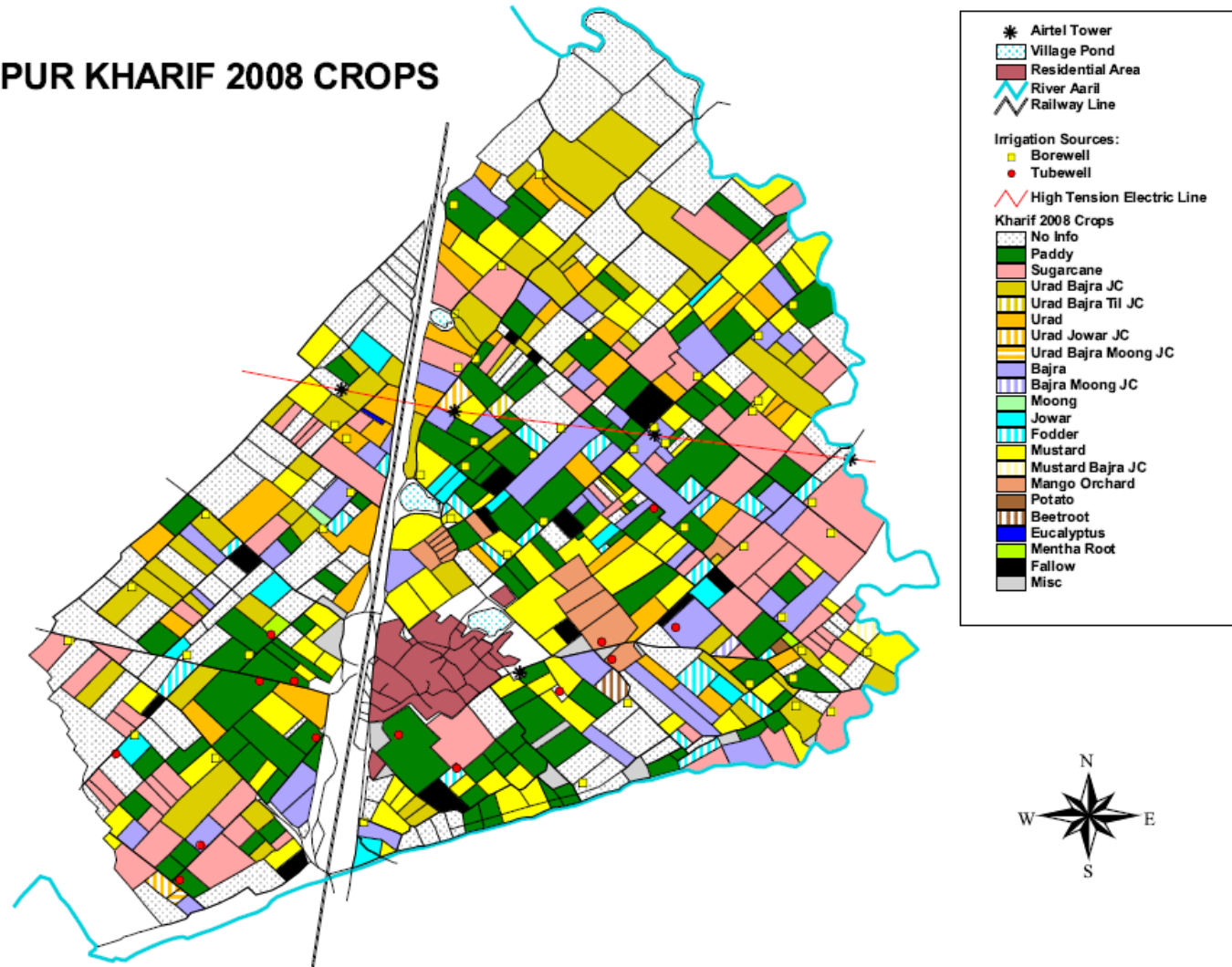
1. One of the important areas for which information has not been analysed is the role of credit markets. This information has been collected for the entire village and in various rounds. These are important not only as a standalone issue but also in conjunction with tenancy and capital formation in agriculture. Given that a large part of agricultural costs are now monetised, along with the introduction of new cash crops which are risky as well as profitable, one of the issues of research would be the nature of transactions and the terms of these contracts.
2. As mentioned earlier, this period (1983-2008) has also seen a decline in land owned by the villagers of Palanpur. Much of the land sold has been on account of distress sales to pay for loans. Some of the land lost had been mortgaged as part of the loan agreement with a moneylender outside the village. It would be interesting to see if these changes have led to a different behaviour of residents in the credit market. Preliminary reports suggest that there is reluctance on the part of borrowers to mortgage land. It would also be interesting to see if this has led to any change in the credit seeking behaviour in terms of sources of loans, institutional or non-institutional. The role of Kisan Credit cards and the recent farm loan waiver must be understood better in order to understand the borrowing options of Palanpur villagers.
3. A further dimension of the credit market relates to the way in which the market's operation influences the use of these loans. Currently, it appears that most transactions in the credit market are for consumption or "non-productive" uses. It would be interesting to analyse the reasons for such behaviour and the perceived reluctance to tap into available credit facilities for productive investments.
4. There is very little information about the inter-temporal nature of loan contracts and the enforcement mechanisms that lenders employ to recover bad loans. Although preliminary discussion with villagers suggest that it largely based on trust, it would be interesting to analyse the behaviour caste wise and by sources of income. It is expected that those with steady sources of income such as regular government employees and large landowners would be more credit worthy than small and marginal farmers.
5. An important issue which has not found much emphasis in previous surveys is the use of surplus in agriculture and capital formation in agriculture. This is also important in the context of income/employment diversification. The issue for research would be the use of surplus derived from agriculture. Whether such surplus is used to augment productivity in agriculture or is used to diversify income to non-farm sources merits close investigation. On the other hand, it is also possible that surplus generated in the non-farm sector is used to raise productivity in agriculture. The inter-linkage between agriculture and non-agriculture in terms of source and use of surplus, could potentially inform an analysis of the drivers of rural non-farm diversification.
6. The issue of price formation and price sensitivity is crucial in understanding the cropping decisions of farmers. It is also important to link this with government policies such as

minimum support prices and public procurement policies. These seem to have played some role at least in the case of wheat, paddy and sugarcane. It would also be interesting to understand better the price sensitivity and farmers' responses to international price movements for commercial crops.

7. A related issue is the analysis of marketing channels, the role of middlemen, access to information and transport in the farmer's decision to purchase inputs or sale of outputs. Although we have some data that has been collected on the sources of information about new technology for farmers, we have not been able to incorporate these in the present analysis.
8. Another promising direction for further research is the farmer's response and strategy of managing risk and natural disasters. Recent literature has pointed out the tendency of farmers to diversify their income sources to take care of risks in agriculture. It would be interesting to analyse such behaviour, notably to ask whether this is a strategy adopted only by large farmers or also by small and marginal farmers.
9. There is also the need to analyse further the Palanpur labour market and formation of wages in a holistic manner. This analysis would not only take into account the formation of wages and trends in the segmented labour markets but would also study the interaction within these markets. It would also be important to delineate the principle sources of wage rises during recent years. Several competing explanations such as MGNREGA, inflation, greater bargaining power of workers, and the availability of outside opportunities have been forwarded.
10. Although there is no systemic data that has been collected on environmental issues, it is crucial to analyse these in relation to agriculture. Such issues have already become important for the sustainability of agricultural growth in many states. While depletion of the groundwater table in the village is clearly a priority topic for further analysis, issues such as soil salinity, patterns of rainfall and temperature are also crucial for an understanding of the sustainability of the village's cropping system. This is particularly important in the case of water intensive crops such as mentha.

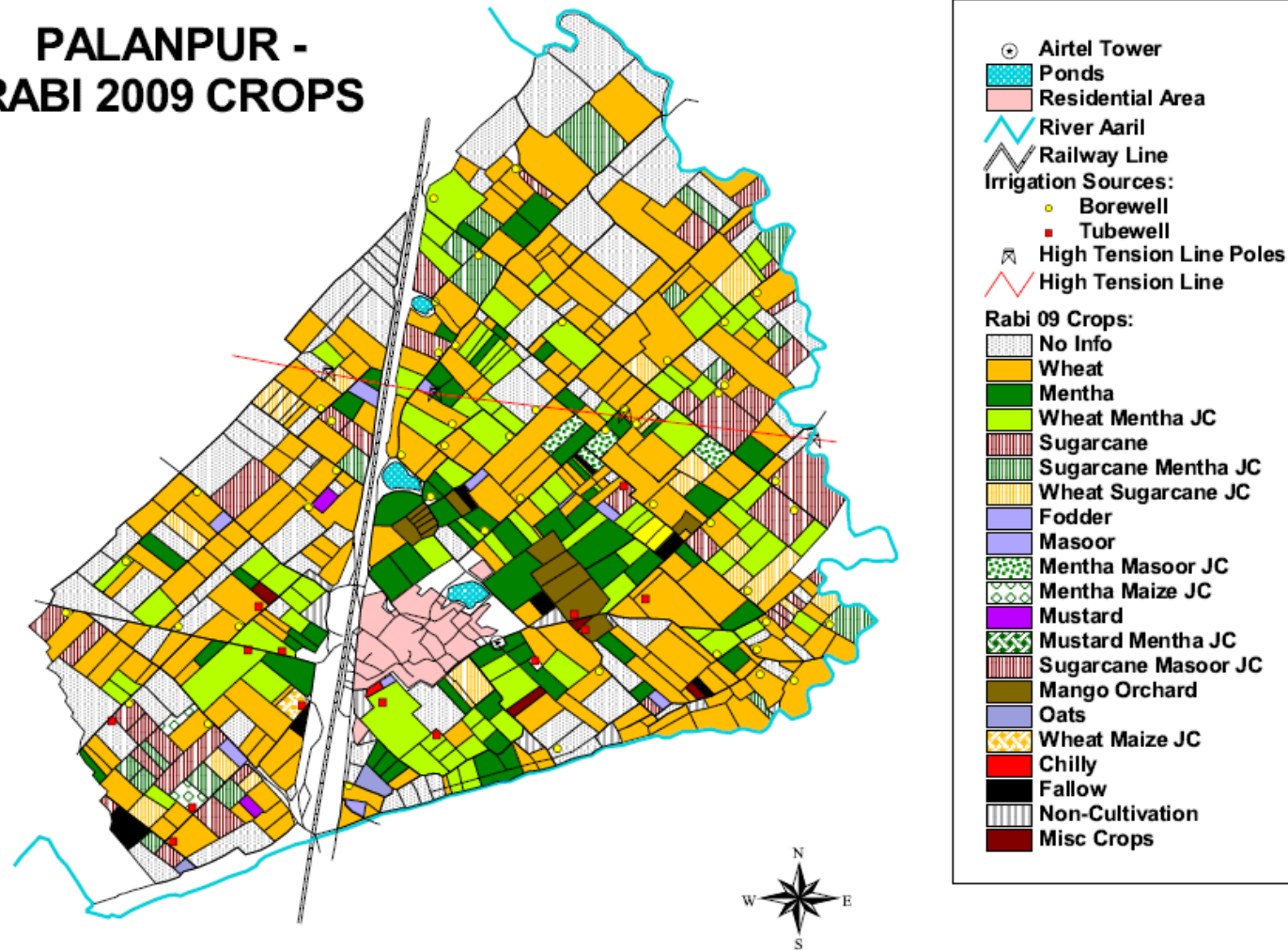
Map 1

PALANPUR KHARIF 2008 CROPS



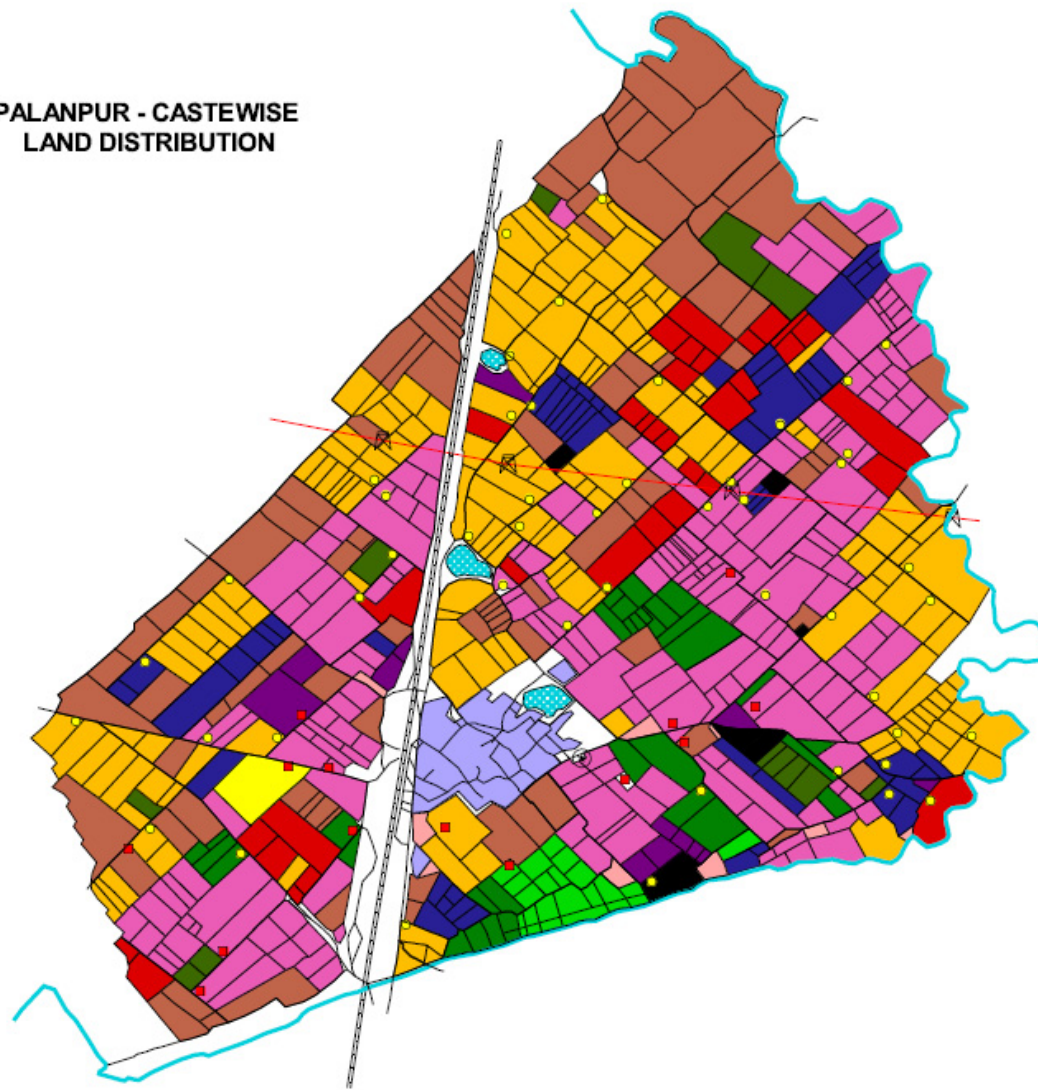
Map 2

PALANPUR - RABI 2009 CROPS



Map 3

PALANPUR - CASTEWISE
LAND DISTRIBUTION



INDEX:

- Airtel Tower
- Ponds
- Palanpur Water
- Residential Area
- Aaril River
- Railway Line
- Irrigation Sources**
 - Borewell
 - Tubewell
- High Tension Line Poles
- High Tension Electric Line

Owners:

- Non-natives
- Thakur
- Murao
- Dhimar
- Gadariya
- Dhobhi
- Teli
- Passi
- Jatab
- Others
- Government

References

- Kawatra, A. (2009), 'An economic study on recent agricultural outcomes in Palanpur', Centre De Sciences Humaines', Available at http://www.csh delhi.com/publications/downloads/articles/Agriculture_aditya_kwatra.pdf
- Lanjouw, P. and Stern, N. H. (1998), *Economic Development in Palanpur over Five Decades*, Oxford University Press.
- Mukhopadhyay, A (2011), 'Stepping out of Palanpur', Asia Research Centre Working Paper No.46
- Sharma, N. and Dréze, J. (1996), 'Sharecropping in a North Indian Village', *Journal of Development Studies*.
- Stern, N. H. and Bliss, C. J. (1982), *Palanpur: The Economy of an Indian Village*, Oxford: Clarendon Press.
- Tyagi, A. and Himanshu (2011), 'Tenancy in Palanpur', Asia Research Centre Working Paper No.47

Developments in education in Palanpur, a village in Uttar Pradesh

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Abstract

This paper examines developments in literacy and education in Palanpur. We consider schooling facilities and other related services available in this village and its neighbourhood. Schooling levels are analysed in the context of gender and social groups. Some obstacles for children and young people attempting to pursue education are discussed. Education levels and services are considerably lower than that of Moradabad district and Uttar Pradesh state averages. However there is evidence of major improvements in education in the last decade. In particular, the progress in education of girls and across social groups since the last Palanpur study in 1993 is noteworthy. The infrastructure, availability of teachers and other services in the school have also improved.

Acknowledgement

We greatly appreciate the valuable advice and guidance from Nicholas Stern. The research assistance from Diya Bhatnagar and fieldwork support from Hemandra Ahirwar and Gajanand Ahirwar has been very helpful. It has been enjoyable to work with the Palanpur team both current and the experts who have been involved in the study of this village since 1974. We are grateful for funding support from Department for International Development, UK, which enabled the sixth round of this village study.

I Introduction

India's adult literacy rate of 63 percent lies near the middle of the developing countries as a whole but is low relative to the emerging market economies (Human Development Report 2010, see Table 1).

Table 1. Literacy rates for some countries

Rank	Country	Literacy Rate %
26	UK	99
65	Russia	99.5
73	Brazil	90
89	China	93.7
91	Sri Lanka	90.6
110	South Africa	89
119	India	62.8
125	Pakistan	54
157	Ethiopia	35.9
160	Mali	26.2

Reference: Human Development Report (HDR), 2010

Note: Adult literacy rate is for those aged 15 years and older between 2005-2008.

Provisional population results from census 2011 in India indicate improvements in overall literacy rates (74 percent - male 82, female 66) from the levels in census 2001 (65 percent – male 75, female 54). Literacy rate in India for census and in other national constitutional context is defined as the ability of a person, aged 7 and above, to read and write with understanding in any language. A person who can merely read but cannot write is not classified as literate. Any formal education or minimum educational standard is not necessary to be considered literate (Parasaran et al. 2001). Unless otherwise specified, we consider literacy rates for those aged 7 and above in relation to this definition.

Palanpur is a north Indian village situated in Moradabad district in western Uttar Pradesh (UP). It is located about 200 kilometres off Delhi and 31 kilometres South of the main city of Moradabad. The closest town is Chandausi, which is 13 kilometres from Palanpur. The longitudinal studies in this village provide valuable data sets across six decades (Himanshu and Stern 2011). The sixth round of fieldwork was undertaken in Palanpur during October 2008 to March 2010. A research team was based in the village for a population survey of this village across two *rabi* and *kharif* seasons during 2008 to 2010. A random sample of households was given diaries to record their daily work related activities including their daily income and expenditure. This enabled us to generate rich and detailed data on all aspects of the village. With the advanced technology available this time round, the data from all surveys have been converted into electronic form, which will be made publicly available.

It has been possible to collect in-depth data about various social aspects during the survey in 2008-2010. Detailed quantitative data has been obtained on various aspects of village life including family structures, schooling levels and facilities, health and nutrition, status of women, caste, relationships, delinquency, availability and functioning of public services, religious and other public institutions, as well as politics in the village. This survey also benefits from qualitative data available from

participant observations and focus group discussions. Qualitative analyses have been used to substantiate quantitative analyses where relevant.

In this paper, we examine descriptive analyses of literacy and education levels. Some trends and changes are compared across the various survey rounds where possible, with particular focus on the last twenty-five years. The indicators of literacy and education from the village are compared with district and state levels. The government education schemes and their effectiveness in the village are discussed. This paper benefits from qualitative data gained through participant observation and discussions with residents in the village.

After this first introductory section, the second section focuses on literacy rates. The third section examines education. Section four provides a summary and discussion of access, efficiency and quality of education in the context of the findings from this village study. A team of researchers were based in the village for two years for data collection for the sixth round of this village study. Other members of the team visited the village regularly. Thus it has been possible to generate very rich data. This paper provides a preliminary analysis of the data on education. There is plenty of scope for further analyses of the rich data that has been collected in the two years of fieldwork. Suggestions for further research are indicated at the end of section four.

II. Literacy rates

The preliminary results from census 2011 indicate improvements in literacy rates for the state of Uttar Pradesh (70 percent according to census 2011 from 57 in 2001, see Table 3).

Uttar Pradesh (UP) is the most populous state in India and contributes 16.5% of the total population of 1.21 billion (Census of India 2011). If UP were an independent country, its population of 199 million, would rank among the most populous countries in the world - between Brazil and Pakistan (Table 2). UP's human development ranks among countries with low indices. While the literacy rate is higher than the levels in Pakistan, Ethiopia and Mali, the current literacy rate of 70 percent in census 2011 continues to rank UP among the poorest countries of Africa, namely Sudan and Rwanda.

Table 2. UP global ranking by Population and Literacy

Countries	World Rank	Population	Countries	HDI Rank	Adult Literacy Rate %
Brazil	5	202,946,979	Rwanda	152	70.3
UP	5.5	199,581,477	UP*		57.4 (70 in 2011)
Pakistan	6	179,374,092	Sudan	154	69.3

Source: HDR 2010; Census of India 2001 and 2011; <http://www.geohive.com/>

* UP literacy rate represents literacy of people aged 7 and above, number in brackets represents the literacy rate for 2011

The literacy rate in UP was very low (28%) in 1981 but there had been improvements in the decade to 1991 (42%). The literacy rates for UP have shown major improvements according to census 2011 (70%) from 56% in 2001 and from the levels in 1981. However they are still among the lowest in the country and lower than that of Madhya Pradesh (71%) and Orissa (73%) (Table 3).

Table 3. Literacy Rates (%) for Some States

State/ UT	1991			2001 (2011)			
	Male	Female	Total	Male	Female	Gender gap	Total
All India	64	39	52	75 (82)	54 (66)	24 (16)	65 (74)
Kerala	94	86	90	94 (96)	88 (92)	6 (4)	91 (94)
Mizoram	86	79	82	90 (94)	86 (89)	4 (5)	89 (91)
Delhi (U.T.)	82	67	75	87 (91)	75 (80)	12 (11)	82 (86)
Himachal Pradesh	75	52	64	86 (91)	68 (77)	18 (14)	76 (84)
Tamil Nadu	74	51	63	82 (87)	65 (74)	17 (13)	73 (80)
Uttaranchal	73	42	58	84 (88)	60 (71)	24 (17)	72 (80)
Madhya Pradesh	59	29	45	77 (80)	50 (60)	27 (20)	64 (71)
Orissa	63	35	49	76 (82)	51 (64)	25 (18)	63 (73)
Uttar Pradesh	55	24	41	70 (79)	43 (59)	27 (20)	57 (70)
Jharkhand	56	26	41	68 (78)	39 (56)	29 (22)	54 (68)
Bihar	51	22	37	60 (73)	34 (53)	26 (20)	47 (64)

Source: Census of India 1991, 2001 and 2011

Numbers in brackets represent literacy rates according to Census 2011

The gender gap in literacy rates in UP is also among the highest among the states in India. However UP's gap with the national average literacy rate has been narrowing during the last three censuses (12 in 1981; 11 in 1991; 8 in 2001; 4 in 2011) (Table 4). There has also been progress in narrowing the gender gap in the last two decades (31 in 1991; 27 in 2001; and 20 in 2011).

Literacy rates in rural UP are below that for the state with the rates being worse among rural women compared to rural men (Table 4). Given the size of Uttar Pradesh, the socio-economic characteristics of the entire state are not uniform and major differences across regions and groups prevail.

Table 4. Literacy Rates (%), UP and Moradabad

Region	1991				2001 (2011)			
	Total	Male	Female	Gender Gap	Total	Male	Female	Gender gap
India	52	64	39	25	65(74)	75(82)	54(66)	21(17)
UP	41	55	24	31	57(70)	70(79)	43(59)	27 (20)
UP rural	-	-	19	-	52.5	66	37	29
Moradabad(rural)	31	40 (37)	19 (10)	21 (27)	46	56	33	23

Source: 2001 UP rural literacy rate: <http://www.nlm.nic.in/literacy01.htm>; Census of India 1991 and 2001; http://censusindia.gov.in/Census_Data_2001/India_at_glance/literates1.aspx; <http://unesdoc.unesco.org/images/0014/001460/146016e.pdf>

Note: numbers in brackets for Moradabad are literacy rates for rural regions. Numbers in brackets for India and UP are literacy rates from census 2011. It is still early for district wise literacy rates from census 2011, hence data for Moradabad from most recent census are not available.

Moradabad district, located in Uttar Pradesh, has a population of 2,761,620, with the proportion of males being 54%; male population is 1,494,220 and female population is 1,267,400 (Census of India 2001). A large majority of the population is rural (68%); rural population is 1,877,570 and urban is 884,050. The main occupations in this district are agriculture and allied activities. There have been improvements in literacy rates in Moradabad district (46%) between 1991 and 2001, however the levels are lower than that of its state and the gender gap is higher than the levels for UP (Table 4).

Table 5 shows literacy rates during the first Palanpur survey and the last three surveys. The 1993 survey found the literacy rates in Palanpur to be close to the corresponding figures of 1991 census for Moradabad district (Lanjouw and Stern 1998). The literacy rates in Palanpur in 2009 are lower than the corresponding literacy rates for women in Moradabad as of census 2001.

Table 5. Literacy Rates (%) across some survey years in Palanpur

Years	Total	Males	Females	Gender gap
1957	-	18	0.5	17.5
1983	15	30	6	24
1993	23	37	9	28
2009	40	57	24	33

The 1983 survey had showed progress in literacy rates for men in Palanpur (Table 5). The changes in male literacy rates were modest in 1993 compared with the levels in 1983. Male literacy rates are much higher in the most recent survey in 2009 compared to the levels in 1993. The literacy rates in census 2001 for rural UP were 66 for men and 37 for women and these rates are likely to be higher in census 2011. Thus literacy levels in Palanpur are far behind the levels in UP and more so for women.

In terms of both literacy and gender differentials, India is middling amongst developing countries. These differentials in UP are among the lowest in the country. The levels in Moradabad district are lower than the differentials for UP state and the levels in Palanpur village lag behind the levels in Moradabad.

Gender and literacy

The large differences in literacy rates between men and women continue to persist in the overall population in Palanpur. The development in female literacy had been slow in the previous five decades (Table 5). An important change in 2009 is the progress in female literacy to 24 percent from below 10 percent in 1993. While female literacy rates have improved, they have been slower than the changes in male literacy and hence the gender gap in the overall population of Palanpur has been increasing over the survey years.

Literacy by age

The age-wise distribution of literacy shows some improvements with 85 percent of males and 44 percent females aged 15-19 reported to be literate in 2009 (Table 6).

This is an improvement from less than a third in this age group being literate during 1993 (Lanjouw and Stern 1998). However, the gender gap among 15 to 19 year olds remains high (41).

Table 6 Literacy rates (%) by age, Palanpur, 2009

Age	Males		Females	
	N	% of total in corresponding age group	N	% of total in corresponding age group
7-10	25	38	21	28
11-14	46	68	24	50
15-19	65	85	28	44
20-24	46	77	18	30
25+	113	45	28	11
Total	295		119	

A majority of children aged 7 to 10 years are illiterate and about half the girls aged 11 to 14 years are literate (Table 6). These are consistent with the low literacy rates in UP state. According to an official government website, the levels of illiteracy are high among the younger age groups, particularly among females, especially in rural areas. Illiteracy among those aged between 10 to 14 years was as high as 32% for rural males and 61% for rural females in the late 1980s; and over two-thirds of all rural girls in the 12 to 14 age group never went to school (UP government website accessed Marcy 2011). This website also states that, in 1991, only 25% of women aged 7 and above were able to read and write and this figure was lower (19%) for rural women; it was 11% for the scheduled castes, 8% for scheduled castes in rural areas and 8% for the entire rural population in the most educationally backward districts.

An important development in Palanpur is the narrowing of the gender gap in literacy rates among the younger age groups 7 – 10 and 11 – 14 years (Table 6). This could be the result of changes that have occurred in Palanpur in recent years as a result of its growing integration with the Indian economy and society (Himanshu and Stern 2011). We have not been able to analyse the causations in this paper but these will be undertaken in subsequent analyses.

Table 7 shows the changes in literacy rates in Palanpur across the last twenty-five years. The social groups have been classified into major headings according to the standard national categories – open category (OC), other backward community (OBC) and schedule caste (SC) (Appendix 1). In addition we have examined Muslim groups. In table 7 we have considered literacy rates of girls and boys aged 7 to 18 in comparison with the surveys over the last twenty-five years.

Some developments evident in Palanpur, based on literacy rates among those aged 7-18 are (Table 7):

- there have been steady improvement in literacy among boys
- boys have continued to have higher rates compared to girls
- boys had earlier and higher exposure to literacy compared to girls
- access to higher literacy of boys among developed social groups was evident in earlier surveys between 1983 to 1993

- access to higher literacy among boys was evident across all economic groups (based on land ownership) since 1983
- improvements in literacy of boys are evident among disadvantaged social groups in the recent survey in 2009
- gender gap is gradually narrowing over the last two decades
- literacy rates among girls have nearly tripled between 1993 and 2009
- there have been major improvements in literacy among girls in developed social groups between 1993 to 2009
- the improvements in literacy among girls from disadvantaged social groups is notable.
- there is evidence of modest improvements in literacy rates of *Jatab* girls
- there have been major improvements in literacy rates among girls across all economic groups between 1993 and 2009

Table 7. Literacy rates (%) in Palanpur, ages 7-18

Social Groups	1983		1993		2009	
	Boys	Girls	Boys	Girls	Boys	Girls
Overall	34	12	50	15	68	43
OC						
Thakur	43 (12/28)	14.7 (5/34)	70 (26/37)	32 (9/28)	74 (34/46)	70 (19/27)
Pasi	43 (6/14)	0 (0/9)	64 (7/11)	44 (4/9)	100 (3/3)	50 (2/4)
Muslim	31.8 (7/22)	0 (0/12)	38.9 (7/18)	0 (0/15)		
Teli	41.2 (7/17)	0 (0/9)	50 (3/6)	0 (0/3)	72 (13/18)	60 (12/20)
Dhobi	0 (0/5)	0 (0/3)	50 (3/6)	0 (0/3)	44 (4/9)	0 (0/4)
Carpenter	-	-	-	-	67 (2/3)	50 (1/2)
OBC						
Murao	14 (4/29)	6.3 (1/6)	47 (15/32)	6 (2/36)	67 (29/43)	43 (19/44)
Dhimar	17 (2/12)	0 (0/4)	46 (6/13)	17 (1/16)		
Gadaria	42 (5/12)	12 (2/17)	30 (3/10)	17 (3/18)	50 (6/12)	37.5 (6/16)
Kashyap	-	-	-	-	56 (9/16)	50 (6/12)
SC (Jatab)	14 (3/22)	0 (0/11)	24 (7/29)	0 (0/14)	55 (16/29)	10 (3/30)
Others	44 (4/9)	63 (5/8)	83 (10/12)	17 (2/12)	100 (1/1)	0 (0/0)
Land Ownership						
0.5 to 1.99 bighas per capita	25 (9/36)	4.2 (1/24)	57 (21/37)	2.3 (1/35)	67 (62/93)	46 (39/84)
2 to 2.99 bighas per capita	30 (8/27)	6.7 (1/15)	46 (13/28)	23.5 (4/17)	59 (13/ 22)	47 (8/17)
3 to 4.99 bighas per capita	25 (8/32)	16.7 (6/36)	67 (12/18)	17 (4/23)	75 (9/12)	50 (7/14)
+5 bighas per capita	60 (9/15)	8 (1/12)	50 (10/20)	18 (2/11)	80 (4/5)	100 (2/2)

Note: the numbers in brackets represent the number of individuals who are literate over the total number of children belonging to the sample and to this particular year and social group. 'others' includes Srivastav & Balmiki; p.c. - per capita

The major changes among Thakur, Pasi, Murao and Dhimar boys happened between 1983 and 1993. Further improvements can be seen among Murao boys between 1993 and 2009. Major improvements are evident among Jatab boys between the last two survey rounds. The improvements in literacy rates among boys have continued across all economic groups.

Literacy rates among Thakur girls have more than doubled between 1993 and 2009 (Table 7). There are modest improvements among girls in OBC and Muslim communities but less than one-tenth of Jatab girls are literate. There is also evidence of improvements in literacy levels among girls in families who own less than 3 bighas per capita.

Land ownership has only tentatively been used here as a proxy indicator of economic position to examine the influence of wealth on education for the purposes of these preliminary analyses (Bakshi 2008). It is likely that land ownership may not help to predict the relationship between wealth and education very clearly (Dreze and Kingdon 2001). These are preliminary analyses and we will examine the relationship with wealth and status variables in future papers.

Literacy and social groups

There have been major improvements in male literacy rates among the population of Palanpur between 1993 and 2009. While the literacy rates of *Thakur* male continued to progress and the literacy rates among *Murao* men has doubled (Table 8). The majority of Muslim men are literate in 2009 compared to a fifth in 1993. There has been notable improvement in literacy rates among *Jatab* men and a fifth are currently literate, which is nearly double the levels in 1993.

Women in no other social groups, except *Kayasth*, were able to read and write in 1957 and near-universal illiteracy persisted over the past five decades of the survey until 1993 (Lanjouw and Stern 1998). The literacy rates for women show remarkable improvements in 2009. The literacy rates among *Thakur* women have doubled since 1993 (Table 8). The progress among *Murao* and Muslim women is notable.

Table 8. Literacy rates in different survey years, by social groups

Social Groups	Male Literacy Rate (7+)						Female Literacy Rate (7+)					
	1957	1962	1974	1983	1993	2009	1957	1962	1974	1983	1993	2009
Thakur	41	59	62	48	56	88	-	8	11	8	19	41
Murao	11	29	42	37	39	82	-	3	-	1	2	20
Muslim	5	20	10	23	20	54	-	-	-	-	2	18
Jatab	3	12	3	4	12	22	-	3	-	-	-	5
Kayasth	100	100	100	100	100	100	67	50	67	100	100	100
Other	14	33	26	23	38	50	-	3	4	4	8	5
All Grps	18	34	34	30	37	57	0.5	3	6	6	9	24

Summary of literacy in Palanpur

There has been major progress in literacy in Palanpur. The overall literacy in the village, while still low in 2009, has more than doubled and increased to over 50 percent (from 23 percent in 1993). There has been steady progress during the last twenty-five years, with a more rapid change in the last decade. This trend in the village is similar to the general changes in UP, although the levels themselves are lower than those of Moradabad district and the state.

The majority of males across all social groups were literate in 2009. There have been improvements in literacy rates among *Jatabs*; however the levels are low with only about one-fifth being literate.

While gender inequality in literacy persists, there is evidence of a narrowing of the gender gap in Palanpur in the last decade, similar to the change in the state.

This study found remarkable improvements in literacy rates among the younger population (ages 7 to 18). The gender gap has narrowed and there have been improvements across all social and economic groups of the younger population since the last survey in 1993.

The great advantage of the Palanpur study is that having researchers based in the village for two years has provided valuable insights, which will enable us to better understand the causes and processes of the changes. The causation for the improvements will be analysed in future papers.

III Education

In the above section we have examined literacy levels, which measure the ability to read and write irrespective of any formal education. In this section we examine whether children in Palanpur had ever been enrolled. If they had attended school, then the schooling levels have been recorded. The education levels of those who are currently in schooling have been analysed in this section. We also examine issues related to access, effectiveness and quality of education in the village.

Schooling facilities

The early 1990s saw the creation of programmes to enable access to primary education for all children in India. The ‘basic education project’ was started in UP in 1993 and covered 17 districts. The Uttar Pradesh *Sabhee Ke Liye Shiksha Pariyojana Parishad* (providing education for all) was set up in May 1993 to administer the basic education project. The objectives of the programme included the following – (i) provide access to primary education for all children up to 14 years, (ii) enable universal participation until they complete primary through formal and non-formal education programmes, (iii) suggest ideas for greater gender equality in education and female empowerment, (iv) make necessary interventions to provide equal education opportunities for children from scheduled caste, scheduled tribe and the poorest sections of society (see reference, UP education for all, 2011). *Sarva Shiksha Abhiyan* (universal education system) was started in 16 districts in UP in 2002 and expanded to

cover all 70 districts in UP. This programme aims to achieve universal elementary education for all within a certain time period and was mandated by the 86th amendment to the Constitution of India. Under this programme, education was made a fundamental right to provide free and compulsory schooling for children aged 6 – 14 years. It aimed to achieve universal elementary education of satisfactory quality by 2010 (see reference, UP education for all, 2011).

UP state has been making major investments to improve levels and quality of education in recent years (see reference, UP education facts, 2011). The state has also recognised and supported the continuing role of the private sector in expanding education. Schools in the state are either managed by the government or by private trusts. Hindi is used as a medium of instruction in most of the schools except the central government schools that are affiliated to the Central Board of Secondary Education (CBSE) or Council for Indian Schools Certificate Examinations (ICSE) boards. A primary school is required to be present at a distance of 1.5 kilometres (km) and upper primary school at 3 km. A secondary school is present at every 8 km in rural areas and there is a secondary school for girls in every block. Efforts are being made to establish at least one degree college in every block. Table 9 provides a list of schooling facilities available in the state. Thus the state has been investing in improving access to schooling.

Table 9. Schools in Uttar Pradesh

Category.	Total Number	Number of Teachers	Teacher-Student Ratio
Pre-Primary School	50	-	-
Primary School	94476	312669	42
Elementary School	20675	103943	30
Secondary School	3149	31343	39
Senior Secondary School	5190	109030	41
Pre Degree /Junior College	-		
Board of Intermediate / Secondary Education	676 (Arts/Sc./Com.)	-	-
Degree College	34	-	

Source: UP Education facts, 2011

In Moradabad district there are 1991 primary schools, 682 junior high school, 386 high schools and 386 intermediate, 12 graduate and 10 post-graduate colleges (Moradabad District Profile 2010).

The children in Palanpur have access to both public and private schools (Table 10). A government primary school is in the village itself. They also have access to a private primary school in Peepli, a government secondary school in Akrauli and a private secondary school in Amarpur Kashi. Akrauli and Amarpur Kashi are about 3 km from Palanpur and students either walk or travel by bicycle. Students can walk to the government school in Akrauli. The students in the private secondary school are from better off families and a majority of them cycle to Amarpur Kashi.

Table 10. Schools attended by students aged 7 to 22, Palanpur 2009

Place of Study	No of students	Percent
Government Primary, Palanpur	75	40
Private Primary, Peepli	1	0.5
Government Secondary, Akrauli	83	44
Private Secondary, Amarpur Kashi	22	12
College in Chandausi	6	3.5
Total	187	100

Note: Secondary schools include grades VI to XII

The students in college commute by train to Chandausi town. A positive development is that 105 children (54% of those aged 7 to 22 who are currently in school and who had answered the question, this data was missing for 9 children) were continuing in secondary school.

An encouraging sight in the village was that a group of girls were regularly seen cycling to secondary school. Discussions with parents revealed that they had initially had reservations and had been worried about the safety of girls having to travel outside the village for studies. Hence the arrangement for girls to travel together in a group. The parents said that they were now reassured about the security of their daughters. There had not been any reports, during our two years of fieldwork, of any untoward incidents related to the safety of girls travelling to school outside the village.

Time utilisation of children

Our data shows that fifteen (3 boys and 12 girls) children aged 7 to 10 (out of a total of 121 – 55 boys and 66 girls) and thirty-two (12 boys and 20 girls) aged 11 to 14 (out of a total of 116 – 68 boys and 48 girls) from Palanpur were currently not enrolled in any school. A proportion of children aged 11 to 14 (28%) not enrolled in school was over twice that of the younger children aged 7 to 10 (12%). About half of these children had been enrolled in school, when they had been eligible. However due to their own lack of interest and lack of motivation by their parents, they had discontinued their schooling. The lack of interest and lack of motivation appeared to be higher among the disadvantaged social groups.

Children who are not interested in going to school spend their time looking after family livestock, working in the field or helping with household chores and sibling care. Occasionally children between 4 and 6 years of age would also accompany their sibling and playfully help out with some odd jobs, which was a “fun” activity for them. The activities for entertainment of children are limited in the village.

The fifteen boys and girls, aged 7 to 10, who were not enrolled in school, belonged to OBC with one girl being a Muslim (*Dhobi*). On most days these children helped their parents look after livestock. The girls also helped with some household chores and sibling care, one of the boys also mentioned that he occasionally helped

with looking after his sibling. They occasionally (the data suggests an average of 6 days in a year) helped with a little sowing and transplanting and weeding on small plots. On occasion (on average, less than 2 days a year) they are given some pocket money (not exceeding Rs. 30/-) when they do some work in the fields.

The older boys and girls aged 11 to 14, from all social groups, helped with work on their farms, not exceeding twenty days in a year. Boys helped with farm work more than girls. For helping with farm work, they were occasionally paid spending money (a maximum of Rs. 50 for a day's work during peak cultivation days). On other days they helped look after cattle, with girls helping more with cleaning and looking after livestock at home and boys helping more with taking cattle out for grazing. Girls also helped with work around the house including cleaning and cooking and sibling care. Boys occasionally helped with sibling care.

The children who were enrolled in school also lend an extra pair of helping hands to help with cultivation activities during peak times during *rabi* and *kharif* seasons. One hundred and three (53 boys and 50 girls) students aged 7 to 10, and 79 (52 boys and 27 girls) students aged 11 to 14, reported helping with cultivation, looking after livestock, household chores and sibling care. They helped with cultivation activities to a varying degree for not exceeding 20 days in a year. Older boys helped with these activities most often, followed by younger boys. The older children were more interested, to work in other people's farms so that they could earn spending money. Some children mentioned that they could spend the money during annual fairs and other events in the neighbourhood.

Both boys and girls helped look after livestock, household chores and sibling care, with girls helping more within the house. Sibling care included going to school together.

Thus as established during 1993 study "child labour" does not seem to be an issue in Palanpur as they are not engaged in income-earning activities for their families. Like children anywhere they were involved with helping with family chores, which included farming and looking after livestock in the village. Any money they earned was mostly used for the benefit and pleasure of the children.

Education levels

The last twenty-five years have seen progress in school enrolment of Palanpur children aged 7 – 18. Eighty percent of all boys were enrolled in school during 2009 (Table 11). The gender gap is high with less than half (47 percent) of the girls being enrolled in school.

There have been steady increases since 1983 and the current enrolment of boys from more developed social groups is fairly high (Thakur is 85% and Pasi is 100%). The improvement in enrolment of boys from Muslim and OBC groups began later and shows improvements between 1993 and 2009. There have been major improvements in enrolment of boys from Jatabs (67%) and Muslim's (58%) in 2009, although the levels of enrolment are lower than in the other social groups. There have

been steady improvements in enrolment of boys across all economic categories (by land ownership).

The improvements in enrolment of girls since 1993 are remarkable; however, the levels remain generally low. The majority of girls from Thakur (67%), Pasi (75%) and Kashyap (69%) communities were enrolled in school. The improvements in enrolment of Muslim girls are noteworthy (Table 11). Around a tenth (13%) of Jatab girls were enrolled compared to none in 1993. There have been major improvements in enrolment of girls among all economic groups since 1993.

Table 11. Proportion of children who had been enrolled in school, ages 7-18

	1983		1993		2009	
	Boys	Girls	Boys	Girls	Boys	Girls
Overall					80 (200/249)	47(102/219)
OC						
Thakur	62 (29/47)	16 (8/49)	75 (40/53)	39 (19/48)	85 (51/60)	67 (33/49)
Pasi	58 (11/19)	17 (2/12)	64 (9/14)	33 (5/15)	100 (3/3)	75 (3/4)
Muslim						
Teli	39 (9/23)	0 (0/13)	48 (10/21)	0 (0/20)	89 (24/27)	50 (16/32)
Dhobi	0 (0/5)	0 (0/7)	43 (3/7)	0 (0/3)	58 (7/12)	100 (4/4)
Carpenter	-	-	-	-	100 (3/3)	33 (1/3)
OBC						
Murao	56 (29/52)	3 (1/36)	58 (31/53)	9 (5/56)	78 (51/65)	44 (26/59)
Dhimar	40 (6/15)	0 (0/7)	76 (13/17)	15 (2/13)	-	-
Gadaria	44 (7/16)	17 (4/24)	47 (8/17)	18 (4/22)	94 (17/18)	40 (8/20)
Kashyap	-	-	-	-	75 (15/20)	69 (11/16)
SC (Jatab)	15 (4/27)	0 (0/14)	39 (12/31)	0 (0/21)	67 (24/36)	12.5 (4/32)
Others	40 (4/10)	54.5 (6/11)	55.5 (5/9)	40 (4/10)	100 (3/3)	0 (0/0)
Land Ownership						
0.5-1.99 bighas p.c.	47 (16/34)	0 (0/12)	62 (51/82)	17 (15/89)	79 (100/127)	49 (55/113)
2- 2.99 bighas per cap	52 (22/42)	6 (2/33)	49 (19/39)	14 (4/29)	72 (18/25)	54.5 (12/22)
3- 4.99 bighas per cap	39 (24/61)	12 (7/58)	72 (18/25)	30 (10/33)	96 (23/24)	52 (13/25)
+5 bighas p.c	47 (27/57)	10 (5/50)	56 (18/32)	19 (4/21)	75 (6/8)	40 (2/5)

Note: the numbers in brackets represent the number of children who were enrolled in school over the total number of children belonging to the sample and to this particular year and social group. 'others' includes Srivastav & Balmiki; p.c. - per capita

Social inequalities in education

Pre-schooling in India starts around 4 years and can be continued for children up to 6 years of age. Primary or elementary schooling normally includes children between the ages 5-12 (in grades I to V). Middle school includes children aged 13-14 (grades VI-VIII); inter includes students between ages 14-15 (in grades XI-X); and secondary school includes pupils between ages 16-19 (grades XI and XII). Finally, students in college (UG and PG) are generally aged 19-22.

In Palanpur, many children began their formal education later than 5 years of age, so that children older than twelve years of age were still in primary school. For example, the data indicates that seven students aged 13 were studying in grades III, IV and V and were still in primary school. Three students aged fifteen were studying in grade VI. Additionally, six students aged seventeen were found to be studying in grade VIII. There are various reasons explaining this discrepancy. In addition to parents formally enrolling their children in school at an older age, many children took gaps in their education, as a result of irregularity or poor academic record and sometimes had to repeat certain grades.

Table 12. Proportion of children having completed primary education (%), ages 12-18

Social Groups	1983		1993		2009	
	Boys	Girls	Boys	Girls	Boys	Girls
Overall	28.6	3.6	41.3	6.4	55	31
OC						
Thakur	40 (8/20)	0 (0/16)	66.7 (16/24)	10 (2/20)	65 (20/31)	60 (9/15)
Pasi	42.8 (6/14)	0 (0/5)	28.6 (2/7)	0 (0/6)	100 (2/2)	100 (2/2)
Muslim	26.7 (4/15)	0 (0/6)	10 (1/10)	0 (0/12)		
Teli	33.3 (4/12)	0 (0/4)	16.7 (1/6)	0 (0/10)	67 (6/9)	30 (3/10)
Dhobi	0 (0/3)	0 (0/2)	0 (0/4)	0 (0/2)	34 (1/3)	100 (1/1)
Carpenter	-	-	-	-	100 (1/1)	0 (0/1)
OBC						
Murao	28.6 (6/21)	0 (0/7)	40 (8/20)	4.4 (1/23)	54 (15/28)	8 (2/24)
Dhimar	14.3 (1/7)	0 (0/1)	25 (2/8)	0 (0/4)		
Gadaria	0 (0/9)	0 (0/10)	50 (2/4)	7 (1/14)	87 (7/8)	50 (5/10)
Kashyap	-	-	-	-	50 (5/10)	67 (4/6)
SC (Jatab)	11.1 (1/5)	0 (0/4)	17 (4/24)	0 (0/9)	24 (4/17)	0 (0/12)
Others	20 (1/5)	60 (3/5)	83 (10/12)	33 (2/6)	0 (0/1)	0 (0/1)
Land Ownership						
0.5 to 1.99 bighas per capita	16.7 (4/24)	0 (0/12)	27 (6/22)	0 (0/24)	57 (32/56)	34 (15/44)
2 to 2.99 bighas per capita	23.5 (4/17)	0 (0/10)	55 (11/20)	18 (2/11)	69 (9/13)	50 (4/8)
3 to 4.99 bighas per capita	24 (5/21)	0 (0/16)	50 (6/12)	5.6 (1/18)	57 (4/7)	20 (2/10)
+5 bighas per capita	54.5 (6/11)	0 (0/5)	38 (5/13)	0 (0/7)	100 (4/4)	50 (1/2)

Note: the numbers in brackets represent the number of children having completed their primary education over the total number of children belonging to the sample and to this particular year and social group.

The proportion of children aged 12 – 18 who have completed primary education is presented in Table 12. The improvements are similar to the improvements in literacy rates. A majority of boys (55%) and about one-third of the girls have completed primary education in 2009, which are major developments since 1993. Thus there have been remarkable improvements in the last twenty-five in the proportion of children who have completed primary education, albeit the levels being

low. There have been improvements across all social groups, with the improvements among Muslims and *Jatabs* occurring in the last decade. The gender gap has also narrowed between the two survey periods. The improvements across all economic groups are also remarkable.

There have been dramatic improvements in the proportion of girls who have completed primary schooling since 1993. The majority of girls aged 12 to 18 years from *Thakurs* (60%), *Pasi* (both girls in this age group) and *Kashyap* (67%) have completed primary schooling (Table 12). There have been notable improvements among Muslims girls who have completed primary education. While there are modest improvement in literacy rates among *Jatab* girls, they have been entirely left behind in terms of primary education even in 2009, since none of the 12 girls aged 12 to 18 have completed primary education.

There is evidence of remarkable improvements in the proportion of girls who have completed primary schooling across all economic groups since 1993, albeit levels being low (by land ownership). A positive development is that about a third of the girls from families in the lowest economic group (own less than 2 *bighas* per capita) have completed primary education (Table 12).

Table 13. Education levels of those aged 7 – 22 who were in schooling, Palanpur 2009

Social Groups	Primary		Middle		Secondary		College		Total
	N	%	N	%	N	%	N	%	N
OC	21	36	22	38	12	21	3	5	
Thakur	19	35	20	37	11	21	3	7	53 (27%)
Pasi	2	40	2	40	1	20	0	0	5 (2.5%)
Vishwas	-	-	-				0	0	0
Bhatnagar	-	-	-				0	0	0
Muslim	20	60	10	30	3	10	0	0	
Teli	15	62	8	33	1	5	0	0	24 (12%)
Dhobi	3	50	1	17	2	33	0	0	6 (3%)
Carpenter	2	67	1	33	0	0	0	0	3 (1.5%)
OBC	48	53	25	27	17	18	3	3	
Murao	30	61	8	16	11	22	2	4	49 (25%)
Dhimar	9	50	7	39	1	6	1	5	18 (9%)
Gadaria	6	28	10	48	5	24	0	0	21 (11%)
Shrivastav	3	100	0	0	0	0	0	0	3 (1.5%)
SC (Jatab)	10	71	3	21	1	8	0	0	14 (7%)
Total	99	51	60	31	31	15	6	3	196

Note: Primary (Grade I-V), Middle (Grade VI-VIII), Secondary (Grade IX-XII), College (UG&PG)

Among all those in Palanpur aged between 7 to 22 years who are currently in schooling, a majority are in primary (51%) and middle schools (31%) (Table 13). Fifteen percent are in secondary school and 3 percent are in college. There have been improvements in schooling among the social groups. Among those who are in secondary schooling, those from OBC (51%) exceed those in OC (39%). There was

also one *Jatab* boy who was in secondary school. Among the 6 students who were in college, half were from OBC (2 *Muraos* and 1 *Dhimar*) and the other half from OC (3 *Thakur*). The only post-graduate student is a *Thakur*. None of the other communities had students in college.

About 80 percent of the children currently in school in Palanpur will be achieving the goal set by the state of at least eight years of schooling. *Thakurs* and *Muraos* had higher education levels. The majority of Muslim children were in primary and middle schools (90%) and 3 children were in secondary school. An important development is that 13 *Jatab* children were in primary and middle schools and one boy was in secondary school (Table 13). Thus there are major improvements, however inequalities continue to exist in education levels between gender and social groups.

IV Discussion and Summary

UP has been scaling up education initiatives for achieving universal education in the state. To improve school attendance, the *Sarva Shiksha Abhiyan* in UP introduced awarding graded colours to children according to their monthly attendance. Green was for best attendance, yellow for mediocre and red for the least (GoI DoSE 2011). This has been reported to be providing an incentive for children to aspire for green colour.

UP claimed to be the first state to implement the Right to Education Act 2009 to provide free and compulsory primary education for children aged 6 to 14 years (The Hindu 2009). In the first phase of its implementation, the government planned to focus on teachers, financial resources and additional classrooms. The education department of the state also plans to make all efforts to motivate children working in roadside restaurants, railways stations, bus stops and other places to enrol in schools. To achieve this the government planned to provide children “food, books and even clothes,” (The Hindu 2009). Mayawati, a lady from the *Dalit* community had been chief minister for three short terms between 1995 and 2003, and she became chief minister in UP for a fourth term in 2007. Her being a woman and from the *Dalit* community is providing a source of inspiration. Additionally, she is attempting to provide leadership and commitment to improve education and welfare programmes for disadvantaged groups and women, which could be a driver for change in the state. Sonia Gandhi in a recent lecture praised her as a symbol of women’s empowerment from a section of society subjected to discrimination (TNN 2011).

The developments in Palanpur over the last twenty-five years to the time of the survey in 2009 can be described as a ‘yes.... but’ story. Two hundred and sixty two children (161 boys and 101 girls), from Palanpur were attending school in 2009. Over one third of these (99 - 57 boys and 43 girls) were registered at the government primary school in the village. Our analyses show that there has been remarkable progress in schooling of children in Palanpur in the last decade. The majority of boys have completed primary education. There have been major improvements in girls having completed primary education, albeit the levels being low. There was evidence of a reduction in the gender gap in literacy rates among younger children. As schooling of girls is beginning to catch up at the younger ages, it is having a positive influence in reducing the gender gap. There was evidence of a remarkable reduction

in gender gaps in schooling levels across social groups, with the reduction being modest among the disadvantaged social groups. The trends among social groups for education are similar to that reported by Lanjouw and Stern (1998). *Thakurs* are keener to educate their children compared to all other social groups; *Jatab* and Muslim boys are less likely to attend school than boys from other groups; and girls are less likely to go to school than boys of all social groups. However, there is evidence of remarkable improvements in 2009 in schooling of children from OBC and Muslims. There have been modest improvements in girls from the Muslim community having completed primary education. However, the majority (60%) of Muslim parents send their daughters to a Madrasah situated at Peepli Mosque. There have been modest improvements in schooling of *Jatab* boys but *Jatab* girls are left behind in that none has completed primary education even in 2009.

Our results show that about 18 percent of students are currently in secondary or higher education. The number of students from backward community in secondary school exceeds the numbers from open category. This is a major development that children across social groups are being educated beyond primary school. There has been progress in education levels across all economic groups in the village.

Discussions with residents in Palanpur revealed that some had mixed perceptions about education. Some mentioned that an illiterate person, referred to as '*kubadd*', has a meaningless existence. A majority agreed that being able to read and write was an important requirement. On the other hand some residents (about 10 people during informal discussions) also questioned the importance or need of education as they expressed that having an education was not being very helpful to secure jobs. For this failure, they also questioned the poor quality of the education being provided in the region and mentioned that even after 2 or 3 years of schooling many children could not read or write. However a minority of residents expressed these attitudes, and results show that parents are increasingly making greater effort to enable their children to be educated.

The developments in education in Palanpur can be attributed to an interaction of several factors. As Moradabad district, UP state and India are changing, these developments are also trickling into Palanpur and this village has become more closely integrated in India (Himanshu and Stern 2011). The developments in the state and district have provided additional opportunities for people in the village. As men and women are increasingly moving into non-farm jobs and are commuting out to work their perspectives begin to change thereby changing the aspirations they have for their children's future. Several government initiatives to enhance education have been introduced in the last decade and they are being implemented, albeit slow and weak. The evidence of developments in education in the village is being enabled through the availability of opportunities, exposure and growing aspirations. As younger children are exposed to the outside world, their goals and objectives would also influence their pursuits.

Government initiatives are also intended to be inclusive in enhancing opportunities for girls and women and disadvantaged social groups. The progress in education levels among girls and social groups can be attributed to a combination of factors including scholarships being provided for children from disadvantaged groups, moving out and exposure to the wider world and integration into the wider economy.

A driver for improvements in the education of girls, revealed in discussions with people in the village, is also that of the growing demand for brides who are educated.

This study is a preliminary analysis and in subsequent analyses we will explore the factors, including exposure to media, which might be influencing the developments in education.

There has been a boost in political will to improve education in UP, however, this study and other research reveals weaknesses in implementation and the goal of achieving universal education in the state has some way to go (Bajpai et. al. 2005, Dreze and Kingdon 2001, Pritchett and Pande 2011). The challenges of access, efficiency and quality of education continue to persist; these are discussed further in the context of Palanpur in the following sections.

Access

Inequalities in access to education by gender and social group continue to persist. While attitudes are changing, the parents (expressed in group discussions) give less preference to schooling for girls compared to boys. The economic benefits to the family from the male child continue to be a strong driver for investment into education and other occupational promotion of sons (Lanjouw and Stern 1998).

The drop-out rate for young girls, especially after completing primary schooling, is high across all social groups. Girls are generally 'meant to' make good housewives by taking care of household responsibilities and looking after the needs of her husband and children. Thus girls themselves expressed less preference for education as revealed in group discussions. It was perceived that a girl child was a cost on the family resources when she would marry to go to her in-laws home and hence additional investment in a girl's education had no economic returns for the family. However, based on group discussions with parents, they now increasingly realise that their daughters should also be educated. Thus about 40 percent of the parents said that the girls should be made to complete at least primary school. It might be that the perception of the role of women is changing based on evidences elsewhere in the state. A pull factor is also that their daughters can be married to educated grooms, and the demand for educated brides is also increasing. They perceive this as an economic or sound return to the family if the girl might be able to work apart from the improvements in the family status of a son-in-law who is educated and employed.

The traditional attitudes in Palanpur continue to have defined division of roles for older men and women, with men being the breadwinners and women being the nurturers and housekeepers in the family. This division of labour has been accepted as normal and in the past they just got on with it. These attitudes continued to thrive when there was lack of access to quality education and opportunities and benefits deriving from education. The opportunities for economic independence of girls are still minimal in the current scheme of things among the residents of this village. In the recent decade there have been imperceptible changes in attitude toward the role of women. There is evidence of the changing attitude in the role of girls. There has been progress in the education of younger girls as revealed in this study. Himanshu and Stern (2011) show that there has been 4% growth in real wages for women for non-

farm jobs. Further, the post of *pradhan* (village head) was reserved for a woman during elections in 2010 and a woman is currently the village head. Some details of the status of women in Palanpur have been examined by Sinha and Coppoleta (2011).

Sometimes discrimination by teachers toward schedule caste pupils demotivated and excluded them from going to school. An example was revealed in the story of two *Jatab* households who said that their daughters (one from each family) were not enrolled anymore in the school because “the teacher ... used to ask them to sweep the school with a broom everyday. Eventually the older of the two girls was put off and refused to sweep the class saying she was coming to school to study. Both the girls then stopped going to school, and finally their names were struck off the rolls”. While this shows improvement in that the girl was able to speak out, this also provides evidence that children from disadvantaged social groups still face challenges being educated.

There was no evidence of any monitoring and evaluation of the government-sponsored facilities in the village, so that there appeared to be no accountability or effective performance by the teachers and in the management of resources. The government had given grants to improve the infrastructure of the village school and to provide facilities at the school including building toilets for the boys and girls. While the infrastructure for primary schooling in the village has improved, the facilities were inadequate and the toilets that were built were kept locked so that the children could not use them.

The role of parental motivation in schooling decisions plays a vital role in determining the education attainment of their children. However, once they have registered their children in primary school, a majority of parents (about 70 percent) in Palanpur feel that their responsibility for educating their children has been completed and there is nothing more for them to do to ensure the performance or continuation of their children’s education.

In the case of first generation school goers, the responsibility rests heavily on the children as well. The motivation for children to study after school does not exist and very few children were found to be doing their homework or doing any reading or writing at home. In addition, the facilities for children to study are poor in the village in general. There was shortage of supply of electricity in the village. Secondary school students were having difficulty to study for their final exams due to a lack of electricity in the summer. A group of students took the initiative of getting together and rented a house in Chandausi for two months of to study until they completed their exams. There was evidence of growing motivation for education among the children in Palanpur.

Thus, difficulties in access to education in Palanpur persist. However, there have been major improvements in the last decade.

Efficiency and Quality

The infrastructure of government primary school in the village has improved and it has a *pucca* building, albeit basic, with five rooms and includes a kitchen for cooking mid-day meals.

Lack of quality schooling facilities was a main concern expressed by parents in Palanpur. Thereby better off and educated parents send their children to private school, as they were reportedly better than the government schools. Some parents expressed that they preferred sending their children to private school because although the quality of teaching was not better there, at least there is no absenteeism by teachers and the children were taught something. Thus parents are not very satisfied with the education services being provided. However, we did not see any evidence of parental involvement in the functioning of the services. Lack of quality teaching and absenteeism is a common problem in schools, more so in rural India.

Pritchett and Pande (2011) presented that quality of government primary schooling is very low in rural India. Absenteeism of teachers is well known to be a major problem in rural government primary schools in India (Narayan and Mooij 2010). In addition, shortage of teachers is also a general concern for primary school across India. A study by UNICEF India (2006) reported that 19% of the total primary schools are single teacher schools that cater to nearly 12% of the total enrolment in primary classes. The UNICEF study also found that Uttar Pradesh had difficulties in providing even a single teacher in 921 primary schools. Though enrolment rates have gone up, there has not been a corresponding increase in the number of teachers. Thus while the number of schools and teacher students ratios as shown in Table 9 indicate a positive scenario, finding quality teachers continues to be a major challenge in UP.

Two permanent teachers and one *shiksha mitra* (assistant teacher) have been sanctioned for the government primary school in Palanpur. However lack of teachers to fill these posts is an ongoing problem. The two teachers and the assistant have to teach 5 grades in the primary school, so that the students are often grouped into one or two classes, with all of them sitting together or grades I to III sitting together and grades IV and V sitting together. Further absenteeism is high so that not all three were available to teach on most days; as a result, sometimes there was only one teacher for all 5 grades. The assistant teacher was not responsible for teaching, so that when she/he was the only teacher available in school the children would not have any teaching on that day.

Finding teachers as well as retaining teachers at the government primary school in Palanpur was a problem. During the two years of our fieldwork, when we first started there had been a male teacher at the government primary school in Palanpur. Those who sent their children to the government school were aware of its poor standards and complained about the quality of teachers saying “he was drunk when he teaching”, or “he is not interested in teaching”. He then left the school and a lady teacher was appointed. She had been irregular in attending the school and later she moved to the home of her parents-in-law when her husband died and the school was left with no teacher for some time. Towards the end of our survey, a male teacher had been appointed, in focused discussions with him regarding finding additional teachers for the school, he said that although there were permanent jobs for

government teachers, lack of teachers was a major problem. Thus while the primary school in Palanpur required more teachers and the government had jobs available, finding teachers was a challenge. So he was teaching 5 classes with one assistant. Our observations were that regularity and quality of teaching continued to be a problem at the government primary school. Further there appeared to be no mechanisms for accountability of teachers.

Finding residents in the village to teach did not appear to be possible either. There was one young man in Palanpur who was interested in pursuing a career in teaching. He had completed his under-graduation and was waiting for admission into a teacher training programme. He had taken the initiative to earn money by taking tuitions for younger students. In discussions about his willingness to teach at the village primary school, he did not appear keen to either volunteer or do part-time teaching for payment.

Discussions with residents revealed that there had been a private school in the village during 2006. An assistant teacher from the village, together with a teacher from another village had been running this school. The assistant teacher got a job in a government school and the private school had to be shut down due to lack of teachers. Teachers are keen to obtain jobs in government schools because it offers them a secure position and income. Permanent positions offer job security for teachers, which could be helpful to recruit people. On the other hand, they are also problematic in compromising accountability and performance by teachers. Often once they are made permanent, they became secure in their position and their motivation to perform their duties appeared to be compromised with other self-interests.

Lack of quality teachers is an additional challenge. Even when teachers were present at the primary school in the village, there was no evidence of active teaching being done regularly in the class. They were often seen standing around watching passers by or sitting and chatting with each other, thus they mainly appeared to be maintaining some order or giving them some exercise. Thus quality of teaching does not seem to have changed much compared to the situation in earlier surveys (Lanjouw and Stern 1998).

However, an incident may be suggestive that at least some children appeared to be able to read and write in spite of the lack of quality teaching. When one of the students in grade III was tested, her notebook had several lessons completed and she was able to read well. It was interesting that the student knew her work when it appears that the quality of the teaching is poor. It might be possible that the children learn to read from each other and from their older siblings. Perhaps the girl sitting in the front row was one of the brighter students in the class. While the knowledge of the children and performance of teachers cannot be evaluated on the basis of asking a single child to read, it was evident that children were learning to read and write at the school. It is also common practice for students to go for tuitions in order to prepare for and pass their exams, which was one way of overcoming the problem of lack of teaching in schools. We hope to examine these issues further in subsequent papers.

Future Research

This paper is based on preliminary descriptive analyses. There is lot more work to be done for refining, merging and compiling data. The data has currently been drawn from at least two different questionnaire and data files, which require further work for consistency checks. This paper has mainly examined education levels of those who are currently in schooling. The education of the overall population needs to be examined further in the context of additional demographic characteristics including marital status. We would like to analyse the data further and examine causal relationships and conduct significance tests. Data relating to the levels of spending for education has also been collected and we have yet to analyse this data.

In addition the following questions will be examined – (i) mechanisms involved in the substantial changes in education that have happened, in terms of parental decision (as demand) and public supply and the institutional and social mechanisms are at work; (ii) what were the priorities and processes for parents and children for choosing private or government school; the level of education completed and related aspects; (iii) parents' perceptions about quality of education, reward and so on. These will be examined in subsequent papers drawing on the value added from this in-depth study of the village.

References

- Bajpai, Nirupam, Ravindra H. Dholakia and Jeffrey D. Sachs (2005). *Scaling Up Primary Education Services in Rural India*. CGSD Working Paper No. 28. Centre on Globalisation and Sustainable Development. The Earth Institute at Columbia University.
<http://www.earthinstitute.columbia.edu/cgsd/documents/RuralEducationPaper.pdf> accessed 26th April 2011.
- Bakshi, Aparajita (2008). *Social Inequality in Land Ownership in India: a study with particular reference to West Bengal*.
http://www.networkideas.org/featart/jan2008/Land_Ownership.pdf accessed 10th April 2011.
- Bersier, Florian (2008). *Education in Rural India: Perspective from a North-Indian Village*. Master's dissertation, Department of Quantitative Economics and Finance, Ecole Polytechnique.
http://www.csh-delhi.com/publications/downloads/articles/Education_florian_berseir.pdf.
- Census of India 2001 & 2011. *Census of India website: office of the registrar general*.
<http://censusindia.gov.in/> most recent access 26th April 2011.
- Create 2009. *Educational access in India: Country policy brief*. Consortium for Research on Education, Access, Transition and Equity (CREATE). <http://www.create-rpc.org>
- Dreze, Jean and Geeta Gandhi Kingdon (2001). *School participation in rural India*. Review of Development Economics, volume 5, issue 1, pp. 1–24.
- GoI DoSE (accessed 20th April 2011). *Sarva Shiksha Abhiyan*. Government of India Department of School Education and Literacy.
http://www.education.nic.in/ssa/ssa_5.asp.
- Himanshu and Nicholas Stern (2011). *India and an Indian Village: 50 years of economic development in Palanpur*, Asia Research Centre Working Paper No.43
- Human Development Report (2010). *The real wealth of nations: Pathways to human development*. UNDP. <http://hdr.undp.org/en/reports/global/hdr> accessed 6th April 2011.
- Kambampati and Pal (2001). *Role of parental literacy in explaining gender difference: evidence from child schooling in India*. The European Journal of Development Research, volume 13, pp. 97–119. <https://secure.palgrave-journals.com/ejdr/journal/v13/n2/abs/ejdr200119a.html> accessed 3rd April 2011.
- Krishna Narayan and Jos Mooij (2010). *Solutions to Teacher Absenteeism in Rural Government Primary Schools in India: A Comparison of Management Approaches*. The Open Education Journal, volume 3, 63-71.

Lanjouw, P. & Nicholas H Stern (1998). *Economic Development in Palanpur over Five Decades*, Oxford University Press.

Muralidharan, Karthik and Michael Kramer (2006). *Public and Private Schools in Rural India*.

<http://www.dise.in/Downloads/Use%20of%20Dise%20Data/Karthi%20Muralidharan%20and%20Michael%20Kremer.pdf> accessed 12th March 2011.

Moradabad District Profile (2010). *Introduction and some indicators*.

<http://www.nlrindia.org/index.php?section=12&category=60%20Uttar%20Pradesh&page=528> accessed 12th April 2011.

Parasaran K, V. Mohini Giri, Abid Hussain, N C Saxena, EAS Sarma (2001). *Literacy in the context of the constitution of India*. A consultation paper for the National commission to review the working of the constitution. <http://lawmin.nic.in/ncrwc/finalreport/v2b1-5.htm> accessed 2nd February 2011.

Pritchett, Lant and Varad Pande (accessed 26th April 2011). *Making Primary Education Work for India's Rural Poor – A Proposal for Effective Decentralization*. A World Bank presentation.

<http://siteresources.worldbank.org/PSGLP/Resources/PritchettPande.pdf>

Sinha Dipa and Rosalinda Coppoletta (2011). *The invisible half: women's status in Palanpur*. Asia Research Centre Working Paper No.50

The Hindu (2009). *Uttar Pradesh to implement Right to Education Act 2009*. Lucknow, 9th December 2009. <http://thehindu.com/education/article62404.ece>

TNN (2011). *Sonia praises Mayawati, calls her symbol of women's empowerment*. http://articles.timesofindia.indiatimes.com/2011-03-19/india/29145751_1_dalit-outfit-sonia-gandhi-mayawati accessed 10th March 2011.

UNICEF India (2006). *Global Campaign for Education – more teachers needed*. http://www.unicef.org/india/education_1551.htm accessed 15th March 2011.

UP education facts (accessed 10th April 2011). <http://www.upeducation.net/Facts/>

UP education for all (accessed 27th April 2011).

<http://www.upefa.com/upefa/detail.php?chk=menu&vlmid=70>

UP government website (accessed 12th March 2011).

http://upgov.nic.in/upinfo/up_eco.html.

Appendix A: Social classifications in Palanpur

The **caste system** practised in Palanpur will be discussed in details in a paper at a later stage. Here we present a summary of caste classifications.

The caste system is a social stratification, which has existed historically in India is a form of social stratification of people based on the nature of work done by people. They were hierarchical and were classified into four castes and one out-caste and ranked as follows:

Brahmin – priests and scholars

Kshatriya – rulers, warriors, landowners, legal, public administrators

Vaishya – merchants

Shudra – service providers, skilled and unskilled labourers, craftsmen

Harijans – were outcastes considered to be so low as not to be classified among the social groups but referred to as ‘harijan’ or ‘pariah’. Their jobs, such as cleaning toilets and disposing the dead, were considered unclean. Thus they were called untouchables and treated as unworthy of any association with people outside their own group.

The **reservation system** in India is an attempt to provide opportunities for education and employment for people from disadvantaged social and economic backgrounds through positive discrimination. The reservation system classifies people by caste and sub-castes into the following categories:

Open Category (OC) – includes Brahmins and other upper castes.

Thakur, Pasi, Vishwas and Bhatnagar are among the upper castes in Palanpur.

Backward Community (BC)/Other Backward Community (OBC) – is the largest grouping and includes several sub-sects from among Vaishya and Shudra castes. The Mandal Commission (set up in 1979 to identify the socially or educationally backward) included about 3000 castes under OBC, which includes about 52% of the total population in India.

Teli (oil producers), Dhobi (washermen/women), Carpenter, Chamar, Murao (historically landless labourers), Dhimar, Gadaria, Kashyap, Kayasth and Srivastav from Palanpur are classified among BC and OBC.

Schedule Caste (SC) and *Schedule Tribe (ST)* – includes the most backward communities (approximately 16% of total population) and tribal communities (about 7% of population).

Jatabs in Palanpur are classified as schedule caste.

A proportion of seats/jobs are reserved for people belonging to BC/OBC and SC/ST groups in government and public sector institutions. The Supreme Court stipulates that reservations cannot exceed 50% (approximately 28% for OBC, 15% for SC and 7% for ST) in total. There are some variations in the proportion of reservation between states. This policy continues to remain controversial.

The Invisible Half – Women’s Status in Palanpur

Dipa Sinha and Rosalinda Coppoletta*[#]

Many studies that have looked at reasons for the wide inter-state variations in human development within India have identified the low status of women in North India compared to more open societies in the South of India as an important determining factor for North India’s continuing backwardness, especially in comparison with the Southern states (Drèze and Sen, 2002, Drèze and Gazdar, 1997, Ramachandran, 1997, Malhotra et. al, 1995). Women’s status has been seen as an explanatory factor for crucial demographic issues, especially in the context of differences in fertility levels in North and South India and the fertility transition in states like Kerala and Tamil Nadu (Jejeebhoy, 1991, Dyson and Moore, 1983).

While studying change in a rural society, as is the case with the Palanpur village study, it is therefore very interesting to also try and understand how women’s lives have changed. Drèze and Sharma (1998) based on the previous surveys in Palanpur village describe briefly the lives of women in Palanpur and the small differences observed caste-wise. It was seen that similar to other villages in that region, Palanpur was a deeply patriarchal (‘unequal’) society, where women had very little role to play in public life, were rarely seen outside of their homes, practiced ‘*purdah*’ and were very inaccessible to ‘outside men’¹. Literacy and workforce participation among women was also very low. Most women were married off at a young age, with repeated pregnancies and poor access to health care. Women usually do not get a share in property (either from parents or in-laws) and have few freedoms.

While planning the current survey in Palanpur village, it was felt that more systematic data must be collected on women’s lives². Understanding change in a society must include understanding not just of how farming practices have changed, employment patterns have transformed and incomes have increased, but also of how women’s lives have changed. The other changes that are being studied such as those mentioned above, of course pertain to women also. But, there are specific issues related to women and gender that need to be studied as well. At the same time, after initial visits to Palanpur there was a feeling that there was really nothing likely to be particularly surprising about women’s lives in the village. Everything seemed to fit in with exactly what was written about this based on the previous surveys – there were still very few women seen out on the streets, *purdah* was still practiced, very few worked outside the home for a wage, and so on. However, there were subtle changes that we slowly observed. For instance, there was a woman who had completed her post-graduate studies and was working as a teacher in the government school. There was another woman in Palanpur who was widowed and living with her parents and fighting a

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¹ On gender relations in North India also see the references listed in Drèze and Sharma (1998).

² In earlier Palanpur studies there have been a few visits by women to the village (including Sue Stern, Jenny Lanjouw and Jocelyn Kynch) but no extended data collection by women. This placed limitations on the access of past researchers to discussion with women in the village.

legal battle with her husband's family³ for her share in the property. She had the complete support of her parents. Many older women talked about how they could not even sit down or speak if their fathers-in-law were anywhere around. But now younger women, in spite of continuing to practice *pardah*, could sometimes give their opinion on household issues.

This paper is about the status of women in Palanpur based on interviews conducted with women and also some observations. The present paper provides only a broad overview, and a lot more data (both quantitative and qualitative) are available but remain to be analysed. Currently, the focus is on presenting some brief statistics in relation to women's status and arriving at issues that can be studied further. Although there is no systematic data collected in the earlier surveys on this issue specifically, there is rich qualitative information and anecdotal evidence that is available. Further, some information such as on schooling/literacy, employment status⁴, marital status and so on, is available from the household survey data. These data from the 1993 survey are used to make some comparisons. Such comparisons can also be extended to data from the previous rounds.

Along with the general household information that was collected during the study period, this paper uses data gathered from married women based on a specific women questionnaire. This questionnaire was asked only to *married or widowed* women in the village *aged 50 or less* since the focus was largely on reproductive and child health. Data related to 217⁵ married women aged 17 to 50 have been used in this paper (208 married women and 9 widowed women). Information was collected on birth history, women's work outside home, autonomy, mobility and domestic violence. Women having a child less than six years of age were also asked questions related to ante- and post-natal care, breastfeeding, child immunisation and participation in child care services. Data on age, education, family structure and so on were available from the household survey.

All the data related to these matters were collected by women researchers and therefore there was a fair degree of comfort in sharing information. However, it must also be mentioned that it was difficult to talk to women alone as often other family members (only women) would also be present. This was many times out of curiosity but also in case of younger and recently married women, there was almost always a 'chaperone' (usually the mother-in-law and sometimes a younger sister-in-law). This made it difficult to discuss 'sensitive' issues, especially those related to domestic violence, decision making within the household and so on. On the other hand, due to the extended time spent in the village the researchers developed a good rapport with some women with whom more personal discussions took place. And even if there were other women present, older women (those with children) were quite open about discussing many issues.

³ This woman's natal village is Palanpur whereas her marital village is a slight distance away in the same District. While she went to live with her husband's family post-marriage, after his death she moved back to Palanpur.

⁴ As mentioned in Drèze and Sharma (1998), there is a problem with employment data because this is mostly as reported by men in the family who might undervalue a lot of the work done by women. As will be seen later, this time round, we also asked the women directly on what work they did. Even this is not detailed enough to get a good estimate, but is definitely a step forward.

⁵ 13 women were interviewed later. However, these data are yet to be analysed. 6 women could not be interviewed as they were unavailable or not willing to respond.

I. Sex Ratios

Table 1: Sex Ratios in Palanpur

Year of Survey	Female-male ratio
1957-58	0.87
1962-63	0.87
1974-75	0.85
1983-4	0.93
1993	0.85
2008	0.98
Source: Updated from Drèze and Sharma (1998)	

The ratio of females to males ('sex ratio') in any given population is a sensitive indicator of the status of women in that society. For most of the world, it is seen that the sex ratio usually favours women⁶, as the life expectancy for females is in general higher. However, India has had a history of low sex ratios, with fewer females compared to males. A reversal in this trend has been seen since 1991. The sex ratio in India was 927 females per 1000 males according to the 1991 Census and went up to 933 in 2001 and 940 in 2011. This is because of an increase in the female life expectancy in the last few decades. However, what is worrying is that the child sex ratio (ratio of number of females per 1000 males among children under six years of age) has been decreasing (Census 2011). In Palanpur as well it was seen that the sex ratio is very low, with the female-male ratio being lower than the Indian average, indicating the poor status of women in the village. During the different rounds of survey from 1957 to 1993, the female-male ratio was around 0.86 (i.e. 860 females per 1000 males). The only exception was 1983-84, where a much higher female-male ratio of 0.93 (930 females per 1000 males) was recorded. While Drèze and Sharma (1998) draw attention to this upward blip, this was not investigated much further. They suggest that this could be because of sex-selective migration. The 2008 survey also finds a high female-male ratio of 0.98, which is closer to that of 1983-84, than any of the other survey years.

While we initially hypothesised that this could also be because of sex-selective migration, a look at child sex ratios⁷ indicates that this probably needs further study. Normally, child sex ratios globally are around 950⁸. At birth while more boys than girls are born, it is hypothesised that as females have a greater chance of survival, this ratio tends to improve in favour of girls (John et. al. 2008). In Palanpur the female-male ratio among children under six years of age is currently 1.12 i.e. there are more girls than boys under six years of age. In 1993, the child female-male ratio in Palanpur was very low at 0.75⁹. Drèze and Sharma (1998) based on earlier surveys in Palanpur also mention that "... *age-specific female-male ratios strongly suggest that child mortality rates are much higher among girls than among boys, a common pattern for this region.*" Watine's (2008) analysis for Palanpur shows that 220 out of 268 females born between 1993 and 2008 survived (i.e. 82.1%), whereas in the case of males, 214 of 244 born survived (i.e. 87.7%). Further, on most other aspects in Palanpur (literacy, work, mobility) stark gender inequality is still observed. However, some more analysis is required to better understand these higher sex ratios. It could just be that it is a coincidence and not a trend. Other than neglect of females, especially in access to food and health, one of the reasons given for the trend towards declining child sex

⁶ Except in some Asian countries – a phenomenon that has been called one of "missing women" (Sen 1990) showing deep gender inequalities in Asian societies.

⁷ Child sex ratio is the number of girls for 1000 boys among population aged less than six years of age.

⁸ The child sex ratio in India according to the 1991 Census was 945 which fell to 927 in 2001 and a further low of 914 in 2011. According the Census 2011, the child sex ratio in Moradabad is 903 and overall sex ratio is 909.

⁹ The data for 1983-84 and earlier rounds of survey have not yet been analysed for this aspect. This is something that will be done in the future.

ratios is the increasing practice of sex-selective abortions¹⁰. In Palanpur, we did not get to know of the existence of such a practice or any case where this was done¹¹.

II. Literacy and Schooling

Among important factors that give women a voice and agency within the family and the community are female education and women's participation in the work force. While education has an intrinsic value in itself, it is also well established that female education, even more than male education, has a positive effect on the well-being of the entire family, especially of children. This is because women are the primary care-givers in a family and an educated woman can take informed decisions, has a greater role in decisions of the household and is able to access available public services better. In this manner and other ways, increased maternal education is seen to have a major influence on reduced child mortality. Further, education is seen to have an impact not only through the characteristics of the individual mother but also through the educational level of the society as a whole (Caldwell 1979, Ware 1984, Kravdal 2003).

Palanpur has seen a tremendous increase in literacy rates since the 1957-58 survey. While the male literacy rate increased from 18% in 1957-58 to 58% in 2008, the female literacy rate increased from almost nil (1%) to 23% during the same period. However, in absolute terms this is still very low. Further compared to the recent Census data (2011) as well, it seems as if Palanpur is behind the rest of Uttar Pradesh. The literacy rate of Uttar Pradesh according to the provisional results of Census 2011 is 69.7% with 79.2% males and 59.3% females being literate¹² (Census 2011).

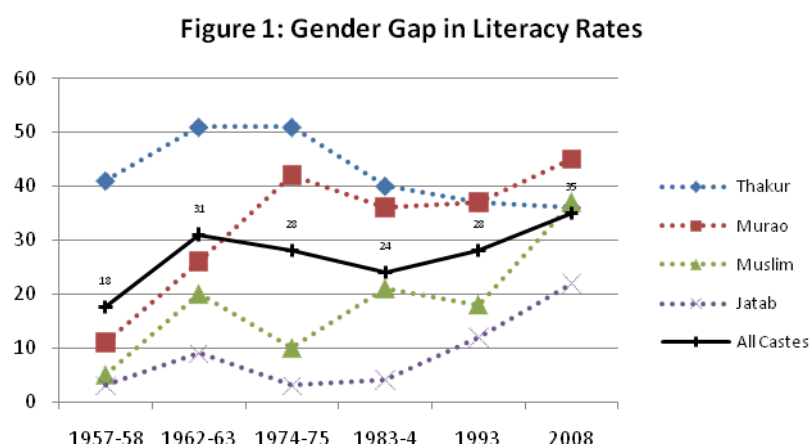
While there is in general a slower rise in the literacy rate in Palanpur than elsewhere, what is of significance to this paper is the 'gender gap' in literacy rate. The 'gender gap' in literacy rate is the difference between male and female literacy rates and can be seen as an indicator of how much women are catching up with men. As seen in the figure below, while the gender gap in literacy rates came down between 1962-63 and 1983; it has increased since then. The gender gap in the literacy rate in 2008 is of 35 percent points which is even higher

¹⁰ Census data has also shown that the areas where the child sex ratios have been worsening are in fact areas that are prosperous and also have shown improvements in female literacy. Another factor that is seen to be contributing to the aggressive 'family planning' programme of the governments and the resultant two child norm leading to a situation where people do not want more than two children and at the same time want to make sure at least one of them is a male child (Jones et. al. 2008). One does not yet witness the 'two-child norm' being so prevalent in Palanpur. Maybe, this is also one of the reasons for the village not showing declining child sex ratios. At this stage, all of these are speculative explanations and further analysis is required before anything definitive can be said.

¹¹ Abortion is of course a highly sensitive issue and not something that we would expect to be easily told about. The survey did not include any direct questions on this. The female researchers also spent much less time in the village than the males, to develop the kind of rapport for such sensitive information to be shared. However, even in the time spent in the village such a rapport was established with some of the women in the village. From conversations with these women, the impression was that the access to ultrasound was still very low for women in the village compared to other areas. Access to any kind of ante-natal care is also very low. So it is quite unlikely that sex-selective abortion is rampant. The only instance of abortion that was shared was the case of a woman who decided to abort her child as this was her sixth pregnancy and she felt that they were too poor to afford another child. She secretly got an abortion done, without even informing her husband. In this case, the fetus was a male.

¹² The corresponding figures for Moradabad are as follows: 66.8%% male literacy rate, 49.6% female literacy rate and 58.7% overall literacy rate.

than what it was in 1962-63. This indicates a continuing deep gender bias in access to education in Palanpur¹³.



A caste-wise break-up of the data shows that while the gender gap has narrowed for the Thakurs and the other castes, it has widened for the Muraos and Jatabs. It is the low female literacy among these castes that is also keeping the overall literacy rates low. While access to quality schools is one of the issues for low literacy, it is interesting to further study these caste-wise differences in literacy rates, especially gender gaps in literacy rates in Palanpur (Also see Appendix Table 1).

To get an indication on the level of education among women and how this has changed over time, in Table 2 below, we look at the highest level of education completed among married women in the age group of 17-50. This is based on the data collected from the women themselves during the round on women's status and related issues. In this region the marriage convention is that normally a woman is married to a man and after marriage, the woman leaves her parental village and is incorporated in her husband's family. Since these data are restricted to married women, they mostly pertain to women who lived outside Palanpur during their schooling years. These data could therefore be seen as reflecting happenings outside Palanpur, where these women were educated and also marriage choices of Palanpur families over other families. However, they still throw some light on the changes taking place in schooling among women. We see that the percent of women with no schooling shows an increasing trend as the age-group increases. While there are very few of these married women who have had any schooling, most of those who have completed primary schooling are in the youngest cohort of 17-24, showing a positive trend of more girls in school and for longer¹⁴.

Further, looking at boys and girls aged 14 to 17 years it is seen that the percent of those who have never been to school has drastically fallen (Appendix Table 2). Only 6.9% of boys in the age group of 14 to 17 years and 31.7% of the girls in the same age group have had

¹³ 'Gender gap' in literacy rates in Uttar Pradesh and Moradabad based on Census 2011 is around 20 percent points.

¹⁴ 9 out of the 14 women educated till class 5 and 13 out of the 20 educated more are Thakur showing a recent trend of sending girls more to school could in that way be restricted only to Thakur girls.

no schooling at all (compared to 84% in the higher age groups, see Table 2)¹⁵. However, the gender gap still persists.

Table 2: Schooling among Palanpur (married) women in the age group of 17 to 50

Age group		17-24	25-31	32-38	39-50	Total
Schooling						
No schooling	%	74.5	83.9	92.2	86.4	84.3
	N	38	47	47	51	183
Till 5th class	%	7.8	10.7	2.0	5.1	6.5
	N	4	6	1	3	14
Higher than 5 th class	%	17.7	5.4	5.9	8.5	9.2
	N	9	3	3	5	20
Total	%	100	100	100	100	100
	N	51	56	51	59	217

III. Women and Work

Women's participation in the workforce is also seen to increase the social status of women by making their contribution to family income more visible. Further, women who work for an income have greater access to resources, more independence and have greater exposure to the outside world. All these factors contribute to women's agency, thereby also having a positive influence on child health. This has been seen to be especially true in the case of the influence of women's employment on female mortality resulting in a decrease in the gender differential in child mortality (Murthi, Guio and Drèze 1997).

While information on the main and subsidiary occupations of all members of the family was collected along with the general information for the household, which was usually provided by an adult male, during the 'women's round', all women in the reproductive age were also asked about whether they did any work outside the home. Women's work is usually underestimated because a lot of the work that women do is not seen as constituting 'economic' or 'productive' activities. One of the ways to overcome this is to do a time-use survey. However, this is a very tedious process requiring a lot of time. To accurately capture time-use, such a survey would also have to be conducted at different times of the year, as there may be a lot of seasonal variation. Alternatively, we tried to get an idea of all the activities that a woman does during a day and the time spent on each of these. However, we found that even this was extremely difficult as although women were able to some extent list what they did, rarely were they able to tell us the number of hours spent on each of the activities.

While visiting the houses or walking around in the village, we usually found women busy doing something or the other. We seldom saw women just sitting around and talking or resting, while we did see men in groups gossiping, drinking or having a smoke together. Women were either cooking, washing the animals, preparing the animal feed, collecting

¹⁵ As we study basic and not higher education, the lower threshold of 14 is also acceptable, corresponding to the gap of the end of the 8th class where most of the girls drop out of school. When doing robustness checks by taking only girls aged 15 to 17 or 16 to 17, the percentage of those who have gone to school is even lower, so there does not seem to be a bias due to the fact that some girls of this age still go to school.

dung, making dung cakes, washing clothes, cleaning the home, caring for young children but not just sitting ‘free’. While we realised that it is difficult to capture all of this, we tried to do better than regular surveys by at least getting an idea of all the work they do for which they have to go outside the house. Further, in the sample of households where daily diaries were maintained, we tried to ensure that women’s activities were also recorded. This data have yet to be analysed.

In this paper, we present only the data related to the work (paid and unpaid) done by women outside the household. Of the 217 women interviewed, only 41 said that they were engaged in any kind of paid work in the last one year. Of these 25 did work for which they were paid in kind and the remaining 16 were paid in cash. Therefore about 19% of the women were engaged in paid work¹⁶. The workforce participation rate for women in Uttar Pradesh was also 19% according to the Census 2001.

Among women who did any paid work, the highest were among Jatabs (15), followed by Muraos (10) (Appendix Table 3). Only two Thakur women reported ever having

Table 3: ‘Outside’ Work by Women in Palanpur			
Work	Freq.	Percent	Cum.
No paid job	176	81.1	81.1
Paid in kind	25	11.5	92.6
Paid in cash	16	7.4	100
Total	217	100	100

done any paid work. Of which, one was the village health worker (*‘ASHA’*) appointed under the government’s National Rural Health Mission and the other was working as a teacher (*‘siksha-mitra’*) in the school. The Jatab and Muraos women were mainly involved in

agriculture labour, while some Jatab women also went along with their families for a few months in a year to work in the brick kilns.

IV. Marriage and Fertility

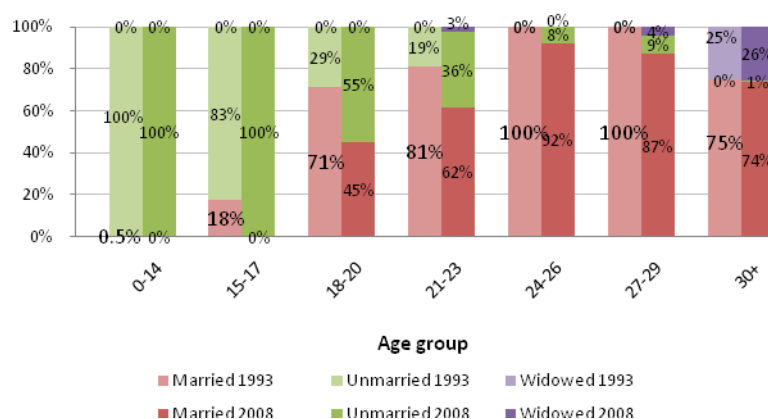
The age at marriage, especially for women is still quite low in India and in Uttar Pradesh. According to the NFHS-3 data, 53.4% of all women aged 18-29 in rural India were married by the age of 18. The corresponding figure for rural Uttar Pradesh was 59.4% (IIPS, 2007). Age at marriage has an impact on fertility and also women’s autonomy. Standard marriage practices such as caste endogamy, village exogamy, hypergamy, and patrilocality¹⁷ still remain in Palanpur as in most parts of rural North India. Most marriages are still decided without asking for the consent of the girl. While the parents still made the decision on who their daughter should marry, in some cases women did mention that their parents would ask them for their consent before finalising the match. However, this does not yet mean that the girl and boy get to meet and talk before the marriage, as is now happening in the case of ‘arranged’ marriages in urban India. One change that people did mention was that now there was a ‘greater’ demand for ‘educated’ girls, especially among Thakurs and this was one of reasons why parents felt it was important to send their daughters to school.

¹⁶ Further information on the exact nature of work that women were engaged can be got from the detailed diaries that were maintained for a sample of the households. These data are yet to be analysed.

¹⁷ i.e. A young woman is married to a boy of the same caste (*‘caste’endogamy’*), in another village (*‘village exogamy’*), preferably to a family of somewhat higher status (*‘hypergamy’*) and after marriage, she leaves her parental village and is incorporated in her husband’s family (*‘patrilocality’*). In Palanpur these practices apply to all castes (with some exceptional cases) (Drèze and Sharma, 1998).

A lot of factors influence when a daughter is married off (dowry, number of siblings and rank, network, schooling etc.)¹⁸. With respect to age at marriage, although the average age at marriage is still low, it is slowly increasing in Palanpur. Even though the age at marriage was not directly asked in the 1993 survey, the marital status of all village inhabitants was reported. The figure below indicates that there is a change in the age at marriage between 1993 and 2008. In 1993, 18% of Palanpur girls aged 15-17 were married

Figure 2: Marital status of Women in Palanpur (1993 and 2008)



(one girl aged 15, one 16 and 5 aged 17 among the 40 girls in this age group) whereas none of the girls in this age group was married in 2008¹⁹. Such a difference is also seen in the 18-20 and 21-23 age groups. 71% of girls aged 18 to 20 were married in 1993 compared to 45% in 2008, and 81% of girls aged 21 to 23, compared to 62% in 2008. Around age 24, more or less all girls are married, Palanpur girls have left the

village for their in-laws' houses and the only women left of this age group in the village are more or less recently married women.

In the present survey, women were also asked for their age at marriage. Based on these data of age at marriage as reported by the women themselves we can see that there is an increase in the mean age at marriage. While the mean age at marriage for women who are

age group	Mean	Std. Dev.	Freq.
17-24	17.78	1.79	51
25-31	17.41	1.89	56
32-38	16.35	2.26	51
39-50	16.17	1.88	59
Total	16.91	2.06	217

currently in the age group of 39-50, is around 16.2, the mean age at marriage for women in the 17 to 24 age group was 17.8. Looking at a caste-wise breakup it is seen that the mean age at marriage is highest among Thakur women, followed by those in the 'Others' groups and the Muraos with the lowest mean age at marriage being amongst the Jatabs. Interestingly, it is also

seen that while the mean age at marriage is 18.5 for literate women, it is only 16.6 for illiterate women indicating that schooling/education might be an important factor determining the age at marriage (Appendix Table 4).

The fertility rate in the village also still seems high. It is quite common to have four or more children. Not many women use contraception²⁰. Some of them are sterilized²¹, some of

¹⁸ Thus, a late marriage can also just mean that the parents were too poor to marry their daughters all at once and needed time to collect the money for the youngest one. But even then, one could argue that her later marriage – even if undesired – may give her more bargaining power and autonomy as she is not a teenager anymore.

¹⁹ This compares unmarried girls in Palanpur (as it would be difficult to know precisely at what age they were married and left the village) to newly married women who came to Palanpur. It could mean that parents in Palanpur like their boys to marry young girls and send their own daughters later, but qualitative data suggest there is no such difference in age at marriage in Palanpur and in the villages around.

²⁰ We don't know much about condom usage among men. The local 'doctor' did inform us that he also sold condoms and that some men in the village bought them.

them still wanted children and thus did not use contraception, and some of them use contraceptive pill or condoms. The mean age at first pregnancy (miscarriages included) is 19.5 years. This corresponds to the average for rural India (19.5) when comparing with NFHS data (IIPS, 2007).

Table 5: Age at pregnancy, No. of pregnancies and No. of children, Palanpur 2008

Variable	Std.		Obs	Min	Max
	Mean	Dev.			
Age at first pregnancy	19.5	2.4	208	14	32
Number of pregnancies	4.2	2.8	217	0	15
No. of living children	3.1	2.0	217	0	9

Women in Palanpur have had on average 4.2 pregnancies and 3.1 living children. As the sample mostly includes women still in the ‘child-bearing’ age, this cannot be seen as a representative figure. To arrive at actual fertility rate an age-wise analysis will have to be conducted using demographic tools. While this is yet to be done, for now, we look at these indicators for different age groups of women. First we see that although there is a rise in the age at marriage, the age at first pregnancy does not seem to have increased over time, as it is around 19 years of age for all age groups of women.

That the number of living children is higher for older generations as seen in Table 6 is mostly a life-cycle, and not a cohort, effect. The data for the women aged 39-50 suggest that the average total number of children for women in Palanpur is around 4.7. This is more than the Indian average of 4.0 and even more the rural India average of 4.33 (mean number of children ever born to women aged 40-49 years in 2005-2006, NFHS) (IIPS, 2007).

Table 6: Age at first pregnancy and No. of living children by age-group, Palanpur 2008

Variable	Age at first pregnancy			No. of living children		
	Std.		Freq.	Std.		Freq.
age group	Mean	Dev.		Mean	Dev.	
17-24	19.2	1.7	45	1.1	0.7	51
25-31	20.1	2.5	54	2.7	1.6	56
32-38	19.4	3.0	50	3.7	1.7	51
39-50	19.4	2.3	59	4.7	1.7	59

Among women aged 39-50, Thakur women did not only marry older but they had their first child on average at age 20, whereas Muraos had the first child at age 19 and Jatabs at age 17.5. Muslims and others were closer to Thakur, between 19.5 and 19.8 years. Caste is therefore associated with age at marriage and thus age at first pregnancy. The number of total

²¹ Kanti, a young Thakur woman, discussed her sterilization with us. Before the pregnancies, she used contraceptive pills her husband gave her. After having two boys, she wanted a girl so they did a third child but after this new boy they decided not to have children anymore and to get sterilized. She was informed of this government program through the ANM (Auxiliary Nurse Midwife) who came for the polio drop for her children, and talked with village women about it. She is happy with that and it was not only her husband's decision.

living children is also higher for Jatab women (5.8) than for Muraos (4.6) or Thakurs (4.1) (Appendix Table 5).

V. Autonomy, Decision Making, Mobility and Exposure to Media

In order to assess how household decisions are made and also to understand some direct indicators of ‘autonomy’ some further questions were asked to women on decision making within the household, mobility, domestic violence, exposure to media and so on. Defining and measuring ‘autonomy’ or ‘empowerment’ is a complicated issue. For many feminists, the value of the concept lies precisely in its ‘fuzziness’ (Kabeer, 2000). The terms used in the literature are many and sometimes not well defined. The most frequently used word of “status of women” is also defined differently depending on the authors (Mason, 1986). Some focus rather on the *prestige*, i.e. the respect or esteem accorded to women because of their gender, whereas others concentrate on women’s *power* or *empowerment* and *freedom*. We focus on the term women’s *autonomy*, defined as “the extent to which [women] have an equal voice in matters affecting themselves and their families, control over material and other resources, access to knowledge and information, the authority to make independent decisions, freedom from constraints on physical mobility, and the ability to forge equitable power relationships within families” (Jejeebhoy, 2000).

It is however important to keep in mind that talking about “the” status of women is not always appropriate as it is a multidimensional concept (Mason, 1986 and 2005), spanning the social, economic, political and psychological sectors. Some women may have more power in the private sphere and less in the public one whereas for others it would be the other way round. Therefore, we present the different indicators on which data were collected, separately without trying to construct one indicator of women’s autonomy.

a) Economic decision-making: An important aspect of women autonomy is whether they have a control over how the household resources are spent. As seen in the table below, whereas 3 out of 4 women say they have a say in household expenditures and 88% do get cash in hand, only 8% have any land in their name and only 18% have a bank account.

b) Mobility: In the traditional vision, a woman is not allowed not go out alone and should be accompanied either by her husband or by someone else of her in-law family. It is still a fact that most women in Palanpur do go out of their house relatively rarely. We asked women whether they could go alone to a list of commonly visited places. The place where women can most often go alone is the village temple (70%), followed by the village doctor (62%), relatives or friends in the village (61%) and fields outside the village (53%)²². One woman out of two can go alone to visit her parents (49%) but this variable has the characteristic that it is different for every woman in the village and some parents may live quite far away. The places where fewest women can go alone are the health centre outside the village (33%), the local market in the village (31%) and the shrine or market outside the village (21%). The main determinant of mobility seems to be caste. As expected, Jatab women are most free to go where they want to in almost every category. As expected also, Thakurs are at the bottom of the list in terms of mobility, except for the category temple in the village (where obviously Muslims rarely go) or health centre outside the village. One Thakur woman out of two can go

²² Women would go to fields outside the village to take meals to workers, to do farm work, to gather/cut grass for the cattle. Since there are very few households in Palanpur which have toilets women also have to go to the fields to relieve themselves.

to relatives or friends in the village whereas almost all Jatab women can do so. Putting together the data on all the different places, 16% of women can go nowhere alone (mostly newly married women). But it also shows that every case is different, and that the distribution within the village is not extreme – women who can go everywhere vs. women locked in their own house – and that a lot of intermediate cases do exist.

Table 7: Indicators of Autonomy among Women in Palanpur, 2008

Indicator	Percent of Women (of 217)
Economic Decision Making:	
Have a say in spending	74%
Have cash in hand for expenses	88%
Have land in own name	8%
Have a bank/post office account in own name	18%
Mobility (can go the following places alone)	
Local market	31%
Village doctor	62%
Fields outside the village	53%
Relative's house	61%
Village temple	70%
Nearby shrine	21%
Parents' house	49%
Health centre	33%
Domestic Violence (Ever beaten by husband)	
beaten regularly	11%
beaten sometimes	36%
beaten rarely	7%
never beaten	46%
Exposure to Media (Ever)	
Read newspapers	6%
Listens to radio	26%
Watches TV	34%
Ever gone to cinema	11%
Participation to civic life	
Been to government office (outside or in Palanpur)	14%
Voted in last elections	78%

c) Domestic violence: Domestic violence is a whole topic in itself and has been studied by many (for e.g. Eswaran and Malhotra 2009). 54% of women in Palanpur said that they have ever been beaten by their husbands, among which 11% said that this happened *regularly* and 36% *sometimes*. It is hence far higher than the rural India average of 36.1% and the Uttar Pradesh average of 42.4% (NFHS 3, IIPS 2007). This could also be because of better reporting in this study. About 12 women did not answer the question. However, given that it is such a sensitive topic, it is surprising that so many women accepted to talk openly about it. It is nevertheless plausible that among the 46% who said there were never beaten, some of them actually were and either did not count slaps or sexual violence to “hit or beat”, or

actually did not want to talk about it. When looking at the current numbers for domestic violence, one hardly can imagine how it could be worse. However, qualitative data suggests that women indeed used to be beaten more often earlier. Or the type of domestic violence could have changed. As Yasmin, 74 years old, says: “Before [women] were beaten by their mother-in-law and by their brothers and sisters-in-law. Now only husbands beat.”

d) Exposure to Media: Women were asked whether they read a newspaper or magazine, listen to the radio or watch television and if they did how frequently they did so. 14 women (6%) said that they ever read the newspaper, of which one does it every day and 3 at least once a week. 57 women (26%) listen to the radio, most of them (40 women) almost every day. 74 women (34%) watch television, half of them almost every day, 16 of them at least once a week and 21 less than once a week. We also asked the women whether they had ever gone to a cinema hall or theatre to see a movie and only 24 women (11%) said they did. On TV women mostly watched daily serials (‘soaps’) or Hindi films, and on radio listened to songs from Hindi films. Although they did not watch ‘news’ or other informational programmes watching TV gave them an exposure to the ‘outside world’. Some women also told us that they got to know about immunisation, child care and so on from the advertisements on the radio.

More than half of Palanpur women are not exposed to media at all. One out of five has access to one type of Media, one out of five to two types, and the remaining 5% of the women to three or four. It has to be kept in mind that possession of a television or a radio is correlated with wealth and often with higher caste, as it can be expensive. Furthermore, a significant percentage of televisions and radio was acquired through dowry²³.

e) Civic life: 78% of Palanpur women voted in the last elections (panchayat elections), which is quite a high participation rate. When asked if they have ever been to a government/panchayat office in their village, or in a government office outside the village, 86% of them said no. Only 2 have ever been there in the village and 29 outside the village. The women were also asked whether they had ever attended a gram sabha or any such meeting in your village or ever gone for a public meeting / political meeting / rally outside the village, but there were no positive answers for the first question and only two for the second one. There was a whole section about women’s participation in any kind of associational activities, including self-help groups, mahila mandals and so on. But none of the women reported being part of any association.

VI. Conclusion and Issues for Further Research

This work focused on presenting an overview of the status of women in Palanpur based on various indicators such as education, age at marriage, mobility etc. Women in rural north India are known to have very little autonomy. Based on whatever little data are available from the previous Palanpur surveys it is seen that while there has been a positive change in women’s status, it is probably not as much as is seen in other aspects of village life. Two aspects in which the change can be seen statistically is the age at marriage which has increased and schooling among girls which has also increased significantly. On the other hand while there are no comparable data, it is still clear that on aspects such as mobility, freedom from threat, decision-making etc. women’s lives are still very restricted. The same can be said also with regard to participation in the workforce and property rights.

²³ The consumption data do contain detailed information about this, but have not been studied yet.

The study needs to be further updated by including data for some women who were interviewed later, case studies and discussions with women and girls of different age groups. All these data are available and will be analysed in future.

Further research is also required to understand how changes in the economy such as higher incomes from non-farm occupations, more men working outside village, greater exposure to the outside world through television and media have affected women's status. For each of the aspects presented in this paper explanatory factors need to be studied (for e.g. what explains the rise in child sex ratios, what are the factors affecting a girl's schooling, what influences age at marriage, what are the factors that result in greater autonomy for women and so on). It would also be interesting to study how public policy and public institutions (schools, health workers/centres, scholarships etc.) have contributed to women's lives. Finally, how the status of women affects other outcomes such as child health and nutrition also need to be studied.

References

Caldwell J (1979): "Education as a factor in mortality decline" *Population Studies* 33, no. 3:395-413.

Census (2011): "Provisional Population Totals" available at <http://censusindia.gov.in/>

Drèze, Jean and Haris Gazdar, (1997): "Uttar Pradesh: the Burden of Inertia", in Jean Dreze and Amartya Sen, (eds) *Indian Development: Selected Regional Perspectives*, New Delhi: Oxford University Press.

Drèze, Jean and Sen, A.K. (eds.) (2002): *India: Development and Participation*. Oxford University Press

Drèze, Jean and Naresh Sharma (1998): "Palanpur: Population, Society, Economy" in Lanjouw, P. and N. H. Stern. (eds) *Economic Development in Palanpur Over Five Decades* (New Delhi and Oxford: Oxford University Press)

Dyson, Tim and Mick Moore (1983): "On kinship structure, female autonomy and demographic behaviour", *Population and Development Review* 9, no. 1: 3 5-60.

Eswaran, M. and N. Malhotra (2009): "Domestic Violence and Women's Autonomy: Evidence from India", Working Paper, University of British Columbia

Jejeebhoy, S.J. (1991): "Women's Status and Fertility: Successive Cross- Sectional Evidence from Tamil Nadu, India", *Studies in Family Planning* 22:217-30

Jejeebhoy S. (2000): "Women's Autonomy in Rural India: Its Dimensions, Determinants and the Influence of Context", in H.B. Presser and G. Sen (eds.) *Women's empowerment and demographic processes: moving beyond Cairo* Chap. 9, Oxford University Press

Mary E. John, Ravinder Kaur, Rajni Palriwala, Saraswati Raju and Alpana Sagar (2008): "*Planning Families, Planning Gender*", Action Aid and International Development Research Centre, New Delhi

Kabeer N (2000): “Resources, Agency, Achievements: Reflections on the Measurement of Women’s Empowerment” in Shahra Razavi (ed.) *Gendered poverty and well-being*, Chap.2, Blackwell

Kravdal, O. (2003): “Child Mortality in India: Exploring the Community-level Effect of Education”, Health Economics Research Programme, University of Oslo, Working Paper no. 4

Malhotra, Anju., Reeve Vanneman and Sunita Kishor (1995): “Fertility, Dimensions of Patriarchy, and Development in India”, *Population and Development Review*, Vol. 21, No. 2

Mason K.O. (1986): “The Status of Women: Conceptual and Methodological Issues in Demographic Studies”, *Sociological Forum*, Vol. 1 No. 2, Springer

Mason K.O. (2005): “Measuring Women’s Empowerment: Learning from Cross-National Research”, in D. Narayan-Parker (ed.) *Measuring empowerment: cross-disciplinary perspectives*, Chap. 4, World Bank Publications

Murthi, Mamta., Guio, Anne-Catherine. and Dreze, Jean. (1997): “Mortality, fertility and gender bias in India: a district-level analysis” in *Indian Development: Selected Regional Perspectives*, edited by Jean Dreze and Amartya Sen, Oxford University Press

International Institute for Population Sciences (2007): ‘National Family Health Survey (NFHS 3): 2005-06’, Mumbai.

Ramachandran V K (1997): “On Kerala's development achievements” in *Indian Development: Selected Regional Perspectives*, edited by Jean Dreze and Amartya Sen, Oxford University Press

Sen A K (1990): “More than a Hundred Million Women Are Missing”, *The New York Review of Books*, Christmas Number, December 20

Ware, Helen. (1984): “Effects of maternal education, women's roles, and child care on child mortality”, *Population and Development Review* 10 Supp: 19 1-2 14.

Watine, Loic (2008): “Will We Have Another Child?”, Rapport De Stage D'option Scientifique (Internship Report), *Unpublished* available at http://www.csh-delhi.com/publications/downloads/articles/Fertility_loic_watine.pdf

Appendix Table 1: Literacy Rates in Palanpur among different castes; 1957-8 to 2008

% of literates (7+) [Male]						
Caste	1957-58	1962-63	1974-75	1983-4	1993	2008
Thakur	41	59	62	48	56	75
Murao	11	29	42	37	39	65
Muslim	5	20	10	23	20	52
Jatab	3	12	3	4	12	28
Kayasth	100	100	100	100	100	100
Other	14	33	26	23	38	58
All Castes	18	34	34	30	37	58
% of literates (7+) [Female]						
Caste	1957-58	1962-63	1974-75	1983-4	1993	2008
Thakur	0	8	11	8	19	39
Murao	0	3	0	1	2	20
Muslim	0	0	0	2	2	15
Jatab	0	3	0	0	0	6
Kayasth	67	50	67	100	100	100 ²⁴
Other	0	3	4	4	8	28
All Castes	1	3	6	6	9	23

Appendix Table 2: Schooling of boys and girls aged 14 to 17 (included) in Palanpur 1993 and 2008

		1993			2008		
Children 14-17		Boys	Girls	Total	Boys	Girls	Total
Schooling	stats						
No schooling	%	34.6	88.7	61.1	6.9	31.7	17.2
	N	19	47	66	4	13	17
Till 5th class	%	20.0	7.6	13.9	24.1	36.6	29.3
	N	11	4	15	14	15	29
Higher than 5 th class	%	45.5	3.8	25.0	69.0	31.7	53.5
	N	25	2	27	40	13	53
Total	%	100	100	100	100	100	100
	N	55	53	108	58	41	99

²⁴ There is only one Kayasth family in the village now

Appendix Table 3: Outside work by Women in Palanpur: Caste-wise and Age-wise

Outside work	stats	No paid job	Paid in kind	Paid in cash	Total
By caste					
Thakur	%	96.9	0	3.1	100
	N	62	0	2	64
Murao	%	80.4	11.8	7.8	100
	N	41	6	4	51
Jatab	%	50	33.3	16.7	100
	N	15	10	5	30
Muslims (Dhobi,Teli)	%	84.4	9.9	6.2	100
	N	27	3	2	32
Others	%	77.5	15	7.5	100
	N	31	6	3	40
By age group					
17-24	%	92.2	5.9	1.9	100
	N	47	3	1	51
25-31	%	76.8	17.9	5.4	100
	N	43	10	3	56
32-38	%	72.5	15.7	11.8	100
	N	37	8	6	51
39-50	%	83.0	6.8	10.2	100
	N	49	4	6	59
Total	%	81.1	11.5	7.4	100
	N	176	25	16	217

Appendix Table 4: Age at marriage in 2009

By	Mean	Std. Dev.	Freq.
Caste			
Thakur	17.61	2.03	64
Murao	16.69	2.14	51
Jatab	15.90	1.92	30
Muslims	16.47	1.34	32
Others	17.20	2.22	40
Education			
IL	16.60	1.99	181
RW or R	18.50	1.68	36

Appendix Table 5: Age at first pregnancy and No. of living children by Caste, Palanpur 2008

Women aged 39-50	Age at first pregnancy			Nb of living children		
Caste	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.
Thakur	20.0	1.9	22	4.1	1.6	22
Murao	18.9	2.0	12	4.6	1.4	12
Jatab	17.5	2.4	6	5.8	2.6	6
Muslims	19.5	2.1	11	5.2	1.7	11
Others	19.8	3.4	8	5.1	1.1	8
Total	19.4	2.3	59	4.7	1.7	59

Appendix Table 6: Mobility among women in Palanpur, caste-wise

Can go alone to: caste	a) local market in the village	b) doctor in the village	c) fields outside village	d) relatives or friends in village	e) temple in the village	f) shrine or market outside	g) visit her parents	h) health centre outside village
Thakur	25%	56%	27%	48%	73%	14%	42%	36%
Murao	20%	55%	73%	51%	80%	29%	49%	27%
Jatab	47%	83%	90%	97%	100%	27%	63%	23%
Muslims	38%	69%	56%	59%	9%	16%	53%	41%
Others	38%	60%	43%	70%	78%	20%	48%	38%
Total	31%	62%	53%	61%	70%	21%	49%	33%
Total no. of women (/217) allowed to go	67	135	116	133	152	45	107	72

Nutrition Status in Palanpur

Dipa Sinha**

Village studies have been conducted in Palanpur in Uttar Pradesh, India since the 1950s, with the sixth round of survey in Palanpur being conducted during 2008-10. The primary focus of the previous rounds of the survey was to understand how the economy of the village functioned, how it was changing especially in relation to the agrarian economy, farming practices, rural markets, outside opportunities, population growth and so on. In each round of the survey the areas of investigation were expanded to include newer topics including various social and economic aspects of life in Palanpur (Lanjouw and Stern, 1998).

This round of village survey in Palanpur was mainly focussed on the change in the economy of the village while trying to understand its links with the larger changes occurring outside Palanpur, in Uttar Pradesh, in India and beyond. In addition, this time separate schedules were also canvassed to try and understand gender relations in the village and access to social services (health, education, pensions etc.). Women were interviewed for information on issues related to them. It was the first time that information in a systematic manner, was collected on many of these issues. While there is a wealth of data on the present situation of women in Palanpur, unfortunately there is no systematic and quantitative previous data for comparison. However, earlier rounds of surveys, especially the one conducted in 1983-84 documented qualitative information on women's lives and other social aspects in the village, based on informal discussions, a few interviews and observation; this is useful to get an idea on what changes might (or might not) have occurred in the village.

Different rounds of survey were conducted on these aspects of village life. All children under 18 years of age were interviewed on whether they did any outside work (child labour) and on schooling or private tuition. Information was collected from all the households on the various government schemes they had access to such as the Public Distribution System, social security pensions, early child care services and so on. Further, information was also collected on the expenditure on health amongst all households for major and minor illnesses.

With a focus on better understanding of key gender issues, all married women of reproductive age (15 to 49 years) were interviewed on aspects related to women's status using a structured questionnaire. In-depth interviews were conducted with young unmarried girls on their perspectives of women's lives in Palanpur. As mentioned earlier, since there are not much data from previous rounds on these issues, the main use of the data is to get some understanding of the current situation. However, it is a useful baseline for future rounds of survey in the village. Further, the data could be collected only by female researchers and it was difficult to find women who were able to live in the village for long periods of time. There were also some reservations about raising too many culturally 'sensitive' issues as this could jeopardise other aspects of the survey and our stay in the village. Impressions on many of these (e.g. dowry, domestic violence) were gathered based on observation and informal discussions. Therefore, the questionnaires were restricted to basic information while providing for the potential to go into further detail on many aspects.

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Along with all this information, the heights and weights of all the residents of Palanpur were also measured to get an indication of their nutrition status. The current paper presents the findings of the anthropometric data collected, with a focus on children under five years of age¹. The focus is on children, as it is well documented², that malnutrition sets in during early childhood and it is also a good indicator of the general nutritional status in a community. Further, links with factors such as mother's education, autonomy and work, family's income, child care practices etc. can be explored. Finally, a small sample survey on heights and weights was also conducted in 1984 and so some comparisons are possible (Kynch, 1998). Further papers will report on social, political and gender issues in Palanpur.

I. Data

The heights and weights of all the residents of Palanpur who were available and willing were taken during a period of one week in November 2009. While this is very valuable information, there are issues of sample size and quality of data that need to be mentioned. Heights and weights of 1127 persons (out of 1265 residents of Palanpur) were collected during this period. In this paper, we use the data related to children under five years of age and adults over 20 years of age. The first group is chosen because that is the standard age group to study child malnutrition, with anthropometric norms given by the WHO. The second group is chosen as the analysis on adult nutrition status based on data from the 1983-84 survey included those above 20 years of age (Kynch, 1998). In Palanpur, there are 170 children under 5 years of age and 645 adults above 20 years of age. Among the 645 adults of the relevant age group, measurements for 562 persons were taken during the survey³. Among the 170 children under 5 years of age, heights and weights were measured for 166 children. However, in this paper we use only the data for 134 children for whom all the other relevant information including date of birth (at least month and year) and mother's characteristics (i.e. those whose mothers were interviewed in the "women round")⁴. While the paper is mainly focussed on child malnutrition, the small sample size is an issue of concern. But since this is a village study, it is expected that large numbers will not be available⁵.

There were two other problems with using the child anthropometry data. First, it is important to know the exact date of birth for children to be able to estimate the standard anthropometric measures such as height-for-age and weight-for-age. As has been the

¹ This paper presents very preliminary results. Data from other rounds (for e.g. 'Women's questionnaire) which are used here for understanding causations are still being processed. Once the final data is available all numbers will need to be revised accordingly.

² Malnutrition at an early age leads to reduced physical and mental development during childhood. The first two years of life are the "window of opportunity" to prevent early childhood undernutrition that causes largely irreversible damage (See Horton 2008, WFP, UNICEF 2009 and references therein). For further information also see the Lancet Series on Maternal and Child Undernutrition (2008).

³ The remaining were not included as they were either not available in the village during the survey or were not willing to participate. This includes 48 females and 35 males. Of the 562 whose measurements are available, the data for 4 persons has not been used in the analysis, because of errors in measurements.

⁴ Further, those whose anthropometric indicators were outliers were removed. There were some women who were not available during the time when the survey related to women was conducted, but were covered later. These women have not been included in this paper. Therefore, a few more children will be added in later analysis.

⁵ At the same time it is clarified that no claim is being made that Palanpur is a 'representative village'. On the other hand it is not an especially unusual village either. As mentioned in the earlier book on this village study, the purpose of this study is "*the hope that the unique detailed knowledge of that particular place might generate hypotheses and thoughts which would not arise naturally from a more anonymous data set covering large parts of the country.*" (Lanjouw and Stern, 1998; p. xiii)

experience with most studies involved in collecting the dates of birth in rural India, in Palanpur too it was only in very rare cases where parents were able to recall the exact date of birth of children. A lot of time was spent in trying to arrive at the precise month and year of birth using local events and festivals as reference points. The data were also then triangulated with the information that the anganwadi worker (child care worker of the government Integrated Child Development Services (ICDS)⁶ programme) had. However, since the ICDS is almost non-functional in the village, she did not have records for many children.

Secondly, the entire exercise of collecting heights and weights of young children was quite tedious and raised some doubts in our minds on how accurate our measurements were. Most children would cry and refuse to stand/sit still even for the few seconds required to get their weights and heights. Some adults also did not see a point in this exercise and therefore were not very encouraging. Many adults were however more interested in getting their own weights measured and so were older children. While we were wary before starting the measurements because we were told by some that people in this area believed that weighing children would attract the evil eye, and that we should expect a lot of resistance from the parents and especially grandparents, this was not the case in the field. The actual problem was that it was difficult to find flat surfaces to place the weighing machines on and then to get the children to co-operate with the measurement. So, while sitting in the little basket for weighing, children would constantly move and while measuring heights also would not stand up straight. We did our best to get the most accurate measurements, given the odds, and have used only the data that we felt confident about.

While these limitations to the data must be kept in mind, it is also important to note that the results we get are not wildly dissimilar to the measures from secondary sources for the district and the state. And on the whole we believe we may have applied tougher standards, closer checking and more care in general for data collection across the board in Palanpur than for many other studies and surveys. Therefore, we suggest they can be used to arrive at some broad conclusions on the status of nutrition among children in Palanpur and the factors which might be affecting it.

The village survey in 1983-84 also measured heights and weights, providing some degree of comparison over time. However, the 1983-84 nutrition survey was restricted only to a sample of cultivator households and therefore is not strictly comparable to the present data. The nutrition survey in 1984 covered 239 persons in the 36 sample households. The Body Mass Index (BMI)⁷ was calculated for all adults, and measures for stunting (height-for-age) and underweight (weight-for-age) for children. While BMI from the previous round and

⁶ The Integrated Child Development Services (ICDS) Scheme has the following objectives: (i) to improve the nutritional and health status of children in the age-group 0-6 years; (ii) to lay the foundation for proper psychological, physical and social development of the child; (iii) to reduce the incidence of mortality, morbidity, malnutrition and school dropout; (iv) to achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and (v) to enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education. These objectives are sought to be achieved through a package of services comprising: (i) supplementary nutrition, (ii) immunization, (iii) health check-up, (iv) referral services, (v) pre-school non-formal education and (vi) nutrition & health education. These services are provided through an anganwadi centre (each anganwadi centre has an anganwadi worker and anganwadi helper). Based on Supreme Court orders, the ICDS is a universal scheme with anganwadi centres in every village and open to all children under 6 years of age. For further details on the ICDS scheme see <http://wcd.nic.in> and www.righttofoodindia.org

⁷ Body Mass Index (BMI) is a simple index of weight-for-height that is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in metres (kg/m²). BMI values are age-independent and the same for both sexes.

the current round can be compared using the same “cut-offs”, there is no scope of comparison in the case of child malnutrition. This is because BMI can be calculated based only on heights and weights (irrespective of age and sex); and a ‘cut-off’ point for the BMI chosen; below which population can be considered to be undernourished. Even if the ‘cut-offs’ change over time, comparisons can be made with reference to previous cut-offs used even without access to raw data from earlier. However, as indicators of child malnutrition such as stunting and underweight are arrived at in relation to how far the current height or weight of a child is from the standard reference population (of the same age and sex); as standards change we require access to the raw data to re-calculate prevalence of undernutrition.

Evaluation of nutritional status for children is based on the rationale that in a well-nourished population, there is a statistically predictable distribution of children of a given age with respect to height and weight. In any large population, there is variation in height and weight; this variation approximates a normal distribution. Use of a standard reference population as a point of comparison facilitates the examination of differences in the anthropometric status of subgroups in a population and of changes in nutritional status over time. The use of a reference population is based on the empirical finding that well-nourished children in all population groups for which data exist follow very similar growth patterns before puberty (IIPS, 2007).

Until 2006 the most commonly used reference population, was the U.S. National Center for Health Statistics (NCHS) standard, which was recommended at that time by the World Health Organization. These were the standards used for analysis of the data collected in 1984 (Kynch, 1998). However, in this paper estimates based on a new international reference population released by World Health Organisation (WHO) in April 2006 (WHO Multicenter Growth Reference Study Group, 2006) and accepted by the Government of India are used⁸.

Since the standards for defining nutrition status used in the earlier survey are different and the data could not yet be made comparable in the case of children, direct comparisons with results from the previous round of survey is not possible at the moment⁹. However, as mentioned above comparisons on adult BMI based on cut-offs used in the earlier paper are made here.

Whilst we will make the best use we can of earlier data on nutrition it is, nevertheless, very limited. Further, no data was systematically collected in previous rounds on other related aspects of access to health care, age at marriage, child care practices or women’s status. In this paper we restrict ourselves to only broad comparisons of what change might have taken place.

In spite of the data gaps, what emerges from both the rounds of survey is that the levels of malnutrition in Palanpur are high. While there might have been some improvement

⁸ Since the WHO is now the accepted norm, it makes sense to use it. Further, software is also available to analyse the data based on these new reference data. The STATA igrowup package available for download on the WHO website (<http://www.who.int/childgrowth/software/en/>) was used to analyse the data.

⁹ The raw data from the previous round of survey is only available in the form of copies of diaries in which data were collected. This is being entered electronically and once we are able to link the data to the current person ids, they will also be analysed using the new standards. This will take some time as names, especially of young children, change. Further the diaries do not have the date of birth but only notes on links to reference events during the time of birth – which have to now be figured out. Attempts are also being made to recover the soft copy (electronic version) of the previous round of data which will make comparison easier.

over the last 25 years, the present data show that levels of malnutrition among children are still high. This is also true for rural Uttar Pradesh in general (more on this below).

II. Malnutrition in India – A Background

India is home to the highest number of malnourished children in the world (UNICEF, 2009). What is puzzling is that in spite of the recent spurt in the economic growth rate, the decline in malnutrition has been unimpressive. Despite sustained growth in the national and per capita incomes over the last two decades, it is seen that there is a minimal decline in the rate of malnutrition among children (Haddad, 2009). International evidence shows that, in average using cross country analysis, for every 3–4 per cent increase in *per capita* income, undernutrition rates as measured by low underweight rates decline by around 1 per cent (Haddad *et al.* 2003).

Rates of malnutrition in India, and also other South Asian countries are higher than those of many poorer countries including those in Sub-Saharan Africa; this phenomenon has been called the '*Asian Enigma*'. One of the main factors to which this is attributed is the poor status of women (Ramalingaswamy *et al.* 1996). Studies have also looked at economic factors, child care practices, health seeking behaviour etc. for explaining malnutrition.

According to the National Family Health Survey, 2005-06 (NFHS-3), 40.4% children under three years of age in the country are underweight. This is a fall of only two percent in the seven years since the previous survey was conducted. In 1998-99, by the same measure 42.7% children were underweight (NFHS-2). Other indicators of malnutrition from these surveys, are also quite poor. About 45% of children under three are stunted, and almost 70% children under five years of age are anaemic. Even among adults about one-third of all men and women have a low body mass index (BMI of less than 18.5) (IIPS, 2007).

As can be seen in the table below, malnutrition rates in rural India are high and the situation in Uttar Pradesh is in general worse than for the country as a whole. Therefore while 50.7% of all rural children in India are stunted, in rural Uttar Pradesh 58.4% children are stunted. Further, it is seen that in Moradabad district conditions seem to be worse than the average for Uttar Pradesh. It is difficult to get district level malnutrition data. The only survey which provides this is the District Level Household Survey (DLHS) conducted under the Reproductive and Child Health (RCH) programme in 2002-04 (IIPS and GoI, 2006). Even this survey did not measure the heights of children. The finding of this survey that 72.7% children in Moradabad are malnourished compared to 56% of UP as whole, indicates that the situation in Moradabad is substantially worse than the rest of the state. This result from the survey is surprising considering that Moradabad is more prosperous than the average district in the state.

The figures for malnutrition that we get for Palanpur village from our survey in 2009 are also presented in the table below. According to this, 58.2% of children under five years of age are underweight and 68.6% of them are stunted. Further, about half the adults (51.5% men and 48.7% women) have a body mass index less than 18.5, which is considered to be "normal". Based on this data, the situation in Palanpur is worse for both adults and children compared to the all India (rural) and Uttar Pradesh (rural) averages. A higher percent of children are stunted and underweight; and higher percent of adults have a low BMI in Palanpur. Further, the difference in stunting and underweight prevalence among girls and boys in Palanpur is striking and much larger than the gap seen for all India (rural) and Uttar

Pradesh (rural); with the malnutrition level among girls being much higher in Palanpur. Such a gap is not seen in the case of adult BMIs. However, as will be seen below, this probably has a lot to do with the small sample¹⁰ of Palanpur and is in fact a reflection of other confounding factors such as socio-economic status of the family.

Table 1: Malnutrition in India, Uttar Pradesh and Palanpur

	India*	Uttar Pradesh*	Moradabad**	Palanpur (2009) [#]
% rural children underweight	45.6	44.1	72.7 (56)	58.2
% girls underweight	41.9	43.7	(54.1)	63.4
% boys underweight	43.1	41.2	(56.4)	52.4
% rural children stunted	50.7	58.4	-NA-	68.6
% girls stunted	48.0	57.5	-NA-	71.8
% boys stunted	48.1	56.2	-NA-	65.1
% rural men with BMI less than 18.5	38.4	41.5	-NA-	51.6
% rural women with BMI less than 18.5	40.6	38.9	-NA-	48.7

* Source: NFHS-3, IIPS 2007 (The data for all India is from the India report of NFHS-3 and the data for Uttar Pradesh is from the UP state report of NFHS-3); the data related to children is for children under five years of age (0-59 months).

** Source: DLHS 2002-04, IIPS and GoI 2006 (average for UP is 55.3). Figures in brackets in the column are the average figures for UP from the DLHS report

Data from the Palanpur village survey. Data collected in November 2009. The data related to children is for children under five years. The data related to adults is for all adults above 20 years of age.

III. Adult Undernutrition in Palanpur

While there is a problem, at this stage, in comparison of this round of data from Palanpur from the previous round, in the case of children due to the difference in standards used, comparison can be made in relation to adults. Since information on the BMI, using different cut-off points, is available for adults using the 1984 data; the recent data are also presented using the same cut-offs to enable a comparison. Based on “the International Classification of adult underweight, overweight and obesity according to BMI” given by the WHO, those with a BMI of less than 18.5 are considered underweight. Among underweight populations, those with BMI less than 16.00 are classified as having severe thinness, BMI between 16.00 to 16.99 moderate thinness and BMI between 17.00 and 18.49 as mild thinness (WHO, 2011).

The 1984 data are for 101 adults above 20 years of age from a few sample households, while the present data are for 558 adults above 20 years of age from all households.

By the different cut-offs used earlier, it is seen that the percent of adults who have a BMI of less than the cut-off has fallen over the last 25 years. For instance, based on earlier Food and Agriculture Organisation (FAO) cut-offs (which was defined as the lower limit for ‘normal’ adult BMI) while 97.9% of adult males were below the normal BMI, from the current survey 80.1% are below normal. The improvement among women is lower with almost the same percent of women having a below normal BMI during both periods (50.9%

¹⁰ This is based on data related to 71 girls and 63 boys.

in 1984 and 50.4% in 2009). But the trend observed earlier of more adult men having a below normal BMI than adult women continues to hold with this round of survey as well. Using the current internationally accepted cut-off for underweight of 18.5 (as defined by WHO) male undernutrition is higher than female undernutrition with 51.6% of men and 48.7% of women having a BMI of less than 18.5.

Table 2: BMI for Adults*: Comparison with data from previous survey in Palanpur

Cut-off ^a	Men		Women [^]		Total adults	
	1984 [#]	2009 ^{**}	1984 [#]	2009 ^{**}	1984 [#]	2009 ^{**}
FAO/WHO/UNU (1985) men: 20.1 women: 18.7	97.9	80.1	50.9	50.5	73.3	65.8
Payne (1987) Adults: 18	75	38	45.3	36.2	59.4	37.1
Harriss et al. (1990) Adults: 17	52.1	20.2	30.2	22.9	40.6	21.5
Shetty (1984) Adults: 16	25	8.7	20.8	13	22.8	10.8
WHO current cut-off for underweight Adults: 18.5		51.6		48.7		50.2
Total n	48	287	53	271	101	558

* Adults defined as all those above 20 years of age [#] based on data collected during the 1983-84 Palanpur village survey. ^{**} Data from the Palanpur village survey. Data collected in November 2009.^a The figures for 1984 and cut-offs are as published in Kynch (1998); Table I. The data related to adults is for all adults above 20 years of age in the sample households¹¹. [^] 'Women' include pregnant and lactating women – the cut-off points may be too low for such women

Further, for all the different cut-offs used it is seen that between the two surveys the improvement for men is more than that for women. Again, since we do not have further information on diets, work patterns and health status, it is difficult to draw conclusions on possible causes and implication. What can be said overall from these data on adult BMIs is that there seems to be a distinct improvement in male nutritional status since 1984 (especially at lower cut-offs), while at the same time it needs to be said that the number of persons who have a below-normal BMI is still very high.

IV. Child Malnutrition in Palanpur

We now move to examine child malnutrition in Palanpur. As mentioned earlier, for young children anthropometric indicators in relation to age are considered more reliable as reflecting nutrition status.

As seen above, the child malnutrition levels in Palanpur are also higher than what is seen from secondary sources of data for Uttar Pradesh as a whole. But this is not entirely surprising, because it is seen that in many other social indicators as well, Palanpur seems to be worse off than the UP average. And direct observation does suggest that many children in Palanpur appear to be less healthy than elsewhere in the district. General levels of hygiene are low. Although there are not many visibly severely malnourished children in the village, many children look undernourished and/or have skin infections, running noses.

¹¹ FAO/WHO/UNU (1985) cut-off is for lower limit of *normal* adult BMI; Payne (1987) cut off for indicator of *adult undernutrition*; Harriss et al. (1990) cut off for indicator of severe risk to health; Shetty (1984) cut off for indicator of *low labouring availability*

Looking at the break-up of nutrition status data caste-wise¹² it is seen that Thakurs (upper caste) and ‘Others’ in general have lower levels of underweight and stunting than the rest of the castes. The highest number of children malnourished is among the Jatabs (who belong to the Scheduled Castes). What is surprising however is that the level of malnutrition among the Muraos (a land-owning agricultural caste) is also quite high, almost similar to that among the Jatabs, although economically they are probably closer to the Thakurs. This needs to be further explored. However, as we see later, the causes for malnutrition in Palanpur include not just economic status but also child care practices, mother’s education and so on. What needs to be examined is whether there is something specific among Muraos, in terms of their child care practices and so on, that makes children in these households more malnourished. At the same time, with the small sample size and measurements at one point of time, there should be caution concerning the conclusions that can be drawn.

In terms of looking at nutrition status by the asset quintiles, there is a greater negative association between percent of underweight and of stunting and asset quintile. Such a clear association is also observed in case of land ownership of the household with children from families with more land in general having a lesser chance of being undernourished.

Table 3: Child Malnutrition in Palanpur: By caste and economic status

	Underweight		Stunted	
	N	%	N	%
Caste				
Thakur	17	53.1	20	62.5
Murao	22	62.9	25	71.4
Jatab	20	69.0	21	72.4
Muslims	11	52.4	16	76.2
Others	8	47.1	10	58.8
Total	78	58.2	92	68.7
Asset Quintiles¹³				
1 (Lowest)	21	75.0	20	71.4
2	19	73.1	18	69.2
3	12	63.2	15	79.0
4	12	44.4	16	59.3
5 (Highest)	14	48.3	20	69.0
Total	78	60.5	89	69.0
Land Ownership (household total)				
No land	13	68.4	16	84.2
1-5 bigha	28	66.7	30	71.4
6-10 bigha	13	50.0	17	65.4
11-20 bigha	18	56.3	19	59.4
20+ bigha	6	40.0	10	66.7
Total	78	58.2	92	68.7

¹² For details on different caste groups in Palanpur see Lanjouw and Stern (1998)

¹³ The asset quintiles have been arrived at based on data on ownership of the household of various productive and non-productive assets using Principal Component Analysis. For details see Ishan Bakshi and Himanshu (2011)

There is a large difference in malnutrition levels between male and female children, with 65.2% of female children being underweight while 50.7% male children are underweight. Further, it should be noted that while NFHS data for the entire state of Uttar Pradesh also shows that female underweight children are more than male underweight, the difference between the two is not so wide. Given that our sample is quite small and the measurement is at one point of time, not much can be said about the extent of gender discrimination reflected in the gap in prevalence of undernutrition between boys and girls. We note however that such a gap was also noticed in the survey conducted in 1984. The previous round of survey found that “...a significantly higher percentage of girls than boys were severely malnourished, by the weight-for-age criterion.” (Kynch, 1998)

Table 4: Child Malnutrition in Palanpur: By sex and mother’s literacy status

	Underweight		Stunted	
	N	%	N	%
Sex of the Child				
Female	45	63.4	51	71.8
Male	33	52.4	41	65.1
Total	78	58.2	92	68.7
Mother’s Literacy Status				
Illiterate	67	58.8	82	71.9
Can Read/Read & Write	11	55.0	10	50.0
Total	78	58.2	92	68.7

Also, as seen in many other studies¹⁴, in Palanpur there are more malnourished children among those born to illiterate mothers than to those who can read or read and write. The difference is starker in the case of stunting, which is an indicator of chronic undernutrition, than underweight. However, there are very few literate mothers in Palanpur and caution is necessary in interpreting the results.

We have some direct indicators of women’s autonomy available including role in decision-making, outside work and mobility, physical threat and exposure to media. We also look at whether there is any relation between these indicators of mother’s autonomy and the child’s nutrition status. Mother’s autonomy can be seen as one of the pathways through which mother’s education has a positive impact on children nutrition. However, it is seen that there is no consistent pattern emerging where it seems that children of mothers having greater autonomy in economic decision making or exposure to media have lesser chance of being undernourished. In fact, in many cases, it is the other way round where more autonomy seems to indicate more malnutrition, something that is counter-intuitive. However, this needs to be further studied while controlling for confounding factors. Further, other studies using NFHS data have failed to find any significant relation between mother’s autonomy and child nutrition, even after controlling for many other socio-economic indicators¹⁵.

¹⁴ For example see Mishra and Retherford (2000); Moestue and Hutley (2008) and Miller and Rodgers (2009). The author’s own calculations using NFHS data for all Indian states and controlling for other socio-economic factors of the family also confirms this positive relationship between mother’s education and child nutrition.

¹⁵ See Arulampalam, Bhaskar, and Srivastava (2010) and also author’s own work with NFHS data for all Indian states (unpublished)

Table 5: Child Malnutrition in Palanpur: By indicators of mother's autonomy¹⁶

	Underweight		Stunted	
	N	%	N	%
Economic Decision Making^a				
Less than average decision-making	17	44.7	25	65.8
More than average decision-making	61	63.5	67	69.8
Total	78	58.2	92	68.7
Outside Paid Work^b				
Does no outside paid work	61	56.5	71	65.7
Does any outside paid work	17	65.4	21	80.8
Total	78	58.2	92	68.7
Mobility^c				
Less than average mobility	44	55.0	50	62.5
Can go to 5 or more places alone	34	63.0	42	77.8
Total	78	58.2	92	68.7
Freedom from Threat^d				
Ever beaten by husband	36	57.1	42	66.7
Never beaten by husband	40	61.5	47	72.3
Total	76	59.4	89	69.5
Media Exposure^e				
No media exposure	46	56.1	60	73.2
Any media exposure	32	61.5	32	61.5
Total	78	58.2	92	68.7

^a This indicator is based on 4 questions that were asked on whether the woman she has a say in how the household's overall income is spent, she gets any cash in hand to spend on her own, she has any land in her name and she has a bank/PO account. All women who said "yes" to 2 or more of these questions are considered as having "more than average decision making". ^b Indicator of women who have done any paid work (cash or kind) in the last year preceding the survey. ^c Women were asked whether they are allowed to go alone to 8 different common places such as the market, to the doctor, to the temple, to the fields and so on. We then categorise women into those who said they can go to 5 or more places alone and those who cannot. ^d Women were asked whether they ever experienced domestic violence in their married life. ^e Women were asked whether they read the newspaper, listened to the radio, watched TV or ever been to the cinema. All women who said that they accessed any one of these media (in whatever frequency) have been categorised as having any media exposure.

An immediate factor that could be considered to be affecting child's nutrition status is whether appropriate child care practices are being followed or not. Important among these are early and exclusive breastfeeding and timely introduction of complementary feeding. In these aspects as well it is seen that Palanpur performs poorly. Only 10% of the women said that they gave their babies colostrum milk, and only about 15% reported timely introduction of complementary feeding. It is believed locally that colostrum feeding is harmful to the babies and therefore is squeezed out before feeding the baby. Further, it is also believed that the mother does not produce enough milk initially and therefore most children are breastfed, for the first couple of days they are given pre-lacteals such as sugar-water and *ghutti*¹⁷. Data from the NFHS shows that in Uttar Pradesh 96% children are given pre-lacteals (IIPS, 2007).

¹⁶ See Coppoletta and Sinha (2011) for details on women's status in Palanpur

¹⁷ Something like gripe water; made using local herbs

Table 6: Child Malnutrition in Palanpur: Child Care Practices

% children given (human) colostrum feeding ¹⁸	10%
% start complementary feeding (solid/semi solid) by 7 th month	15%
% children/women who never got any benefit from ICDS	87%

Further, from observation in Palanpur, one saw that rarely were young children given appropriate food when solids were introduced. This was both because of lack of resources and lack of awareness. In general diets in Palanpur are poor in variety with most eating only 'roti' and 'vegetables' (that too not many). The ICDS¹⁹ scheme which is supposed to provide supplementary nutrition for young children and counsel mothers on these issues is non-functioning. Of all the women with young children, only about 13% said that they ever received any service, including supplementary nutrition, from the ICDS. For Uttar Pradesh as a whole NFHS reports that 22.3% of all children under six receive any services from the ICDS (IIPS, 2007).

Two most significant immediate causes of malnutrition are inadequate dietary intake and illness and these tend to create a vicious circle: a malnourished child, whose resistance to illness is compromised, falls ill, and malnourishment worsens. Children who enter this malnutrition-infection cycle can quickly fall into a potentially fatal spiral as one condition feeds off the other. Malnutrition lowers the body's ability to resist infection by undermining the functioning of the main immune-response mechanisms. This leads to longer, more severe and more frequent episodes of illness. Infections cause loss of appetite, mal-absorption and metabolic and behavioural changes. These, in turn, increase the body's requirements for nutrients, which further affects young children's eating patterns and how they are cared for (UNICEF, 1998).

Lack of hygiene, sanitation and clean drinking water leads to infections which in turn contribute to malnutrition. Although not much systematic data is available, from observation it can be said that Palanpur performs poorly in these aspects. Of the 217 households in Palanpur, only 19 households have a toilet with a septic tank/flush system, 5 households use a covered drainage system²⁰ and all the households use drinking water from hand pumps.

V. Factors Affecting Malnutrition

It is quite clear from the literature and also experience in Palanpur that malnutrition is an outcome of various factors including poverty, income status, gender norms, women's status, child care practices and so on. With such a small sample it is difficult to separate out the effects of each of these factors to determine what is important in determining the nutrition status of a child. However, an attempt is made below to understand the effect of some of the factors looked at above, while controlling for the others. Using a probit model, the odds ratios of a child being underweight are estimated.

¹⁸ The first breast milk (colostrum) is highly nutritious and has antibodies that protect the newborn from diseases. Late initiation of breastfeeding not only deprives the child of valuable colostrum, but becomes a reason for introduction of pre-lacteal feeds (that is, something other than breast milk) like glucose water, honey, *ghutti*, animal milk, or powdered milk that are potentially harmful and contribute to diarrhoea in the newborn (IIPS, 2007). This also triggers the cycle of malnutrition and infection.

¹⁹ See footnote no. 4 for details on this scheme

²⁰ There is no underground drainage facility in the village

Table 7: Factors Affecting Child Malnutrition in Palanpur

VARIABLES	odds ratio of child being underweight
Mother's Schooling - primary	0.18** (0.146)
Mother's Schooling – above primary	2.09 (1.870)
Any exposure to media	1.55 (0.694)
Child is female	1.62 (0.624)
Land ownership	0.97* (0.019)
Mother married before 18	0.72 (0.301)
Mother engaged in a paid job	1.25 (0.608)
Constant	1.78 (0.876)
Observations	129
seEform in parentheses	
*** p<0.01, ** p<0.05, * p<0.10	

In the above model, it is seen that the two factors that seem to have a significant effect on a child being underweight or not are mother's schooling and the land ownership of the family. The odds of a child being underweight are significantly lower (at 5% level) for a child whose mother has studied at least up to completion of primary level compared to a child of a mother who has never been to school. However, this is not true for children of mothers who are educated beyond the primary level. But, the odds ratios are not significant and also there are only 2 mothers in the sample who have studied beyond primary.

The land ownership variable is a continuous variable taking the value of the number of *bighas* of land owned by the family. Here it is seen that as the land ownership increases the odds of the child being underweight is significantly lower (at the 10% level). The rest of the factors included such as mother's exposure to media, mother's work status, age at marriage of mother, sex of the child do not show any significant relationship with the child being underweight. It is interesting to note here that while there was a striking difference in malnutrition rates among boys and girls, this difference is not significant once we control for other socio-economic factors. This needs to be explored further²¹.

VI. Conclusion and Issues for Further Research

This paper is a preliminary attempt at understanding the status of malnutrition amongst children and adults in Palanpur village. Although not much can be said about the change in

²¹ Based on analysis of data from this round of survey in Palanpur compared with data for 1993, Loic (2008) finds that the survival rate for girl children is less than that for boys, for all children born between 1993 and 2008.

nutrition status over time, due to the lack of adequate data from previous rounds of the survey, based on the adult BMIs one can say that there is a modest improvement in the overall nutrition levels in the village. However, compared to secondary data for Uttar Pradesh it is seen that the level of malnutrition in the village, especially among children, is still very high. This is also disappointing considering that a visible improvement in the living standards of people in the village can be seen between now and the previous comprehensive survey in 1983-84. Almost all the houses in the village are now *pakka*, there is more footwear and better clothes, many are working in jobs outside the village, there is an increase in the use of consumer durables such as mobile phones, motorcycles, TVs etc²².

On the other hand, in comparison with the description of women's living conditions and discussions with people in the village seems to indicate not as much has changed when gender relations are concerned. There is a definite change in terms of more girls now being sent to school, but the level of education they complete still remains very low. Older women talk about how the newer generation has more freedoms in terms of mobility, traditions such as *purdah* continue to be practiced. On the other hand, women's participation in activities such as 'gram sabhas' (village meetings) is still very low. There are strict taboos on women's mobility and not many women work outside the home, especially in paid employment. However, from our data it is not clear how much of this affects child malnutrition, other than mother's education status.

Although there is some visible improvement in the public infrastructure²³ in Palanpur since 1984, the quality of public services in the village is still poor. The village school has only one teacher attending the school at any given time (of the one permanent teacher and two para-teachers) and a private school that was running earlier has not been closed down. For most part of our stay in the village during the two years from 2008-10, mid day meals were not served in the school. The direct child nutrition programme, ICDS, is non-functioning in spite of the anganwadi worker and helper living in the village. Most people do not know the services that are supposed to be provided under this programme and it is not clear what happens to the supplementary nutrition that comes for young children. Children have never been weighed, their births have not been registered and immunisation levels are very low. Except for the 'pulse polio' programme for which the Auxillary Nurse Midwife (ANM) comes to the village, there do not seem to be any public health services available. There is further data on public services available and is yet to be studied in detail.

For primary health care, residents of Palanpur mostly go to the (unqualified) medical practitioners in the village. Both of them (one lives in Palanpur and the other comes from the neighbouring village of Pipli) have not been trained but prescribe everything from painkillers to antibiotics. For further care, people go to private practitioners in nearby towns such as Bilari and Chandausi. A lot of money is spent on health care²⁴ but the quality of health care received is poor and there is no faith in the public health system. Further details on this aspect will be analysed using the data from the round on health expenditures.

In spite of such poor conditions of public services in the village, there are not many instances of collective action by people of the village towards demanding for improved services. This could be an important link explaining why social and human development indicators in Palanpur do not seem to have kept pace with economic progress. This would be

²² See Himanshu and Stern (2011)

²³ The school building for instance now has two rooms, toilets for girls and boys separately and a kitchen shed.

²⁴ Systematic data on health expenditures has been collected and will be analysed

an important study as a follow up to the present paper. This is important since at the macro level it has been seen that state of public services, especially for health and nutrition, have a significant effect on malnutrition outcomes²⁵.

While this paper shows that level of child malnutrition in Palanpur is quite high, further research as discussed above will help throw light on the causes of high malnutrition. Along with further study on women's status, health and other services, public action with available data one can also look at food expenditures of households and possibly even the variety in food consumption. Moreover, once the data of the previous round is processed, one can also trace some of the persons who were children in 1984 whose anthropometric measurements are available to see how they are doing now.

References

Arulampalam Wiji, Anjor Bhaskar, and Nisha Srivastava (2010): "Women's Autonomy and the Nutritional Status of Children", Paper presented at Workshop on *Nutritional Status of Children in India: Trends and Strategies*, New Delhi. 18-19 October (University of Allahabad, Institute of Human Development and University of Warwick)

Bakshi, Ishan and Himanshu (2011): "Poverty, Inequality and Mobility in Palanpur: some preliminary results", Asia Research Centre Working Paper No.45

Coppoletta Rosalinda and Dipa Sinha (2011): "Women's Status in Palanpur" Asia Research Centre Working Paper No.50

FAO/WHO/UNU (1985), "Energy and Protein Requirements", Report of a joint FAO/WHO/UNU Expert Consultation, *WHO Technical Report Series* No. 724 (World Health Organisation: Geneva)

Haddad, Lawrence; H Alderman, S Appleton, L Song, and Y Yohannes (2003): "Reducing Child Malnutrition: How Far Does Income Growth Take Us?" *The World Bank Economic Review* 17.1: 107–31

Haddad, Lawrence (2009): "Lifting the Curse: Overcoming Persistent Undernutrition in India" *IDS Bulletin* Volume 40 Number 4 (Blackwell Publishing: Oxford)

Harriss, Barbara; S Gillespie and J Pryer (1990): "Poverty and Malnutrition at Extremes of South Asian Food Systems", *Economic and Political Weekly*, 31

Harriss, John and N Kohli, (2009): "Notes on the Differing 'States' of Child Undernutrition in Rural India", *IDS Bulletin* Volume 40 Number 4 (Blackwell Publishing: Oxford)

Himanshu and Nicholas H Stern (2011): "India and an Indian village: Fifty Years of Economic Development in Palanpur", Asia Research Centre Working Paper No.43

Horton, Richard (2008): "Maternal and Child Undernutrition: An Urgent Opportunity", *The Lancet*, Volume 371, Issue 9608, Page 179, 19 January

²⁵ Harriss and Kohli (2009); Subramanyam et. al. (2011)

International Institute for Population Sciences, IIPS (2007): “National Family Health Survey 2005-06 (NFHS-3)” (Mumbai: IIPS)

International Institute for Population Sciences, IIPS and Government of India (2006) “Nutritional Status of Children and Prevalence of Anaemia among Children, Adolescent Girls and Pregnant Women, District Level Household Survey 2002-04”

Kynch, Jocelyn (1998): “Nutrition” in Lanjouw, P. and N. H. Stern. (eds) *Economic Development in Palanpur Over Five Decades* (New Delhi and Oxford: Oxford University Press)

Lanjouw, Peter and Nicholas H. Stern. (eds) (1998): *Economic Development in Palanpur Over Five Decades* (New Delhi and Oxford: Oxford University Press)

Watine, Loic (2008): “Will We Have Another Child?”, Rapport De Stage D'option Scientifique (Internship Report), *Unpublished* available at http://www.csh-delhi.com/publications/downloads/articles/Fertility_loic_watine.pdf

Miller J E and Y V Rodgers (2009): “Mother’s Education and Children’s Nutritional Status: New Evidence from Cambodia” *Asian Development Review*, vol. 26, no. 1, pp. 131–165

Mishra, Vinod and R D Retherford (2000): “Women’s Education Can Improve Child Nutrition in India” *NFHS Bulletin* Number 15 February (IIPS Mumbai and East West Centre Research Program Population and Health: Honolulu)

Moestue H and S Huttly (2008): “Adult Education and child nutrition: The role of family and community”. *J Epidemiol Community Health* 2008; 62:153-159

Payne P and M Lipton (1988): “How Third World Households Adapt to Dietary Energy Stress”, mimeo, International Food Policy Research Institute, Washington, DC.

Ramalingaswami, V., U Jonsson and J Rohde (1996): “The Asian Enigma” in *Progress of Nations* (United Nations Children’s Fund: New York)

Shetty, P S (1984): “Adaptive changes in basal metabolic rate and lean body mass in chronic undernutrition”. *Hum. Nutr. Clin. Nutr.* 38C: 443-451.

Subramanyam MA, I Kawachi, L F Berkman, S V Subramanian (2011): “Is Economic Growth Associated with Reduction in Child Undernutrition in India?” *PLoS Med* 8(3): e1000424. doi:10.1371/journal.pmed.1000424

UNICEF (1998): “State of the World’s Children” (New York: UNICEF)

UNICEF (2009): “Tracking Progress on Child and Maternal Nutrition: A Survival and Development Priority” (New York: UNICEF)

WHO Multicentre Growth Reference Study Group (2006): “WHO Child Growth Standards: Length/height-for-age, weight-for-age, weight-for-length, weight-for-height and body mass index-for-age: Methods and development”. (Geneva: World Health Organization); pp 312.

(available on the web site: <http://www.who.int/childgrowth/publications/en/>) *Accessed by author in April 2011*

WHO (2011): “BMI Classification” Available at
http://apps.who.int/bmi/index.jsp?introPage=intro_3.html *Accessed by author in April 2011*

WFP (World Food Programme): “What is Malnutrition”, Available at
<http://www.wfp.org/hunger/malnutrition> *Accessed by author in April 2011*

APPENDICES

Appendix A.1

Papers of Palanpur research for MSc by French Interns

1. Education in rural India: perspective from a north-Indian village
Florian Bersier (2008)
2. Women in Palanpur: An empirical study of the determinants of autonomy in a north-Indian village
Rosalinda Copolleta (2010)
3. Household Wealth in Palanpur Round 2008-2009
Camille Duffour (2010)
4. An economic study on recent agricultural outcomes in Palanpur
Aditya Kawatra (2009)
5. Understanding child labour and its impact on education
Soline Miniere (2009)
6. Will we have another child? Fertility behaviour in rural areas of north India, an empirical study of the village of Palanpur
Loic Watine (2008)

Appendix A.2

List of all researchers involved in the Palanpur project

1. Gajanand Ahirwal
2. Hemendra Ahirwar
3. Ishan Bakshi
4. Diya Bhatnagar
5. Jean Dreze
6. Neeraj Goswami
7. Sidhharth Gupta
8. Himanshu
9. Sidhharth Kaushal
10. Ruth Kattumuri
11. Archana Kesarwani
12. Jitendar Kumar
13. Rakesh Kumar
14. Manju Kumari
15. Peter Lanjouw
16. Bertrand Lefebvre
17. Abhiroop Mukhopadhyay
18. Shilpi Rani
19. M. Sangeetha
20. Sudipa Sarkar
21. Naresh Kumar Sharma
22. Dipa Sinha
23. Gautam Kumar Sinha
24. Nicholas Stern
25. Dinesh Kumar Tiwari
26. Ashish Tyagi

Appendix A.3

Dissemination workshops and seminars in London, India and USA

I Distinguished Lecture Series at University of Hyderabad on 25th October 2010

Lecture titled ‘50 years of Economic Development in India: Palanpur’s experience’ was given by *Nicholas Stern*

II Workshop at Indian Statistical Institute on Oct 20th, 2010

Discussion papers presented:

1. Palanpur - Markets, Tenancy and Cultivation by *Ashish Tyagi*
2. Stepping out of Palanpur: From Long term Migration to Daily Commute out of the Village by *Abhiroop Mukhopadhyay*
3. 50 Years of Development in Palanpur: Education by *Ruth Kattumuri*

Participants included: Vikas Rawal (JNU), Rinku Murgai (World Bank), Bharat Ramaswami (ISI) and ISI academics

III World Bank – University of California Berkeley Conference on Non-Farm Transformation, 1-2nd October 2010.

A paper titled ‘Non-Farm Diversification and Rural Poverty Decline: A Perspective from Indian Sample Survey and Village Study Data’ was presented by *Peter Lanjouw*

Peter Lanjouw also made a presentation on Palanpur to the Washington International School 3rd Grade Class on 23rd April 2011.

IV Seminars at CSH

Discussion papers were presented at CSH from time to time

Discussants included Jean Dreze

V Seminars at LSE, Summer 2010

Discussion papers presented:

1. Agricultural Markets and Institutions in Palanpur by *Ashish Tyagi*
2. Migration by *Abhiroop Mukhopadhyay*
3. Social Developments in Palanpur by *Ruth Kattumuri* and *Dinesh Tewari*

Discussants at the two different seminars included:
Christopher Bliss, Pranab Bardhan and Abhijit Banerjee

VI Institute for Human Development Foundation Lecture in New Delhi, 6th Nov. 2009

Lecture titled 'A Village and the Continent: Economic and Social Change in Palanpur and India' was given by *Nicholas Stern*

Panelist included: Y K Alagh, Kirit Parikh, Abhijit Sen and VS Vyas

VII Jawaharlal Nehru Lecture in London on 14th July 2009

Lecture titled 'Climate Change, Internationalism and India in the 21st Century' was given by *Nicholas Stern*

It was organized by Jawaharlal Nehru Memorial Trust – Cambridge Commonwealth Trust at Chatham House

Findings from Palanpur results were included in this presentation. The paper and recording is available at <http://www.chathamhouse.org.uk/events/view/-/id/1208/>

VIII Population and Development Asia workshop at LSE on 30th June 2009

A paper titled 'Unmet need for Education and Health in Rural India: Trends from Palanpur and Uttar Pradesh' was presented by *Dipa Sinha*

Appendix B

Note on data collected during the 2008-2010 survey of Palanpur

Data collection for the sixth round of surveys of Palanpur started in May 2008 and continued at full pace until April 2010, with some supplementary material being collected until October, including for cleaning and checking. During the course of almost two years, qualitative as well as quantitative data on various aspects of the economy and society were collected. The data collection was carried out by a team of investigators who stayed in the neighbouring village of Pipli for the entire duration of the survey. The survey team also spent considerable time in cross-checking data, cleaning and verifying the data. The process of data cleaning and verification went on along with data collection. Data were collected on various themes. Except for new themes such as gender, health and consumption, this round of data collection maintained the same format and definitions for most variables for which data were collected in earlier surveys. For the new themes, an effort was made to maintain similarity with secondary data so that estimates could be obtained which are comparable to other secondary data sources. This note provides information on the current state of data clearing and readiness for analysis as of April 2011. Particular attention is given to comparisons with 1983/4 which was the most detailed of earlier rounds.

Various themes for which data were collected are given below:

1. Demographic and household characteristics survey

This round collected information on the basic demographic details of resident households of Palanpur. This was the first of the many survey rounds undertaken in the village during the two year period. Information on name, age, sex, education, marital status etc for each individual is available. Information on land ownership was also collected. This round also collected preliminary information on the migrated households (through their relatives who were interviewed). Information on deceased household members and the new additions to families were collected to maintain continuity with the previous survey data. The information collected from this round has been fully cleaned and is available for analysis.

2. Awareness, access to public schemes and asset-ownership survey

This round collected information on the asset holdings of the resident households (productive as well as non-productive assets), availability and access to public schemes (Public Distribution system and its efficiency, Widow pension scheme, Old age pension, Disability pension, Pregnant Woman benefits, Indira Awaas Yojana (Government's Housing Grant to poor families) and other government welfare schemes. Data collection was also done for the communication and information technology facilities being used by the households and their perceptions on related changes. This survey round has been cleaned to a large extent but has not been fully analysed.

This survey round is a new round and was not part of the 1983-84 survey round. This survey round offers huge research potential on the efficiency of public services including design and targeting aspects, access of households to various government programmes, utilisation and subsequent impact on households and so on. Some of these issues are crucial in the national context with the Government expanding expenditure on these programmes. Insights from Palanpur could be useful on the purpose and challenge of targeting, methods of targeting, mode of transfer and so on.

3. Cultivation survey

This round collected detail information on all aspects of cultivation for a single season. During our stay in the village we collected information on cultivation for four agricultural seasons. These were Rabi 2008, Kharif 2008, Rabi 2009 and Kharif 2009¹. This data were collected for every plot under cultivation in Palanpur on cultivation. Information collected includes information on expenses on inputs, hired as well as family labour, outputs, irrigation, nature of tenancy and agricultural markets. Information on sources of various inputs was also collected. The data collection methodology was based on recall method with data being collected once the season is over. The data collected were verified at times using physical verification/observation by the investigators but also through cross-checking with tenants and landlords. To judge the efficacy of the method and to ensure reliable data, data were also collected for a small sample on a continuous basis during the cultivation (details below)

The data sets on cultivation for three seasons have been cleaned and are ready for analysis. The last round, Kharif 2009 has not yet been cleaned. Preliminary analysis of the data from two seasons has been presented in Tyagi and Himanshu (2011). This data set has immense potential and once all the data are available, it can be used to analyse the “efficiency” of various tenancy arrangements, impacts of technical change, labour market behaviour and choices of cropping pattern. Linking of this data set with other data sets can give us valuable insights into individual decision making on diversification of employment, income, risk management, profitability and responsiveness to micro and macro policy stimulus. This data set is also an important and integral part of the analysis on income, distribution and mobility of households.

4. Tenancy and sharecropping survey

This survey focused on quantitative as well as qualitative aspects of the tenancy decisions made by the farm households. A sample of farm households participating in tenancy markets was interviewed and on the quantitative side, details were recorded on the lease transactions they participated in during Kharif 2008 and Rabi 2009. On the qualitative end, a detailed discussion questionnaire recorded households’ views on different forms of leases, their preferences for lease contracts and the reasons behind them, the qualities they seek in a tenant/landlord and how their experiences in the lease market shape their tenancy decisions of the future.

Although similar information on some of these is available from 1983-84 data, it is not based on a systematic sample but largely based on the discussion that Jean Dreze and Naresh Sharma had with the farmers in Palanpur. This time, we decided to sample some households representing all size class of farmers and different cultivating caste groups with proportional representation of different kind of tenancy contracts.

This data set has been partially analysed. Some parts of interviews are yet to be recoded and fully utilised. This data set along with the quantitative data from this round and the cultivation round would be useful in understanding the tenancy market as it exists in Palanpur. This round will also be used along with a separate round on credit and inter-linkage of factor markets to analyse the interaction between various factor markets and output markets.

¹ The Rabi harvest is in the spring/early summer, and the Kharif harvest in the late summer/early autumn. Wheat is grown in the Rabi season and rice in the Kharif.

5. Geo-spatial data survey

A comprehensive geographical survey of the village was done to prepare a map of the cultivated area as well as residential area. Information from satellites, accessed through Google Maps, was combined with the field survey and both were merged using Geographical Information Systems (GIS) techniques to prepare: a map of the residential areas of the village highlighting caste-wise distribution of communities, access to public services like hand pumps etc, caste-wise distribution of the agricultural land holdings, land usage for the four seasons covered under cultivation rounds, changes in the distribution of Paddy crop cultivation in Kharif 2009 as against Kharif 2008 (Kharif 2009 was a drought year in the district). The field survey was carried out by professional geographers using standard techniques and involved measuring each and every plot physically along with establishing ownership of the land. This technique is similar to the previous mapping of the village during the 1974-75 survey by Sue Stern². The maps have been finalised and geo-coding of all the village houses, plots and physical landmarks is complete.

The maps have been very useful in the verification of land ownerships and also cultivation records. Also the location of various infrastructural facilities such as access to water sources, soil quality etc allows us to introduce some of these variables as determinants of cropping pattern, tenancy contracts, terms of contract, productivity of various crops. Although we have limited environmental data, the maps can be helpful in looking at water usage and water table and correlating these with cropping patterns.

6. Consumption expenditure survey

Details of consumption expenditure of households have been collected for the first time in a Palanpur survey. Detailed information on the monthly consumption expenditure of a household (both food and non-food expenditure including expenditure on durables, education, health, clothing etc) were collected using the same questionnaires that are used by the National sample Survey Organisation for its consumption expenditure surveys. This was done to generate estimates of consumption expenditure, poverty and inequality which are comparable to the NSSO estimates. The survey was spread over 11 months to manage seasonal variations.

This data set has been cleaned and partially analysed. This is a very useful data set which links the Palanpur study to most of the debates surrounding poverty and inequality in India. This data set can also be used to analyse issues of calories, diversification of diets, linkage with agricultural production, food security and so on. This data set would also allow us to look at the relationship between nutritional status and food intake. More importantly, linked with income data and asset data it can throw useful light on the issue of the relative ranking of households for measurement of well-being. It can also be used to look at the issue of identifying the poor through observable characteristics: this is an important part of the current methodology of targeting of poor households in various public policy schemes in India.

² Sue Stern, a geographer from Cambridge University worked on the village itself and had to make do without digital aids in the early 1970s.

7. Credit transactions

This survey round is a new round that has been specially designed to understand various credit transactions in the village. This has been canvassed to all the households in the village. Strong efforts have been made to cross-check each entry with the debtor and lender side. In some cases, it has not been possible to corroborate the information from both sides. This round looks at sources, terms of loan, tenure, collateral arrangements and purpose of loan. This round looks at both production loans and consumption loans. This survey focused on the quantitative, as well as qualitative aspects of the credit. On the qualitative side, the survey collected perceptions of the household towards institutional and non-institutional credit and reasons behind their choices of credit transactions.

This data set has not been cleaned and therefore not yet utilised. The availability of cleaned data would allow looking closely into the credit market in the village, nature of contracts and also inter-linkage with agricultural factor markets. Another issue that would be examined is the role of credit in facilitating, or as an obstacle to, non-farm diversification particularly the self-employment variety which requires some working capital.

8. Health Survey

This is a new round of survey which looks at various aspects of morbidity, institutional and non-institutional medical care, expenses and availability of health services. Expenditure on health facilities is a major expenditure for a household and required a separate survey (as against a section in the consumption round) for recording year long expenditure of the household on health facilities. This survey collected information on actual incidence of falling sick and treatment taken. Some qualitative questions have also been included on perceptions of village residents on major illnesses.

The data set has not yet been cleaned. Analysis of this round of data would be able to help us understand the nature of vulnerabilities that households face due to health shocks. It will also allow us to link some measure of health status with households' ability to participate in labour markets. This data set should also act as a cross-check on the health expenditure data collected as part of consumption expenditure.

9. Child Survey

This survey is also a new survey with children as the respondents. The information on children-related variables, which is available from previous surveys are based on responses of adults in the family. This survey was aimed at finding the extent and nature of employment of children (youngsters below the age of 14 years) in agricultural and other activities. It also collected information regarding the time children of Palanpur spend on education, school attendance, household work, employment and other activities. It also collected information on reasons for participating in the labour market and on attendance in educational institutions.

Based on children's perceptions, this survey should help us in identifying some of the reasons for child labour in an agrarian setting. It will also help us in understanding the demand and supply side problems in access to education.

10. Women survey

The survey, which interviewed all the women of Palanpur aimed to collect quantitative as well as qualitative information on the status of women in the village. The quantitative portion aimed at maternal history, work and employment and other related issues. The qualitative part discussed the issues of autonomy, household decision making, mobility, exposure to the outside world, relations with the paternal family, exposure to media and participation in women and other associations. This is the first time there is a separate schedule on women in Palanpur. It is also important because it attempts to understand the perception of woman members on issues of patriarchy, domestic violence, marriage and so on.

The quantitative part of the data has been cleaned and analysed. Part of the qualitative survey has also been transcribed and analysed but a large part of the qualitative data is yet to be analysed. Along with issues mentioned above, it will help us understand the role of decision making within the household, its impact on nutrition and education.

11. Migration and outside employment opportunities survey

This survey aimed at understanding the extent of migration in Palanpur and the reasons behind migration for the households in which it has taken place. It was further divided up in different parts. For the first part we interviewed the resident relatives of the migrant member in the village. The second part interviewed the migrated member (living outside the village). The former two were for long-term migration. Other parts of the survey focused on the seasonal or short-term migrants. Efforts were made to contact migrated members outside Palanpur by reaching out to them in locations outside Palanpur. Although all migrated members could not be tracked and interviewed, a significant number of migrants were.

This data set has been cleaned and analysed. Most of the analysis based on this data set has been done. However, some work is still left particularly on the role of remittances on household incomes. It will also help us, for example, look at the sources of investment for resident households if financed by remittances. The survey would also help in looking at the role of networks and contacts in access to non-farm jobs. For some households, remittances also form an important source of income and thus these data would also help us looking into income distribution after accounting for this source of income.

12. Employment survey

This survey was also a blend of quantitative as well as qualitative information. It collected month wise and activity wise information on the principal and subsidiary employment status for each and every male in the work force of the village. Since very few women work on paid employment in the village, women were left out of the survey for this round. It was also because some details of employment of women are available in the women survey. Among these, casual wage labourer and self-employed individuals were interviewed to understand their reasons in opting for the specific activity, the work related hazards and uncertainties and the role of networks in their line of activity. Information on wages and the functioning of labour markets were also collected.

Part of this survey round has been analysed after cleaning. However, more work is needed to understand the choice of participation in labour market and the specificities of each of the labour markets. Formation of wages, demand and supply of labour, competition among labourers, evidence of unionisation or collective bargaining are issues that need to be

analysed. Another important aspect would be the interaction of social factors such as caste and religion with economic factors, particularly in some labour markets.

13. Continuous data collection through daily diaries

This part of the data collection exercise employed continuous data collection instead of the recall method, as employed in cultivation and employment rounds. A selected sample of the households was given diaries to enter their daily work-related activities. Households were also asked to record incomes and expenditures on a daily basis. The diaries were checked weekly to ensure that the required information was being entered satisfactorily. The exercise covered the period of Rabi 2008 and Kharif 2009 and focused on cultivation and employment data of the selected households. The information from the diaries has been coded to compare the data with the cultivation and employment rounds.

Most of the data in the diaries is a text entry (i.e. in words and numbers) and therefore needs careful entry for each of the variables. Some parts of the information related to employment and cultivation has been taken out from the diaries. However, a large part of the information is yet to be analysed. In particular, some of the expenditure entries would also act as cross-checks on the quality of data from consumer expenditure. They will also be useful in getting some idea on incomes of households which are self-employed in non-farm activities. However, since this is only for a sample, these need to be checked before some of these can be applied to all households.

14. Anthropometry

This round involved measurement of height and weight of all children and adults of Palanpur. The anthropometry for children was done twice during the survey period while for adults it has been done only once. The data were collected carefully with most households participating in the survey. However, some children and adults were left out from the survey because of non-participation.

The data from anthropometry rounds have been cleaned and partially analysed. Further analysis would require linking these with income status, food intake pattern, access to health services and so on.

15. Discussion questionnaires and interviews

Apart from these structured themes, various discussions, individually and in groups were organised and recorded on various aspects of village life. These included issues related to caste, collective action, religion and communal harmony, relationship with neighbouring villages, functioning of local government, views on political processes and democracy, marriage, intra-household decision making, dispute resolution mechanisms within village, social and religious customs. Information was also collected on crime, extra-marital relationships, and gambling, drinking and other activities.

Most of these are in the form of recorded interviews or observation by investigators who stayed in the village. Although most of the information has been transcribed, only a small part of the information has been analysed.

Household No.:

Date :

Respondent :

Investigator :

1. **Name of head** s/o2. **Caste** : /...../3. **Household size (Nos.)** /...../4. **Status compared to 1993** /...../5. **Main source of household income** /...../6. **Subsidiary sources** (i) /...../

(ii) /...../

(iii) /...../

7. **Landholding size** (bighas)

	OWNED	LEASED IN	LEASED OUT	OPERATIONAL
7.1 Total area				
7.2 Of which outside the village				

8. **Land Revenue Paid** (Rs./ year)

Household No.:

Date :

Respondent :

Investigator :

9. Household Composition

	MALE	FEMALE	TOTAL	BELOW 14
9.1 Family members				
9.2 Others (note details)				
9.3 Total household (1+2)				
9.4 Brothers and children of head living outside PAr (note details)				

10. Remarks

(i)

(ii)

(iii)

PVS-B1-2008**SCHEDULE B : HOUSEHOLD MEMBER SCHEDULE (Page 1)**

Date:

Respondent:

Investigator:

HH Code :

No	Name	Living in/out of Palanpur	Rel. to Head	Sex	Age	Marital Status	age at marriage (if applicable)

PVS-B2-2008

SCHEDULE B : HOUSEHOLD MEMBER SCHEDULE (Page 2)

Date:

Respondent:

Investigator:

HH Code :

No	Name	Literate	Education (Place & Std)		Main Occupation	Subsidiary occupation	Remarks

PVS-B3-2008 **SCHEDULE B : HOUSEHOLD MEMBER SCHEDULE** *(Page 3)*

HH Code :

Date:
Respondent:
Investigator:

Family tree :

PVS-C-2008 SCHEDULE C : DEMOGRAPHIC CHANGES

HH no :

Date:

Respondent:

Investigator:

1. All births in the household since 1993:

Name	Male / Female	Date of Birth	Whether surviving	If not, cause of death	Remarks

2. Deaths since 1993, Other than of Children (already reported above)

Name	Male/Female	Date of Birth	Age of Death	Cause of death	Remarks

3. Migration Since 1993

Name	In/Out	Date of Joining/Leaving the household in PAr	Place migrated to/from	Relation to Head	Reasons for Migration

PVS-E1-2008**SCHEDULE E : EDUCATION SCHEDULE (Page 1)**

Date:

HH Code :

Respondent:

Investigator:

Please list all the members of the household aged less than 16, OR still attending to any school or university. Do not list other members.

Name of the child	Age	Currently Attending	Current (or last) level attended	Current (or last) place of education				
				Exact place	Period attending there	Private or public?	Annual Cost (if any)	Mid-day meal scheme ?

HH Code :

Date

Respondent

Investigator

Name of the child	Previous place of education, if any				Private tuition (if yes, give details: place, teacher, duration, frequency, cost)	Remarks (details, reasons for change, etc.)
	Exact place	Period attending there	Private or public?	Annual cost (if any)		

PALANPUR VILLAGE STUDY**PVS-G-2008 SCHEDULE G: INVENTORY SCHEDULE**

Date.....

Respondent

Investigator

HH No.

Type of assets	Item	No.	Current Value (Rs.)	Circumstances and terms of acquisition	Renting, lending or sharing arrangements (if any)	Remarks

PALANPUR VILLAGE STUDY**PVS-H1-2008****SCHEDULE H: DEBT & CREDIT SCHEDULE Page1**

Date

Respondent

Investigator

HH No.

Debt or Credit	Amt of Loan	Actual Purpose	Terms (Interest, Collateral, Micro-credit etc)	Partner	Current Outstanding Sum and History	Remarks

PVS-H2-2008

SCHEDULE H: DEBT & CREDIT SCHEDULE Page 2

Date

Respondent

Investigator

HH No

--

Debt of Credit	Amt of Loan	Actual Purpose	Terms (Interest, Collateral, Micro-credit etc)	Partner	Current Outstanding Sum and History	Remarks

In case of Credit from Organised sector Banks:

Name of the scheme, if applicable:

Avail the use of Kisan Credit Card?.....

Details, if yes.....

PVS-P-2008**SCHEDULE P: PLOT SCHEDULE (page 1)**

Date:

Respondent:

Investigator:

HH Code :

Plot Ref. No.	In/out of Village	Description	Areas (bighas)			Irrigation			Other Characteristics			
		(Name and/or location)	Total	Unirrigated	Uncultivated	Sources of water	Owner	Terms of Contract	Soil Type	Slope	Distance	Trees

PVS-P-2008**SCHEDULE P: PLOT SCHEDULE** (page 2)

HH Code :

Date:

Respondent:

Investigator:

Plot Ref. No.	Ownership Status			Remarks
	Code	Circumstances and terms of acquisition (if applicable)	Terms of lease (if applicable)	

PALANPUR VILLAGE STUDY**PVS-V1-2008 SCHEDULE V: ACCESS TO GOVERNMENT SCHEMES Part 1**

Date

Respondent

Investigator

HH No.

FOOD AVAILABILITY

1. Do you have a ration card?

YES

NO

2. If Yes, What kind of a ration card to you have?

APL card

BPL card

AAY card

3. Over the last 30 days, did you buy any item at the PDS shop? YES/NO

LIST OF ITEMS	4. How much are you entitled to buy per month?		5. How much did you buy over the last 30 days?		6. What price did you pay per unit? Rs.	7. What was the quality of it?
	Unit	Quantity	Unit	Quantity		BETTER THAN MARKET ...1
Rice	KG		KG			SAME AS MARKET.....2
Wheat	KG		KG			WORSE THAN MARKET.....3
Sugar	KG		KG			
Kerosene	LTR		LTR			
Edible Oil	LTR		LTR			

8. During the past 6 months, did you buy any item at a PDS shop?

YES

NO

YES – 1, NO – 2

9. During the past 6 months, how many times did you purchase the following?

A. RICE

B. WHEAT

C. SUGAR

D. KEROSENE

E. EDIBLE OIL

10. Did you get food on credit over the past 30 days? List food item?

YES

NO

11. From whom?

SHOPKEEPER

EMPLOYER

OTHER

PALANPUR VILLAGE STUDY**PVS-V2-2008 SCHEDULE V: ACCESS TO GOVERNMENT SCHEMES****Part 2**

HH No.

Date

Respondent

Investigator

	1. Are you or other members of your household eligible for? YES.....1 NO2 DON'T KNOW....3	2. If Yes, name the member	3. Has this ... been sanctioned for any member of your household? YES.....1 NO2 DON'T KNOW...3	4. Did you receive any amount over the past 12 months? YES.....1 NO2	5. How much did you receive? Rs.	6. How much did you spend to get this? Rs.
Old age pension						
Disability pension						
Widow pension						
Accidental death benefits						
Other pensions						
Pregnancy benefits						
Indira Aawas Yojana						

PALANPUR VILLAGE STUDY**PVS-K-2008 SCHEDULE K: ENERGY USE SCHEDULE**

Household No.:

Date :

Respondent :

Investigator :

Use of Energy During Rabi 2008				
Sl. no.	Activity	Primary source of energy (code)	Whether primary source is adequate? (yes-1, no-2)	Secondary source of energy (code)
(1)	(2)	(3)	(4)	(5)
1.	Ploughing			
2.	Sowing			
3.	Irrigation			
4.	Harvesting			
5.	Threshing			
6.	Mentha extraction			
7.	Transport			
8.	Cooking			
9.	Lighting			

CODES

Col.(3)/(5): **primary/secondary source of energy:** electricity - 1, diesel/petrol/kerosene - 2, solar - 3, LPG - 4, gohar gas - 5, dung cake - 6, firewood - 7, animal power - 8, others (specify) - 9.

PALANPUR VILLAGE STUDY**PVS-R-2008 SCHEDULE R: FARMING RESOURCE USE SCHEDULE**

Household No.:

Date :

Respondent :

Investigator :

Some particulars of farming resources used for cultivation during Rabi 2008

Sl. no.	Resource	Place of Purchase (code)	Whether used? (yes-1, no-2)	If 1 in column (4)			Whether testing facility available? (yes-1, no-2, not known - 3)
				Whether available in time? (code)	Whether adequately available? (yes-1, no-2)	Quality (good-1, satisfactory - 2, poor-3)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Fertilizer						
2	Organic manure						
3	Improved seeds						
4.	Pesticide						
5	Veterinary service						

CODES

Col.3: **Place** : within village - 1; Chandausi – 2; Moradabad – 3; outside village (other than Chandausi and Moradabad): 4

Col 5: **whether available in time**: available in time-1, available but not in time -2, not available -3

PALANPUR VILLAGE STUDY**PVS-S-2008 SCHEDULE S: FARMING AWARENESS SCHEDULE**

Household No.:

Date :

Respondent :

Investigator :

General awareness/perceptions and other aspects of farming		
1.	Are you aware of Minimum Support Price? (yes-1, no-2)	
2.	If '1' in item 1, are you aware of procurement agency? (yes-1, no-2)	
3.	Did you have your crop insured at any time? (yes-1, no-2)	
4.	If '2' in item 3, reason therefore (not aware -1, not interested-2, insurance facility not available-3, lack of resources for premium payment-4)	
5.	Services availed from cooperatives (not availed because of non-membership - 1, member but not availed - 2; availed for: credit - 3, seeds/fertilisers-4, agricultural implements-5, marketing-6, inputs-7, consumer goods-8)	
6.	What is the usual source of your seeds? (farm saved - 1, exchange - 2, purchase - 3, Seed Store-4)	
7.	How often do you replace seed varieties? (generally replacing every year-1, replacing every alternate year-2, replacing after three years-3, replacing after four years or more-4)	
8.	Whether any member of the household is a member of registered farmer's organization? (yes-1, no-2)	
9.	Whether any member of the household is a member of self help group? (yes - 1, no - 2)	
10.	Are you aware of futures market? (yes - 1, no - 2)	
11.	Do you know of anybody who participates in futures market?	

12. Describe the marketing channel of agricultural commodities for your household.

PALANPUR VILLAGE STUDY**PVS-F1-2008****SCHEDULE F: PRODUCTIVE ASSETS SCHEDULE (Page 1)**

Date:

Household No.:

Respondent:

Investigator:

Purchase and sale of productive assets during Rabi 2008							
Sl. no.	Item	No. possessed on the date of survey	Expenditure incurred		Income from sale (Rs)	Total (Rs) (5+6-7)	
			Purchase	Major repair (Rs)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
For farm business			Quantity	Rs			
1.	land						
2.	improvement of land						
3.	building for farm business						
4.	cattle						
5.	buffalo						
6.	goats, pigs						
7.	poultry						
8.	other livestock						
9.	livestock and poultry (4 to 9)						
10.	sickle, chaff-cutter, axe, spade & chopper						
11.	plough						
12.	harrow, seed-drill, sprayer & duster						
13.	power tiller						
14.	tractor						
15.	thresher						
16.	canecrusher						
17.	mentha crusher						
18.	pump : electric						
19.	pump : diesel, etc.						
20.	other water lifting equipment						
21.	others						
22.	agricultural machinery and implements (10 to 22)						
23.	total productive assets (1+2+3+9+22)						

PALANPUR VILLAGE STUDY**PVS-F2-2008****SCHEDULE F: PRODUCTIVE ASSETS SCHEDULE (Page 2)**

Household No.:

Date:

Respondent:

Investigator:

Purchase and sale of productive assets during <i>Rabi</i> 2008							
Sl. no.	Item	No. possessed on the date of survey	Expenditure incurred		Major repair (Rs)	Income from sale (Rs)	Total (Rs) (5+6-7)
			Purchase				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>For non-farm business</i>			Quantity	Rs			
24.	land and building for non-farm business						
25.	machinery and equipment						
26.	others						
27.	residential building including land						
28.	total (23 +24+25+26+27)						

PALANPUR VILLAGE STUDY**PVS-Y-2008 SCHEDULE Y: HOUSEHOLD ASSETS SCHEDULE**

Household No.:

Date:

Respondent:

Investigator:

Sl No	Item	Number	Source (Code) ^{\$}
1.	Radio		
2.	VCD/DVD Player		
3.	Television		
4.	Mobile Phone		
5.	Camera		
6.	Electric Fan		
7.	Other Electrical Appliances (Specify)		
8.	Sewing Machine		
9.	Cycle		
10.	Motor Cycle		
11.	Wall Clock/Wrist Watch		

^{\$} Source Code: Purchased – 1, Gifted – 2, Dowry – 3.

PVS-T1-2008**SCHEDULE T: TELECOMMUNICATION & MEDIA PRESENCE SCHEDULE (Page 1)**

HH Code :

Date:

Respondent:

Investigator:

	Radio	TV	Cell phones	VCD/DVD Player
	(1)	(2)	(3)	(4)
Name of the individuals within the household using it the most	1/.....	1/.....	1/.....	1/.....
	2/.....	2/.....	2/.....	2/.....
	3/.....	3/.....	3/.....	3/.....
	4/.....	4/.....	4/.....	4/.....

(5) Which programs do the household members generally watch on TV? (Tick the particular category)

Category	Males	Females
News		
Agricultural		
Movies		
Entertainment Programs		
Educational Programs		

(6) If the household owns VCD/DVD Player,

(6.1) How many movies they watch in a month? (.....)

(6.2) Do they give the Player on rent? (Yes/No)? (.....)

PVS-T2-2008**SCHEDULE T: TELECOMMUNICATION & MEDIA PRESENCE SCHEDULE (Page 2)**

HH Code :

Date:

Respondent:

Investigator:

(7) If the Household does not owns a VCD/DVD Player,

(7.1) Do they hire it on rent & watch movies? (Yes/No) (.....)

(7.2) If yes, then how many times a month they hire it? (.....)

(7.3) How much rent they pay for VCD/DVD Player? (.....)

(7.4) Do they hire TV also along with VCD/DVD Player? (Yes/No) (.....)

(7.5) If yes, then how many times a month they hire it? (.....)

(7.6) How much they pay as rent for TV? (.....)

(8) Newspaper:

(8.1) Does anybody in the household reads the newspaper? (Yes/No) (.....)

(8.2) If yes, then what they generally read in the newspaper: (tick the category)

Category	Males	Females
Local News		
Entertainment		
Sports		
Market News		
Job Opportunities		
Editorial Page		

(9) If the household owns a mobile phone, for what purpose they use it basically?

PALANPUR VILLAGE STUDY**PVS-Q1-2008 SCHEDULE Q: CULTIVATION EXPENSES/RECEIPTS (Page 1)**

HH Code :

Date:

Respondent:

Investigator:

EXPENSES FOR CULTIVATION DURING RABI 2008

Sl No	Name of the crop	Land (Bigha)	Expenses (Rs)								
			Land Preparation costs (Rs)	Seeds			Pesticides/Insecticides		Fertilizer/Manure		
				Source (code) #	Quantity (Kg)	Value (Rs)	Quantity (Kg)	Value (Rs)	Type	Quantity (Kg)	Value (Rs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1.											
2.											
3.											
99.	All										

Source Code: Home – 1, Purchase – 2, Seed Store (FSS) – 3, Loan from other than Seed Store -4.

PALANPUR VILLAGE STUDY**PVS-Q2-2008****SCHEDULE Q: CULTIVATION EXPENDITURE/RECEIPT****SCHEDULE** (page2)

Date :

Household No.:

Respondent :

Investigator :

SI No.	Name of the Crop	Expenses						
		Irrigation		Minor repair and maintenance of machinery and equipment	Loan (other than seed loan, if taken)			Lease rent for land ¹
		No of times	Amount Spent (Rs)		Loan Taken (Yes/No)	Amount (Rs)	Interest Paid (Rs)	
(1)	(2)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1.								
2.								
3.								
4.								
99.	All							

¹ For non-fixed leases, write name of the lease (Batai, Chauthai, Peshgi etc)

SI No	Name of the Crop	Expenses							
		Paid Labor				Harvesting Cost (except labor)			Other Expenses (In Rs) (Specify)
		Regular (Rs)	Casual						
			Days	Daily Wages (Rs)	Total Expenses (Rs)	Processing	Trans- portation	Other (Specify)	
(1)	(2)	(20)	(21)	(22)	(24)	(25)	(26)	(27)	(28)
1.									
2.									
3.									
4.									
99.	All								

PALANPUR VILLAGE STUDY**PVS-Q3-2008****SCHEDULE Q: CULTIVATION EXPENSES/RECEIPTS (Page 3)**

HH Code :

Date:

Respondent:

Investigator:

RECEIPTS FROM CULTIVATION DURING RABI 2008

Sl. no.	Name of the Crop	Receipts				
		Output #		Sale of produce		Value of by-products (Rs)
		Quantity (kg)	Approximate market price per Kg	Quantity (kg)	Value (Rs)	
(1)	(2)	(20)	(21)	(22)	(23)	(24)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
99.	All					

Output is total output from the land (before paying to batai partner, thresher owner etc)

PALANPUR VILLAGE STUDY**PVS-W-2008****SCHEDULE W: HOUSEHOLD LABOUR SCHEDULE**

Household No.:

Date :

Respondent :

Investigator :

SI No	Name of the Crop	Family Member		Days worked
		Ref No	Name	
1				
2.				
3.				

PALANPUR VILLAGE STUDY**PVS-O-2008****SCHEDULE O: IRRIGATION SCHEDULE**

Household No.:

Date :

Respondent :

Investigator :

Area under irrigation during Rabi 2008								
Sl. no.	Crop Item	Description Code					Device used	
			Area (bigha) under irrigation for crop					
			(1)	(2)	(3)	(4)		(5)
1.	Total area under the crop							
Source of irrigation								
2.	River/spring							
3.	Pond							
4.	Tube well							
5.	Boring							
6.	Others							
7.	Unirrigated							
8.	Whether extent of irrigation is adequate? (yes-1, no-2, not required - 3)							
9.	If code 2 against sl. no. 7, reason therefore (code)							

CODES

Cols. (3) – (7): **crop**: wheat- 01, pulses -02, oilseeds - 03 mixed crop - 04, sugarcane - 05, other crop - 06, vegetables - 07, fruits and nuts - 08, plantation - 09, mentha - 10, fodder - 11, others - 99.

Col. (8): **device used**: pump (electric) -1, pump (diesel) -2, others (specify) -9.

Sl. no. 9: **reason for inadequacy**: shortage of: water - 1, fund -2, power - 3, device - 4; others (specify) - 9.

PALANPUR VILLAGE STUDY**PVS-QK1-2008 SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS (Page 1)**

Date:

Respondent:

Investigator:

HH Code :

EXPENSES FOR CULTIVATION DURING KHARIF 2008

Sl No	Name of the Crop	Land (Bigha)	Expenses									
			Land Preparation Costs (Rs)				Seeds			Fertilizer/Manure		
			Work	Cost (Rs)	Work	Cost (Rs)	Source code #	Quantity (Kg)	Value (Rs)	Type	Quantity (Kg)	Value (Rs)
(1)	(2)	(3)	(4)	(5)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.			Paleva		Tiller					Di		
			Levelling		Labor cost					Urea		
			Kyaari		Other							
			Harrow									
2.			Paleva		Tiller					Di		
			Levelling		Labor cost					Urea		
			Kyaari		Other							
			Harrow									

Source Code: Home – 1, Purchase – 2, Loan from Seed Store (FSS) – 3, Loan from other than Seed Store -4.

Remarks: (Details of Land preparation; cost calculation formula for Paleva, no of times machines employed, 2 way or single way, if own tractor used then diesel spent, Labor break-up; no of men, children, women & wage rate paid etc essential)

PALANPUR VILLAGE STUDY**PVS-QK2-2008 SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS (Page 2)**

HH Code :

Date:

Respondent:

Investigator:

EXPENSES FOR CULTIVATION DURING KHARIF 2008

SI No	Name of the Crop	Expenses								
		Pesticide/Insecticides		Irrigation		Minor repair and maintenance of machinery and equipment	Loan (other than seed loan, if taken)			Lease rent for land ¹
		Quantity (Kg)	Value (Rs)	No of times	Amount Spent (Rs)		Loan Taken (Yes/No)	Amount (Rs)	Interest Paid (Rs)	
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1.										
2.										

¹ For non-fixed leases, write name of the lease (Batai, Chauthai, Peshgi etc)Remarks: *(Details of Irrigation; Machine used, Aapasi paid, diesel quantity used per irrigation, average time in one irrigation essential)*

PALANPUR VILLAGE STUDY**PVS-QK3-2008 SCHEDULE QK: CULTIVATION EXPENDITURE/RECEIPT****SCHEDULE (page 3)**

Date:

Respondent:

Investigator:

Hh No.:

EXPENSES FOR CULTIVATION DURING KHARIF 2008

Sl No	Name of the Crop	Expenses							
		Paid Labor (except land preparation)				Harvesting Cost (except labor)			Other Expenses (In Rs) (Specify)
		Regular (Rs)	Casual						
			Man- Days	Daily Wages (Rs)	Total Expenses (Rs)	Processing	Trans- portation	Other (Specify)	
(1)	(2)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1.									
2.									

Remarks: *(Break-up of Labor; Men, children, women hired, wage rate paid to each, purpose of employment
Labor includes cost paid to workers if employed for cutting the crop)*

PALANPUR VILLAGE STUDY**PVS-QK4-2008 SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS (Page 4)**

HH Code :

Date:

Respondent:

Investigator:

RECEIPTS FOR CULTIVATION DURING KHARIF 2008

Sl. no.	Name of the Crop	Receipts						
		Output #		Sale of produce		By-products		
		Quantity (kg)	Approximate market price per Kg	Quantity (kg)	Value (Rs)	Name	Sold (Value in Rs)	Value of by-product retained
(1)	(2)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1.								
2.								

Output is total output from the land (before paying to batai partner, thresher owner etc)

Remarks:

PALANPUR VILLAGE STUDY**PVS-WK-2008****SCHEDULE WK: HOUSEHOLD LABOUR SCHEDULE Khariff 2008**

Household No.:

Date :

Respondent

Investigator :

Sl No	Name of the Crop	Family Member		Days worked
		Ref No	Name	
1				
2.				

Remarks:

PALANPUR VILLAGE STUDY**PVS-OK-2008****SCHEDULE OK: IRRIGATION SCHEDULE**

Hh No:

Date:

Respondent:

Investigator:

Area under irrigation during Kharif 2008								
Sl. no.	Crop	Description						Device used
	Item	Code						
			Area (bigha) under irrigation for crop					
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
1. Total area under the crop								----
Source of irrigation			----	----	----	----	----	----
2.	River/spring							
3.	Rain only							
4.	Tubewell + Boring							
5.	Boring + River							
6.	Tube well only							
7.	Boring only							
8.	Others							
9.	Unirrigated							
10.	Whether extent of irrigation is adequate? (yes-1, no-2, not required - 3)							----
11.	If code 2 against sl. no. 10, reason therefore (code)							----

CODES

Cols. (3) – (7): **crop**: Paddy- 01, Bajra -02, Urad - 03, mixed crop - 04, sugarcane - 05, Lehta- 06, Lai - 07, vegetables - 08, plantation - 09, other crop (specify) - 10, fodder - 11, others - 99.

Col. (8): **device used**: pump (electric) -1, pump (diesel) -2, pump (electric) plus pump (diesel) – 3, others (specify) -9.

Sl. no. 9: **reason for inadequacy**: shortage of: water - 1, fund -2, power - 3, device – 4; others (specify) - 9.

PALANPUR VILLAGE STUDY**PVS-QR1-2009 SCHEDULE QR: CULTIVATION EXPENSES/RECEIPTS (Page 1)**

Date:

Respondent:

Investigator:

HH Code :

EXPENSES FOR CULTIVATION DURING RABI 2009

Sl No	Name of the Crop	Land (Bigha)	Expenses									
			Land Preparation Costs (Rs)				Seeds			Fertilizer/Manure		
			Work	Cost (Rs)	Work	Cost (Rs)	Source code #	Quantity (Kg)	Value (Rs)	Type	Quantity (Kg)	Value (Rs)
(1)	(2)	(3)	(4)	(5)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.			Paleva		Tiller					Di		
			Levelling		Labor cost					Urea		
			Kyaari		Other							
			Harrow									
2.			Paleva		Tiller					Di		
			Levelling		Labor cost					Urea		
			Kyaari		Other							
			Harrow									

Source Code: Home – 1, Purchase – 2, Loan from Seed Store (FSS) – 3, Loan from other than Seed Store -4.

Remarks: (Details of Land preparation; cost calculation formula for Paleva, no of times machines employed, 2 way or single way, if own tractor used then diesel spent, Labor break-up; no of men, children, women & wage rate paid etc essential)

PALANPUR VILLAGE STUDY**PVS-QR2-2009 SCHEDULE QR: CULTIVATION EXPENSES/RECEIPTS (Page 2)**

HH Code :

Date:

Respondent:

Investigator:

EXPENSES FOR CULTIVATION DURING RABI 2009

Sl No	Name of the Crop	Expenses								
		Pesticide/Insecticides		Irrigation		Minor repair and maintenance of machinery and equipment	Loan (other than seed loan, if taken)			Lease rent for land ¹
		Quantity (Kg)	Value (Rs)	No of times	Amount Spent (Rs)		Loan Taken (Yes/No)	Amount (Rs)	Interest Paid (Rs)	
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1.										
2.										

¹ For non-fixed leases, write name of the lease (Batai, Chauthai, Peshgi etc)Remarks: *(Details of Irrigation; Machine used, Aapasi paid, diesel quantity used per irrigation, average time in one irrigation essential)*

PALANPUR VILLAGE STUDY**PVS-QR3-2009 SCHEDULE QR: CULTIVATION EXPENSES/RECEIPTS (Page 3)**

HH Code :

Date:

Respondent:

Investigator:

EXPENSES FOR CULTIVATION DURING RABI 2009

Sl No	Name of the Crop	Expenses									
		Paid Labor (except land preparation)				Harvesting Cost (except labor)			Other Expenses (In Rs) (Specify)	Location of the land (Bandarbuji, Bhooda, Kharra, Naddi etc)	If leased in/out, full name of the partner(s)
		Regular (Rs)	Casual								
			Man-Days	Daily Wages (Rs)	Total Expenses (Rs)	Processing	Transportation	Other (Specify)			
(1)	(2)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1.											
2.											

Remarks: (Break-up of Labor; Men, children, women hired, wage rate paid to each, purpose of employment Labor includes cost paid to workers if employed for cutting the crop)

PALANPUR VILLAGE STUDY**PVS-QR4-2009 - SCHEDULE QR: CULTIVATION EXPENSES/RECEIPTS (Page 4)**

HH Code :

Date:

Respondent:

Investigator:

RECEIPTS FOR CULTIVATION DURING RABI 2009

Sl. no.	Name of the Crop	Receipts						
		Output #		Sale of produce		By-products		
		Quantity (kg)	Approximate market price per Kg	Quantity (kg)	Value (Rs)	Name	Sold (Value in Rs)	Value of by-product retained
(1)	(2)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
1.								
2.								

Output is total output from the land (before paying to batai partner, thresher owner etc)

Remarks:

PALANPUR VILLAGE STUDY**PVS-OR-2009****SCHEDULE OR: IRRIGATION SCHEDULE RABI 2009**

Hh No:

Date:

Respondent:

Investigator:

Area under irrigation during Rabi 2009								
Sl. no.	Crop Item	Description Code					Device used	
			Area (bigha) under irrigation for crop					
			(3)	(4)	(5)	(6)		(7)
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
1.	Total area under the crop							----
Source of irrigation			----	----	----	----	----	----
2.	River/spring							
3.	Rain only							
4.	Tubewell + Boring							
5.	Boring + River							
6.	Tube well only							
7.	Boring only							
8.	Others							
9.	Unirrigated							
10.	Whether extent of irrigation is adequate? (yes-1, no-2, not required - 3)							----
11.	If code 2 against sl. no. 10, reason therefore (code)							----

CODES

Cols. (3) – (7): **crop**: wheat- 01, pulses -02, oilseeds - 03 mixed crop - 04, sugarcane - 05, other crop - 06, vegetables - 07, fruits and nuts - 08, plantation - 09, mentha - 10, fodder - 11, others - 99.

Col. (8): **device used**: pump (electric) -1, pump (diesel) -2, pump (electric) plus pump (diesel) – 3, others (specify) -9.

Sl. no. 9: **reason for inadequacy**: shortage of: water - 1, fund -2, power - 3, device – 4; others (specify) - 9.

PALANPUR VILLAGE STUDY**PVS-WR-2009****SCHEDULE WR: HOUSEHOLD LABOUR SCHEDULE RABI 2009**

Household No.:

Date :

Respondent

Investigator :

Sl No	Name of the Crop	Family Member		Days worked
		Ref No	Name	
1				
2.				

Remarks:

PALANPUR VILLAGE STUDY**PVS-QK1-2009 SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS (Page 1)**

HH Code :

Date:

Respondent:

Investigator:

EXPENSES FOR CULTIVATION DURING KHARIF 2009

SI No	Name of the Crop	Land (Bigha)	Expenses									
			Land Preparation Costs (Rs)				Seeds			Fertilizer/Manure		
			Work	Cost (Rs)	Work	Cost (Rs)	Source code #	Quantity (Kg)	Value (Rs)	Type	Quantity (Kg)	Value (Rs)
(1)	(2)	(3)	(4)	(5)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.			Paleva		Tiller					Di		
			Levelling		Labor cost					Urea		
			Kyaari		Other							
			Harrow									
2.			Paleva		Tiller					Di		
			Levelling		Labor cost					Urea		
			Kyaari		Other							
			Harrow									

Source Code: Home – 1, Purchase – 2, Loan from Seed Store (FSS) – 3, Loan from other than Seed Store -4.

IF PADDY, THEN MENTION THE TYPE (MOTA DHAAN, BASMATI, KUTHIA ETC): 1. _____ 2. _____

Remarks: (Details of Land preparation; cost calculation formula for Paleva, no of times machines employed, 2 way or single way, if own tractor used then diesel spent, Labor break-up; no of men, children, women & wage rate paid etc essential)

PALANPUR VILLAGE STUDY

PVS-QK1-2009 **SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS** *(Page 1 Extension)*

Hh No

A. Location of the plot:

1. _____ 2. _____

B. If lease, then name of the partner (with caste):

1. _____ 2. _____

C. Is any plot leased out on Peshgi? If yes then details:

1. Location of the land:

2. Name of the Partner:

3. Rent & Duration:

4. Reason for the lease:

PALANPUR VILLAGE STUDY**PVS-QK2-2009 SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS (Page 2)**

HH Code :

EXPENSES FOR CULTIVATION DURING KHARIF 2009

Sl No	Name of the Crop	Expenses								
		Pesticide/Insecticides		Irrigation		Minor repair and maintenance of machinery and equipment	Loan (other than seed loan, if taken)			Lease rent for land ¹
		Quantity (Kg)	Value (Rs)	No of times	Amount Spent (Rs)		Loan Taken (Yes/No)	Amount (Rs)	Interest Paid (Rs)	
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1.										
2.										

¹ For non-fixed leases, write name of the lease (Batai, Chauthai, Peshgi etc)Remarks: *(Details of Irrigation; Machine used, Aapasi paid, diesel quantity used per irrigation, average time in one irrigation essential)*

PALANPUR VILLAGE STUDY**PVS-QK3-2009 SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS (Page 3)**

HH Code :

EXPENSES FOR CULTIVATION DURING KHARIF 2009

Sl No	Name of the Crop	Expenses							
		Paid Labor (except land preparation)				Harvesting Cost (except labor)			Other Expenses (In Rs) (Specify)
		Reg ular (Rs)	Casual						
			Man-Days	Daily Wages (Rs)	Total Expenses (Rs)	Processing	Transportation	Other (Specify)	
(1)	(2)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1.									
2.									

Remarks: (Break-up of Labor; Men, children, women hired, wage rate paid to each, purpose of employment Labor includes cost paid to workers if employed for cutting the crop)

PALANPUR VILLAGE STUDY**PVS-QK4-2009 - SCHEDULE QK: CULTIVATION EXPENSES/RECEIPTS (Page 4)**

HH Code :

RECEIPTS FOR CULTIVATION DURING KHARIF 2009

Sl. no.	Name of the Crop	Receipts						
		Output #		Sale of produce		By-products		
		Quantity (kg)	Approximate market price per Kg	Quantity (kg)	Value (Rs)	Name	Sold (Value in Rs)	Value of by-product retained
(1)	(2)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
1.								
2.								

Output is total output from the land (before paying to batai partner, thresher owner etc)

Remarks:

PALANPUR VILLAGE STUDY**PVS-OK-2009****SCHEDULE OK: IRRIGATION SCHEDULE KHARIF 2009**

Hh No:

Area under irrigation during Kharif 2009								
Sl. no.	Crop Item	Description					Device used	
		Code						
		Area (bigha) under irrigation for crop						
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)
1. Total area under the crop								----
Source of irrigation			----	----	----	----	----	----
2.	River/spring							
3.	Rain only							
4.	Tubewell + Boring							
5.	Boring + River							
6.	Tube well only							
7.	Boring only							
8.	Others							
9.	Unirrigated							
10.	Whether extent of irrigation is adequate? (yes-1, no-2, not required - 3)							----
11.	If code 2 against sl. no. 10, reason therefore (code)							----

CODES

Cols. (3) – (7): **crop**: Paddy- 01, Bajra -02, Urad - 03, mixed crop - 04, sugarcane - 05, Lehta- 06, Lai - 07, vegetables - 08, plantation - 09, other crop (specify) - 10, fodder - 11, others - 99.

Col. (8): **device used**: pump (electric) -1, pump (diesel) -2, pump (electric) plus pump (diesel) – 3, others (specify) -9.

Sl. no. 9: **reason for inadequacy**: shortage of: water - 1, fund -2, power - 3, device – 4; others (specify) - 9.

PALANPUR VILLAGE STUDY**PVS-WK-2009****SCHEDULE WK: HOUSEHOLD LABOUR SCHEDULE KHARIF 2009**

Hh No:

Sl No	Name of the Crop	Family Member		Days worked
		Ref No	Name	
1				
2.				

Remarks:

PALANPUR VILLAGE STUDY**PVS-SC1-2008 SCHEDULE SC: SHARECROPPING SCHEDULE**

HH Code :

Date:

Respondent:

Investigator:

Collect data starting from Kharif 2008 & then Rabi 2009:

Sea- son Sl no	Contract code	Land (Bi)	Crop Sown	Partner's Name (s) (Full name with caste)	Start date of the contract (Month & year)	Ending date of the contract, if applicable (Month & year)	If leased regularly, then reason for taking or giving regularly from or to him (Codes)	Written (W) or Oral (O)	If a tenant, then was he free to work on other's land Y-1, N-2	If a tenant, Does your family member worked in leased-in land Yes-1, No-2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

*Codes Col 1: K1, K2, K3... & R1, R2 & R3**Codes Col 2: BLN, BLO, CLN, CLO, PLN, PLO, OLN, OLO**Codes Col 8: Good relation-1, borrowed more and in debt-2, terms of contract are properly followed-3, freedom to make decision-4, hard worker-5, good quality of the land-6, others (specify)-99 (Multiple Choices Possible, separate by comma)***12.** What is the rent on Peshgi plots: (List season serial number-wise)

PALANPUR VILLAGE STUDY**PVS-SC2-2008 SCHEDULE SC: SHARECROPPING SCHEDULE**

HH Code :

Date:

Respondent:

Investigator:

FILL THIS PAGE FOR EACH SHARECROPPED FARM.

Season Serial No:

1. S. No	2. Items	3. Who takes the decision on timing, quantity, etc	4. If you took decision, did you allow for partner giving suggestions? Y or N	5. If Partner took the decision, did he allow to give suggestions? Y or N	6. Proportion of cost you paid (in %)	7. When did you pay the cost (code)	8. When did the partner pay the cost (code)
A	Which crop to sow						
B	Land Prep						
C	Seeds						
D	Fertiliser & Pesticides						
E	Irrigation						
F	Labour						
G	Harvesting						
H	Processing						
I	Transportation						

Codes 3: Owner – 1, Tenant – 2, Mutual – 3, Other – 99.

Codes 7 & 8: Before the activity -1, at the time of activity – 2, after activity but before output division -3, at the time of output division – 4, after output division – 5, other – 99 (specify in remarks)

PALANPUR VILLAGE STUDY

PVS-SC3-2008 SCHEDULE SC: SHARECROPPING SCHEDULE

Hh No.:

Date:

Respondent:

Investigator:

-
1. Do you work as AL, apart from working on leased in land? Yes No
 2. If 1 is yes, then fill the labour schedule.
 3. If he works for same employer regularly (i.e. In PVS – L2, answer to q 7 is Yes), then why he does not lease in land from that owner?

Remarks:

PALANPUR VILLAGE STUDY

Date:

PVS-SC4-2008 SCHEDULE SC: SHARECROPPING SCHEDULE

Respondent:

Hh No.:

Investigator:

Particulars of credit relation between owner and tenant of the household who had Leased-In or leased-out land for the past one year (Rabi and Kharif)

Did the owner or you provided loan/credit for :

1. Consumption Yes/No

Borrowed/Lent (tick)

If Yes, then terms of contract:

a. How many times given/borrowed for past one year	b. Terms of contract:	c. If it is without interest then what is the reason; known for long year-1, good relation-2, cash repaying after harvesting-3, others-4 (specify)
<input type="text"/>	<input type="text"/>	<input type="text"/>

2. Production Yes/No

Borrowed/Lent (tick)

If Yes, then terms of contract:

a. How times given or borrowed for past one year	b. Terms of contract:	c. If it is without interest then what is the reason, known for long year-1, good relation-2, cash repaying after harvesting-3, others-4 (specify)
<input type="text"/>	<input type="text"/>	<input type="text"/>

3. For tenant only, apart from the tenant work in lease-in land did your owner or you order to do some unpaid work? If Yes, then what kind of work? Explain.

PALANPUR VILLAGE STUDY

PVS-SC5-2008 SCHEDULE SC: SHARECROPPING SCHEDULE

Hh No.:

Date:

Respondent:

Investigator:

DISCUSSION QUESTIONNAIRE

- A. Who made the approach for initialization of the contract? (list according to the season serial number for each plot)
- B. How was the crop output shared, what did you do with your share? In case you have taken loan from the landlord, or anyone else, did you repay them from the crop output. Explain the contract and history.
- C. If the crop failed, who bears the loss? Is it the case that the person who has paid major costs loses it and there is no transfer of claim to even out the loss? Or is there is a transfer in such cases.

FOR LANDLORDS

1. On reasons for leasing out

1.1 Does he have other opportunities (like well paying work outside the village, side business etc)

1.2 Lack of resources? Explain.

1.3. If outside job, how does outside job influence his decision:

1.1.1 outside job by one out of many working members of the household?

1.1.2 by the only working member?

Hh No :

Respondent:

Date:

Investigator:

1.4. Can he lease out as much as he wants to? If not, then what are the reasons.

1.5. How much land would he like to cultivate given the resources he own (engine, tractor, tubewell, labour etc). How does the availability of inputs (like labour, engine, tractor etc) influence his decision?

2. Comparison of various tenancy contracts:

2.1 Sharecropping vs advance cash rent vs fixed kind rent. Why have they gone for particular arrangement and not any other.

2.2 choice between different share contracts: Batai, chauthai, any other (give reason as well). Why have they gone for particular arrangement and not any other.

3. How does he chooses his tenants? (Any particular characteristics he may be looking for and any other traits he maybe avoiding)

Hh No :

Respondent:

Date:

Investigator:

FOR SHARECROPPING CONTRACT:

4. Does he feels any need to supervise? Does he find it bothersome?

FOR TENANTS

5. Why does he lease in at all – Is it because he has more resources (family labour, tractor, thresher, engine, etc) against the land he has?

6. How much land would he like to cultivate against his resources and resourcefulness?

7. what are the constraints on his leasing capacity.

8. how does the outside job influence his leasing decision:

- 8.1 outside job by one out of many working members of the household?

- 8.2 by the only working member?

9. Would he like to buy land to bring his landholding to the size which he wants to cultivate with the available resources (if land were available on sale). If not, why not.

Hh No :

Respondent:

Date:

Investigator:

10. Can he lease in as much land he likes (desires) or does potential landlord objects if he is 'overstretched'. Is the potential landlord aware of his being 'overstretched';?

11. If he has leased in from more than 2 landlords, do they object for him leasing more. Do they complain that he spend less time on one's land as compared to another or his land?

12. Any other difficulties in leasing in land?

13. Comparison of various tenancy contracts:

13.1 Sharecropping vs advance cash rent vs fixed kind rent. why have they gone for particular arrangement and not any other.

13.2 choice between different share contracts: Batai, chauthai, any other (give reason as well). why have they gone for particular arrangement and not any other.

14. Does he seek land in a particular locality? How does he chooses his landlord? What traits he likes to avoid and what does he look in for?

Hh No :

Respondent:

Date:

Investigator:

15. Are agricultural practices same on the own and tenanted land?

16. does landlord supervise, is supervision irritating?

FOR BOTH LANDLORD AND TENANT

17. Has there been any disputes about the inputs etc between the landlord and the tenant(s) in these 2 seasons or in recent past? If yes, what were the consequences? (e.g. non-application of the input)

18. Are you satisfied with your owners or tenant relation and behaviour towards you: Yes/No
If No, then explain what problems you faced

PALANPUR VILLAGE STUDY

PVS-CE-2008

SCHEDULE CE: CONSUMPTION EXPENDITURE

Hh No:

Date:

Respondent:

Investigator:

1. Perception of household regarding sufficiency of food

<p>A. Do all members of your household 'get enough food every day'?</p> <p><i>yes: every month of the year-1, some months of the year -2, no: no month of the year-3</i></p>				
<p>B. If code is 2 in item 1, during which calendar months did any member of the household not 'get enough food every day'?</p> <p><i>(applicable month codes may be recorded in the box spaces: Jan-01, Feb-02, Mar-03, Apr-04, May-05, Jun-06, Jul-07, Aug-08, Sep-09, Oct-10, Nov-11, Dec-12)</i></p>				

2. Did the household perform any ceremony during the last 30 days? (yes – 1, no – 2)	
3. No. of meals served to non-household members during the last 30 days	

Remarks:

Hh No:

4. Demographics & Other Particulars of Household Members

Domestic Help & Other Particulars of Household Members								
Sl No	Name of member	No. of days stayed away from home during last 30 days	No. of meals usually taken in a day	No. of meals taken during last 30 days				At home
				Away from home			On payment	
				Free of cost				
				From Aanganwadi, School etc	from employer as perquisites or part of wage	Others		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Remarks:

[5] consumption of food, pan, tobacco and intoxicants during the last 30 days ended on										
.....										
code	item	consumption out of home produce				total consumption				source ^s
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
101	rice - PDS									1
102	rice - other sources									
103	Chira, chiwda									
105	Muri (puffed rice, murmure)									
106	other rice products									
107	wheat/atta - PDS									1
108	wheat/atta - other sources									
110	maida									
111	suji									
112	sewai,									
113	bread: bakery									
114	other wheat products									
115	jowar & products									
116	bajra & products									
117	Maize (Makka) & products									
118	Barley (jaw) & products									
122	other cereals									
129	cereal: s.t. (101-122)									
139	cereal substitutes: jackfruit (Kathal), tapioca (sabudana) etc.									
140	arhar, tur									
141	Gram (chana dal) : split									
142	Gram (kala chana): whole									
143	Moong dal									
144	masur									
145	urad									
146	Peas (Chhola, Kabuli Chana)									
147	soyabean									
148	Khesari (grasspea, sookhi matar)									
150	other pulses (Rajma, lobhia etc)									
151	gram products (bhuna chana)									
152	besan									
153	other pulse products									
159	pulses & pulse products: s.t. (140-153)									x

Remarks:

* Unit is kg unless otherwise specified in col(2).

^sSource code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

[5] consumption of food, pan, tobacco and intoxicants during the last 30 days ended on										
code	item	consumption out of home produce				total consumption				source ^{\$}
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
160	milk: liquid (litre)									
162	milk: condensed/ powder									
163	Curd (dahi)									
164	ghee									
165	Butter (makhan)									
167	other milk products									
169	milk & milk products: s.t.(160-167)									
170	Vanaspati, dalda									
171	mustard oil (sarso tel)									
172	groundnut oil (moongfali tel)									
174	edible oil (khane ka tel): others									
179	edible oil: s.t. (170-174)									
180	eggs (no.)		000				000			
181	fish, prawn									
182	goat meat/mutton									
183	Beef (cow)/ buffalo meat									
184	pork (pig’s meat)									
185	chicken									
189	egg, fish & meat: s.t. (180-186)									

Remarks:

* Unit is kg unless otherwise specified in col(2).

^sSource code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

[5] consumption of food, pan, tobacco and intoxicants during the last 30 days ended on										
code	item	consumption out of home produce				total consumption				source ^s
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
190	potato									
191	onion									
192	Radish - mooli									
193	Carrot - gajar									
194	Turnip - shalgam									
195	Beet - chakundar									
196	sweet potato - shakarkand									
197	Arum - kachalu									
198	Pumpkin - kaddu									
200	Gourd - petha									
201	bitter gourd - karela									
202	Cucumber - kheera									
203	Parwal (looks like small kheera, sweet in taste like kharbooja)									
204	jhinga, torai									
205	snake gourd - chichhinda									
206	papaya: green - papeeta									
207	Cauliflower - Phoolgobhi									
208	Cabbage – patta gobhi									
210	Brinjal - baingan									
211	lady's finger - bhindi									
212	palak/sarso sag/ methi/other leafy vegetables									
213	french beans, barbate , gawar fali									
214	Tomato - tamatar									
215	Peas – hari matar									
216	chillis: green									
217	Capsicum – shimla mirch									
218	plantain: green – hara kela									
220	jackfruit: green - kathal									
224A	Arabi									
224B	Locky, Ghiya									
224C	Hari pyaaz – spring onion									
224D	Ratalu, Jimikand (Yams)									
224E	Tinda									
224F	Kamal kakdi									

* Unit is kg unless otherwise specified in col(2).

^sSource code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

[5] consumption of food, pan, tobacco and intoxicants during the last 30 days ended on										
code	item	consumption out of home produce				total consumption				source ^s
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
221	lemon (no.)- neembu		000				000			
222	garlic (gm) - lehsun		000				000			
223	ginger (gm)- adrak		000				000			
224	other vegetables									
229	vegetables: s.t. (190-224)									

Remarks:

* Unit is kg unless otherwise specified in col(2).

[§]Source code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

[5] consumption of food, pan, tobacco and intoxicants during the last 30 days ended on										
code	item	consumption out of home produce				total consumption				source ^{\$}
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
230	banana (no.) - kela		000				000			
231	Jackfruit - petha									
233	pineapple (no.) - ananas		000				000			
234	coconut (no.) - nariyal		000				000			
235	Guava - amrood									
236	singara									
237	orange, mausami (no.)		000				000			
238	Papaya - papeeta									
242	pears, nashpati									
245	Apple - seb									
246	Grapes - angoor									
247A	Alu Bukhara - Plum									
247B	chikoo									
247	other fresh fruits									
249	fruits (fresh): s.t.(230-247)									
250	coconut: copra (gola – sookha nariyal))									
251	Groundnut - moongfali									
252	Dates - khajoor									
253	Cashewnut - kajoo									
254	Walnut - akhrot									
255	other nuts									
256	raisin, kishmish, monacca, etc.									
257	other dry fruits									
259	fruits (dry): s.t. (250-257)									
260	sugar - PDS									1
261	sugar - other sources									
262	gur									
263	candy, misri									
264	Honey - shahad									
269	sugar: s.t. (260-264)									
279	salt									
280	turmeric (gm) - haldi						000			
281	black pepper (gm) – kali mirch						000			

* Unit is kg unless otherwise specified in col(2).

^sSource code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

[5] consumption of food, pan, tobacco and intoxicants during the last 30 days ended on										
code	item	consumption out of home produce				total consumption				source ^s
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
282	dry chillies (gm) – lal mirch		000				000			
283	tamarind (gm) - imli		000				000			
286A	Ajwain									
286B	Heeng									
286C	zeera									
286D	Methi daana									
286E	Amchoor									
286	other spices, mix masala (gm)		000				000			
289	spices: s.t. (280-286)		000				000			
290	tea: cups (no.)						000			
291	tea: leaf (gm)		000				000			
292	coffee: cups (no.)						000			
293	coffee: powder (gm)		000				000			
294	Ice & bottled water									1
295	cold beverages: bottled/canned (litre)									
296	fruit juice and shake (litre)									
297	coconut: green (no.)		000				000			
298	other beverages: cocoa, chocolate, etc.									
300	biscuits									
301	salted refreshments									
302	prepared sweets									
303	cooked meals (no.)						000			
304	cake, pastry									
305	pickles (gm) - achaar						000			
306	sauce (gm)						000			
307	jam, jelly (gm)						000			
308	other processed food									
309	beverages etc.: s.t. (290-308)									
310	pan: leaf									
311	pan: finished (no.)						000			
312	supari (gm)		000				000			
313	lime (gm)						000			
314	katha (gm)						000			
315	other ingredients for pan (gm)						000			
319	pan: s.t. (310-315)									

* Unit is kg unless otherwise specified in col(2).

^sSource code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

[5] consumption of food, pan, tobacco and intoxicants during the last 30 days ended on										
code	item	consumption out of home produce				total consumption				source ^{\$}
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
320	bidi (no.)						000			
321	cigarettes (no.)						000			
322	leaf tobacco (gm)						000			
324	hookah tobacco (gm)						000			
326	zarda, kimam, surti (gm)						000			
327	other tobacco products									
329	tobacco: s.t. (320-327)									
330	ganja (gm)									
332	country liquor (litre)									
333	beer (litre)									
334	foreign liquor or refined liquor (litre)									
335	other intoxicants									
339	intoxicants: s.t. (330-335)									

Remarks:

* Unit is kg unless otherwise specified in col(2).

[§]Source code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

Hh No:

[6] consumption of fuel & light during the last 30 days ended on										
code	item	consumption out of home produce				total consumption				source ^s
		quantity* (0.000)		value (Rs 0.00)		quantity* (0.000)		value (Rs 0.00)		
(1)	(2)	(3)		(4)		(5)		(6)		(7)
341	firewood and chips									
342	electricity (std. unit)						000			
343	dung cake									
344	kerosene-PDS(litre)									1
345	kerosene - other sources (litre)									
346	matches (box)						000			
347	coal									
348	LPG									
350	charcoal									
351	candle (no.)						000			
353	other fuel									
359	fuel and light: s.t. (340-353)									

Remarks:

* Unit is kg unless otherwise specified in col(2).

§Source code: only purchase -1, only home-grown stock -2, both purchase and home-grown stock -3, only free collection -4, only exchange of goods and services -5, only gifts / charities – 6, others -9

[7] consumption of clothing, bedding, etc.							
code	item	during the last 30 days				during the last 365 days	
		quantity (0.000)		value (Rs 0.00)		quantity (0.000)	value (Rs 0.00)
(1)	(2)	(3)		(4)		(5)	(6)
360	dhoti (metre)						
361	sari (metre)						
362	cloth for shirt, pyjama, salwar, etc. (metre)						
363	cloth for coat, trousers, overcoat, etc. (metre)						
364	chaddar, dupatta, shawl, etc. (no.)		000				000
365	lungi (no.)		000				000
366	gamchha, towel, handkerchief (no.)		000				000
367	hosiery articles, stockings, under-garments, etc. (no.)		000				000
368	ready-made garments (no.)		000				000
370	headwear (no.)		000				000
371	knitted garments, sweater, pullover, cardigan, muffler, scarf, etc. (no.)		000				000
372	knitting wool, cotton yarn (gm)		000				000
373	clothing: others						
374	clothing: second-hand						
379	clothing: s.t. (360-374)						
380	bed sheet, bed cover (no.)		000				000
381	rug, blanket (odhne wali chadar) (no.)		000				000
382	pillow, quilt, mattress (no.)		000				000
383	cloth for upholstery, curtain, table-cloth, etc. (metre)						
384	mosquito net (no.)		000				000
385	mats and matting (no.) - dari		000				000
386	cotton (gm)		000				000
387	bedding: others						
389	bedding, etc.: s.t. (380-387)						

Remarks:

[8] consumption of footwear						
code	item	during the last 30 days			during the last 365 days	
		no. of pairs	value (Rs 0.00)		no. of pairs	value (Rs 0.00)
(1)	(2)	(3)	(4)		(5)	(6)
393	rubber/ PVC footwear			00		00
394	other footwear			00		00
399	footwear: s.t. (390-394)			00		00

Remarks:

[9] expenditure on education and medical (<i>institutional</i>) goods and services					
code	item	during the last 30 days		during the last 365 days	
		value (Rs 0.00)		value (Rs 0.00)	
(1)	(2)	(3)		(4)	
400	books, journals				
401	newspapers, periodicals				
403	stationery				
404	tuition and other fees (school, college, etc.)				
405	private tutor/ coaching centre		00		00
406	other educational expenses				
409	education: s.t. (400-406)				
410	Medicine (if purchased from chemist)				
411	X-ray, ECG, pathological test, etc.		00		00
412	doctor's/surgeon's fee (including medicines if received)		00		00
413	hospital & nursing home charges		00		00
414	other medical expenses				
419	medical - institutional: s.t. (410-414)				

[10] expenditure on miscellaneous goods and services including medical (<i>non-institutional</i>), rents and taxes during the last 30 days ended on							
code	item	value (Rs 0.00)		code	item	value (Rs 0.00)	
(1)	(2)	(3)		(1)	(2)	(3)	
420	Medicine (if purchased from chemist)			440	spectacles		00
421	X-ray, ECG, pathological test, etc.			441	torch		
422	doctor's/surgeon's fee (including medicine that he gave)			442	lock		
424	other medical expenses			444	lighter (bidi/ cigarette/ gas stove)		
429	medical - non-institutional: s.t. (420-424)			445	other goods for personal care and effects		
				449	goods for personal care and effects: s.t. (440-445)		
430	cinema, theatre						
431	mela, fair, picnic			450	toilet soap		
432	sports goods, toys, etc.			451	toothbrush, toothpaste, etc.		
				452	powder, snow, cream, lotion		
				453	hair oil, shampoo, hair cream		
				454	comb		
				455	shaving blades, shaving stick, razor		
				456	shaving cream		
				457	sanitary napkins		00
439	entertainment: s.t. (430-438)			458	other toilet articles		
				459	toilet articles: s.t. (450-458)		00

* The value may be derived as the amount last paid divided by the number of months for which amount was paid.

[10] expenditure on miscellaneous goods and services including medical (non-institutional), rents and taxes during the last 30 days ended on					
code	item	value (Rs 0.00)		code	value (Rs 0.00)
(1)	(2)	(3)		(1)	(3)
460	electric bulb, tubelight				
461	batteries			501	00
462	other non-durable electric goods			502	
463	Earthenware – mitti ke bartan			503	
464	glassware				
465	bucket, water bottle/ feeding bottle & other plastic goods			505	
466	coir, rope, etc.			506	
467	washing soap/detergent			507	
468	other washing requisites			508	
470	Agarbati, dhoop batti			510	
				511	
472	Insecticide home use, acid, etc.			512	
473	other petty articles			513	
479	sundry articles: s.t. (460-473)			519	conveyance : s.t. (500-513)
				520*	00
				521*	00
482	barber, beautician, etc.			522	
483	washerman, laundry, ironing			529	rent: s.t. (520-522)
484	tailor		00	539	house rent, garage rent (imputed- urban only)
485	Priest - pandit				00
486	legal expenses		00	540*	
487	postage & telegram			541*	
488*	telephone charges			549	consumer taxes and cesses: s.t. (540-541)
490	repair charges for non-durables				
492	miscellaneous expenses				
494	other consumer services excluding conveyance				
499	consumer services excluding conveyance: s.t. (480-494)				

* The value may be derived as the amount last paid divided by the number of months for which amount was paid.

Remarks:

[11] expenditure for purchase and construction (including repair and maintenance) of durable goods for domestic use													
item			during the last 30 days				during the last 365 days						
co- de	description		first- hand pur- chase: value (Rs)	cost of raw materials and services for const- ruction and repair (Rs)	second- hand pur- chase: value (Rs)	total expend- iture (Rs) (4+5+6)	first-hand purchase				second-hand purchase		total expenditure (Rs) (10+11+13)
							no. pur- chas- ed	whether hire purch- ased (yes-1, no-2)	value (Rs)	cost of raw materials and services for const- ruction and repair (Rs)	no. pur- chas- ed	value (Rs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
550	Bedstead - bed												
551	almirah, dressing table												
552	chair, stool, bench, table												
553	suitcase, trunk, box, handbag and other travel goods												
554	foam, rubber cushion (dunlopillo type)												
555	carpet, daree & other floor mattings												
557	other furniture & fixtures (couch, sofa, etc.)												
559	furniture & fixtures: s.t. (550-557)												
561	radio												
562	television												
563	VCR/VCP/DVD player												
564	camera & photographic equipment												
565	tape recorder, CD player												
566	gramophone record, audio/video cassette, CD/DVD etc.												
567	musical instruments												
568	other goods for recreation												
569	goods for recreation: s.t. (560-568)												

Remarks:

[11] expenditure for purchase and construction (including repair and maintenance) of durable goods for domestic use													
item			during the last 30 days				during the last 365 days						
co-de	description		first-hand purchase: value (Rs)	cost of raw materials and services for construction and repair (Rs)	second-hand purchase: value (Rs)	total expenditure (Rs) (4+5+6)	first-hand purchase				second-hand purchase		total expenditure (Rs) (10+11+13)
							no. purchased	whether hire purchased (yes-1, no-2)	value (Rs)	cost of raw materials and services for construction and repair (Rs)	no. purchased	value (Rs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
570	gold ornaments												
571	silver ornaments												
572	jewels, pearls												
573	other ornaments												
579	jewellery & ornaments: s.t. (570-573)												
580	stainless steel utensils												
581	other metal utensils												
583	other crockery & utensils												
589	crockery & utensils: s.t. (580-583)												
593	lantern, lamp, electric lampshade												
594	sewing machine												
596	stove												
597	pressure cooker/pressure pan												
600	electric iron, heater, toaster, oven & other electric heating appliances												
601	other cooking/household appliances												
609	cooking and household appliances: s.t. (590-601)												

Remarks:

[11] expenditure for purchase and construction (including repair and maintenance) of durable goods for domestic use													
item			during the last 30 days				during the last 365 days						
co-de	description		first-hand purchase: value (Rs)	cost of raw materials and services for construction and repair (Rs)	second-hand purchase: value (Rs)	total expenditure (Rs) (4+5+6)	first-hand purchase				second-hand purchase		total expenditure (Rs) (10+11+13)
							no. purchased	whether hire purchased (yes-1, no-2)	value (Rs)	cost of raw materials and services for construction and repair (Rs)	no. purchased	value (Rs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
610	bicycle												
611	motor cycle, scooter												
612	motor car,												
613	tyres & tubes												
614	other transport equipment												
619	personal transport equipment: s.t. (610-614)												
620	hearing aids & orthopaedic equipment												
621	other medical equipment												
629	therapeutic appliances : s.t. (620-621)												
630	clock, watch												
631	other machines for household work												
633	mobile phone handset												
634	any other personal goods												
639	other personal goods: s.t. (630-634)												

Remarks:

[11] expenditure for purchase and construction (including repair and maintenance) of durable goods for domestic use													
item			during the last 30 days				during the last 365 days						
co- de	description		first- hand pur- chase: value (Rs)	cost of raw materials and services for const- ruction and repair (Rs)	second- hand pur- chase: value (Rs)	total expend- iture (Rs) (4+5+6)	first-hand purchase				second-hand purchase		total expenditure (Rs) (10+11+13)
							no. pur- chas- ed	whether hire purch- ased (yes-1, no-2)	value (Rs)	cost of raw materials and services for const- ruction and repair (Rs)	no. pur- chas- ed	value (Rs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
642	residential building & land (cost of repairs only)												
643	other durables (specify).....												
649	residential building, land and other durables : s.t. (640-643)												
659	durable goods : total (559+569+579+589+609+619+629+639+649)												

Remarks:

Hh No:

Remarks:

PALANPUR VILLAGE STUDY

Date:

PVS-CR1-2008**SCHEDULE CR1: HOUSEHOLD'S CREDIT TRANSACTIONS**

Respondent:

Hh No.:

Investigator:

1. Do you buy non food items for credit (tick):

Yes

☐

No

☐

If Yes, then collect the following information:

Non-Food items	Yes-1, No-2	From whom write name	Code for the lender	Terms of contract Multiple (code)
(2)	(3)	(4)	(5)	(6)
Fertilizer				
Seeds				
Pesticides				
Kerosene/Diesel oil				
Engine on rent				
Tractor service on rent				
Others (specify)				
a.				
b.				
c.				
d.				

7. Do you buy food items for credit?

Yes

☐

No

☐

8. If Yes, From whom (write name and code):

9. Terms of contract (code):

Col.(5): shopkeeper with in the village-1, shopkeeper outside the village-2, relative or friends with in the village-3, relatives or friends outside the village-4 from private money lender with in the village-5, from private moneylender outside the village-6, FSS- (for non-food items only)-7, landowner (from whom land is leased)-8, Kisan Credit Card – 9, Other Bank –10 (specify), any other source-99 (specify)

Col. (6): pay the amount within three months-1, pay after harvesting and marketing the crop (with interest)-2, pay the money after harvesting and marketing-(with out interest)-3, pay after getting wage (one season) (with interest)-4, pay after getting wage(one season) (with out interest)-5, others-9 (specify)

PALANPUR VILLAGE STUDY

Date:

PVS-CR2-2008 SCHEDULE CR2: FINANCIAL ASSETS OWNED

Respondent:

HH Code :

Investigator:

S.no	Item	Y-1, N-2	Date of issue/start	Rate of interest pa/pm	Maturity date	Outstanding balance	Scheme name/agency	Contribution Amt (monthly/quarterly/yearly etc)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(9)	(10)
1.	Government certificates viz, NSC, Indira vikas patra, kisan vikas patra, RBI Bonds etc.							
2.	Deposit in post office including national saving scheme deposits							
3.	Deposit in co-operative society/bank							
4.	Deposit in commercial bank							
5.	DTFS Insurance (write policy amount in box 7)							
6.	Other Insurance (write policy amount in box 7)							
7.	Deposit with individuals							
8.	Chit fund/committee							
9.	Provident fund							
10.	Cash in hand							
11.	Other financial assets							

*ask them to provide the possible evidence like passbook, certificates, paper documents, etc whichever is relevant and available with them

PALANPUR VILLAGE STUDY

Date:

PVS- CR3-2008 SCHEDULE CR3: OUTSTANDING LOANS

Respondent:

HH Code :

Investigator:

Particulars of cash loans payable by the household to institutional/non-institutional agencies as on the date of survey (loans outstanding)

S. No	Date of borrowing (Month & year)	Amount borrowed (Rs.)	Credit agency (code)	Eligibility conditions for getting loan (code)	Name & Place of the Agency/ Person from whom Loan is taken	Nature of interest (code)	Rate of interest % (mention p.m. or p.a.)	Purpose of loan multiple (code)	
								Stated	Actual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Remarks:

PALANPUR VILLAGE STUDY

Date:

PVS- CR4-2008 SCHEDULE CR4: OUTSTANDING LOANS

Respondent:

HH Code :

Investigator:

Particulars of cash loans payable by the household to institutional/non-institutional agencies as on the date of survey (loans outstanding) Contd..

S. No	Type of security (code)	Amount Outstanding	History of the Loan
(1)	(11)	(12)	(13)

14. Have they advanced any loan as well?**Yes****No****(tick) (If yes, then also fill the schedule for lenders)****Remarks:**

PALANPUR VILLAGE STUDY

PVS-CR5-2008 SCHEDULE CR5: OUTSTANDING LOANS (codes)...(page-3)

Codes col. (4) FSS-01, Seed Store-02, Punjab National Bank through KCC-03, other bank -04, own landlord-05, money lenders with in the village-06, money lenders outside the village-7, trader-8, relatives and friends-9, doctors, lawyers and other professionals, employers-10, others-99.

Col.(5) special relation with the owner-1, depend upon the government programme-2, only collateral-3 (write the item or material taken as collateral like land, livestock, house etc), others-4 (specify)

Col (7) interest free-1, simple-2, compound-3, concessional rate-4

Col (11), personal security-01, sure security or guarantee by third party-02, crop-03, first charge on immovable property-04, mortgage of immovable property-05, ornaments-06, share of companies, govt. securities and insurance policies etc-07, agricultural commodities-08, movable property, ornaments, shares, agricultural commodities etc-09, other type of security-10 (specify)

Remarks:

PALANPUR VILLAGE STUDY

Date:

PVS-CR6-2008 SCHEDULE CR6: REPAID & WRITTEN OFF LOANS

Respondent:

HH Code :

Investigator:

Number of cash loans of the households REPAID OR WRITTEN OFF since 1 year prior to the date of survey:

S.no	Was any cash loan repaid fully during the date of survey (y-1, n-2)	If yes in col.2, details of cash loans repaid during the date of survey (amount, interest, lender, when borrowed, repayment system etc)		Was any cash loan written off during date of survey (yes-1, no-2)	If yes in col.5, details of cash loans written off by	
		Institutional agency	Non-institutional agency		Institutional Agency	Non-institutional agency
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Note: institutional agencies are government, co-operative society/bank, commercial bank including regional rural bank, insurance, provident fund, financial corporation/institution, financial company and other institutional agencies

Remarks:

PALANPUR VILLAGE STUDY

Date:

PVS-CR7-2008 SCHEDULE CR7: REPAID & WRITTEN OFF LOANS

Respondent:

HH Code :

Investigator:

1. Whether you have ever failed to repay the amount to any source (tick which is applicable):

Institutional: Y**N****Non-Institutional: Y****N**

If yes collect the following information:

Institutional default	Y-1, N-2	Punishment describe (write what they explain)	Non-institutional default	Y-1, N-2	Punishment describe (write what they explain)
Prathama bank			Landlords		
PNB (KCC)			Friends and Relatives		
FSS			Agricultural money lender		
Others 1 (Specify)			Professional money lender		
Others 2 (Specify)			Trader		
Others 3 (Specify)			Doctors, and other professional		
			Others (Specify)		

PALANPUR VILLAGE STUDY

Date:

PVS-CR8-2008 SCHEDULE CR8: LAND MORTGAGE

Respondent:

HH Code :

Investigator:

Is any of your land is mortgaged-Out (tick) : Yes No

If yes, collect the following details (for last one year)

s.no	Land mortgaged Out (bi)	Location of the land	Terms of contract & history of mortgage (seasons gone, who has the legal papers etc)	Reasons for mortgaged (write all the reasons given by them)	Who is cultivating it now (owner or the lender)	write the name and place of person or bank*
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Remarks:

PALANPUR VILLAGE STUDY

PVS-CR9-2008 SCHEDULE CR9: HOUSEHOLD'S CREDIT TRANSACTIONS

Hh No.:

Date:

Respondent:

Investigator:

Q1. What are your preferences among these 4 sources of credit: a) Friends & relatives, b) credit institutions, c) money-lenders in Chandausi & d) money-lenders in village? Explain too.

Q2. If need arises, can you get loan from a money-lender in the village? If not, why not? If yes, from whom? At what rate? Why you think you will get it from that person?

Q3. Has it ever occurred that you wanted to borrow from a money-lender and couldn't do so? Explain.

Q4. Why don't you sell land (and buy it back later) when you need money, instead of borrowing (e.g. for a marriage, illness)?

Q5. Have you ever repaid a loan in the form of labor services? Explain (When, for how many days, how much you could repay, did your family also worked to repay, who was the landlord)

Q6. Can one borrow in Chandausi at any time, given he has sufficient collateral? At what rate?

Q7. (If the hh has borrowed in Chandausi) Why didn't you rather borrow in the village?

Q8. (If they have borrowed in the village) Why didn't you rather borrow in Chandausi?

Y PVS – Schedule and Illness and Health Expenditure

Household ID: _____

I. Details of Illness

In the table below list every member in the household and record whether this person is unwell anytime in the last 15 days or hospitalised in the last one year.

[illegible]

Details of In-patient/Hospitalisation Cases

Based on the information in the table above, list all the members who were reported to have been hospitalised in the last one year (365 days) and enquire for details of their illness.						
1	sr1. no. of the hospitalisation case	1	2	3	4	5
2	Name of the person hospitalised (From above)					
4	type of hospital (code) [Also mention the exact hospital] Government – 1 Private - 2					
5	nature of ailment (code) [codes in last page]					
6	type of ward (free - 1, paying general - 2, paying					
7	When Admitted (code) during the last 15 days – 1 16 days to 365 days ago – 2 More than 365 days ago – 3					
8	when discharged (code) not yet – 1 during the last 15 days – 2 16 days to 365 days ago – 3					
9	duration of stay in hospital (days)					
details of medical services received (not received - 1; received: free - 2, partly free - 3, on payment - 4)						
10	surgery					
11	medicine					
12	X-ray/ECG/EEG/Scan					
13	other diagnostic tests					
14	whether any medical service provided free by employer					

	(yes: Govt. - 1, pvt . - 2; no – 3, not applicable – 4)					
15	Medical expenditure for treatment during stay at hospital (Rs)					
16	Other expenditure such as for food, transport, stay, lodging etc. related to this hospitalisation					
17	Total expenditure incurred by the household (sum of items 15& 16 for all cases of hospitalisation taken together)					
expenses in item 17 by source of finance (Rs)						
18	Household income/savings					
19	Borrowings					
20	Contributions from friends and relatives					
21	Other sources (incl. sale of ornaments and other physical assets, draught animals, etc.)					
22	Total					
23	Amount of reimbursement (Rs)					
	If positive entry in item 23, amount reimbursed by (Rs):					
24	Employer - government					
25	Employer - private					
26	Medical insurance companies					
27	Other agencies					
28	Loss of household income , if any, due to hospitalisation (Rs) [In this include the income lost because of the patients absence from work and also if any other adult working member could not go to work because they had to accompany the patient]					

29	Whether treatment availed before hospitalisation [Yes/No]					
30	If yes, source of treatment: [Government -1, Private outside Palanpur -2, Doctor in Palanpur -3] [Also mention exact detail]					
31	Duration of treatment (days)					
32	Whether treatment continued after discharge from hospital [Yes/No]					
33	If yes, source of treatment: [Government -1, Private outside Palanpur -2, Doctor in Palanpur -3] [Also mention exact detail]					

Remarks:

III. Details of Illnesses in the last 15 days [not including hospitalization cases]

Ask about illnesses in the last 15 days to all those who said “yes” in col.8 in Section I

Particulars of spells of ailment of household members during the last 15 days						
1	srl. no. of spell of illness	1	2	3	4	5
2	Name of member reporting illness					
number of days within the reference period:						
3	ill, but continued all activities normally					
4	ill and on restricted activity					
5	ill and confined to bed					
6	nature of ailment (code) [codes in last page]					
7	status of ailment Started more than 15 days ago and is continuing – 1 Started more than 15 days ago and has ended – 2 Started within 15 days and is continuing – 3 Started within 15 days and has ended – 4					
8	total duration of ailment (days)					
9	whether treatment taken on medical advice (yes /no)					
9.a.	Source of treatment Bengali Doctor – 1 Pipli Doctor – 2 Ethnomedicine/ medicine man/ vaidya-Hakim – 3 Private Clinic outside Palanpur/Pipli – 4 (specify) Private Hospital outside Palanpur/Pipli – 5 (specify) Any Other (specify) [If they went to more than one place, mention all the places in the order that they visited these doctors/hospitals]					

if treatment taken:					
10	whether any treatment received from govt. sources (yes /no)				
11	if not government , reason (code) Govt. Doctor/facility too far -1 Not satisfied with treatment in govt – 2 Long waiting – 3 Required specific services not available – 4 Others (specify)				
if no treatment taken:					
12	Reason for no treatment (code) No easy access medical facility available – 1 Facility available but no use/faith – 2 Long waiting, no time – 3 Financial reasons – 4 Ailment not so serious – 5 Other (specify)				
13	whether any other measure taken for recovery/relief (Yes/No)				
What Measure:					
14	Whom consulted? Self/household member/friend – 1 Medical Shop – 2 Other (specify)				
15	Expenditure incurred				
16	Loss of income, if any, due to ailment (Rs.)				
Expenses incurred during the last 15 days for treatment of members (not as inpatient of hospital) and source of finance					
17	Whether any medical service provided free by employer (yes: Govt. -1, Pvt. - 2; no - 3, not applicable - 4)				
details of medical services received (not received - 1; received: free - 2, partly free - 3, on payment - 4)					

18	Surgery				
19	Medicine Received				
20	X-ray/ECG/EEG/Scan				
21	Total Medical Expenditure (for medicines, doctors fee etc.)				
22	Total other expenditure (transport etc.)				
23	Total expenditure incurred by the household (sum of items 21 & 22 for all persons taken together)				
source of finance for meeting the expenses in item 23 (Rs)					
24	household income/savings				
25	borrowings				
26	contributions from friends and relatives				
27	other sources (incl. sale of ornaments and other physical assets, draught animals, etc.)				
28	total (items 24 to 27)				
29	total amount of reimbursement (Rs)				
if positive entry in item 29 amount reimbursed by (Rs):					
30	Government employer				
31	Private employer				
32	Medical Insurance Companies				
33	Other agencies				

IV. Details of Chronic Illness: [include in this illnesses like diabetes, hypertension, TB and even chronic body pains/joint aches etc. whether or not treatment is being received for this]

Particulars of spells of ailment of household members during the last 15 days						
1	srl. no. of spell of illness	1	2	3	4	5
2	Name of member reporting illness					
3	When did this illness start?					
number of days in the last 15 days, where because of this illness:						
4	on restricted activity					
5	confined to bed					
6	nature of ailment [describe]					
7	whether treatment taken on medical advice (yes /no)					
8.	Source of treatment Bengali Doctor – 1 Pipli Doctor – 2 Ethnomedicine/ medicine man/ vaidya-Hakim – 3 Private Clinic outside Palanpur/Pipli – 4 (specify) Private Hospital outside Palanpur/Pipli – 5 (specify) Any Other (specify)_____					
[If they went to more than one place, mention all the places in the order that they visited these doctors/hospitals]						
if no treatment taken:						
9	Reason for no treatment (code) No easy access medical facility available – 1 Facility available but no use/faith – 2 Long waiting, no time – 3					

	Financial reasons – 4 Ailment not so serious – 5 Other (specify)				
10	whether any other measure taken for recovery/relief (Yes/No)				
11	Whom consulted? Self/household member/friend – 1 Medical Shop – 2 Other (specify)				
12	Are you taking any regular medication for this illness? [Yes/No]				
13	If Yes, what is the average monthly expenditure incurred				

Remarks:

IV. Details of Animal Bites

1. Was any member of the household bitten by an animal in the last one year? Yes/No

2. Details of Animal Bites

S.No	Who was bitten	Bitten by what? Snake/Monkey/Dog	Treatment Sought? Yes/No	Where was treatment sought? Bengali Doctor – 1 Pipli Doctor – 2 Ethnomedicine/ medicine man/ vaidya-Hakim -3 Private Clinic outside Palanpur/Pipli – 4 (specify) Private Hospital outside Palanpur/Pipli – 5 (specify) Any Other (specify) _____	How much money was spent on this treatment (Rs.)

Remarks:

V. Particulars of Deaths in the last one year

[5] particulars of household members who died during last 365 days									
srl. no.	name of deceased member	sex (male -1, female-2)	age at death (years)	medical attention received before death (yes-1, no-2)	whether hospitalised (yes-1, no-2)	if yes in col. 6, no. of days hospitalised in the last 365 days	if death of female:		amount spent in the last 365 days towards treatment costs (Rs) for this person
							whether pregnant or recently delivered (yes-1, no-2)	If Yes in col. 8, time of death (code)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

CODES

col. 9 - **time of death**: for deaths relating to pregnancy/delivery/abortion: during pregnancy – 1, during delivery – 2, during abortion – 3; within 6 weeks of delivery/abortion – 4; other deaths - 9

VI. Other Information

1. Type of Latrine: (1) Service
(2) Pit
(3) Septic tank/ flush system
(4) Others _____
(5) No Latrine

2. Type of drainage: (1) Open kutcha
(2) Open pucca
(3) Covered pucca
(4) Underground
(5) No drainage

3. Major source of drinking water: (1) Tap
(2) Tube-well/hand pump
(3) Others

4. Primary source of energy for cooking: (1) Dung cakes
(2) Kerosene stove
(3) LPG Gas stove
(4) Other _____

CODES FOR: (i) AILMENT

(ii) NATURE OF AILMENT

Ailment	code	ailment	code
Gastro-intestinal		<i>Diabetes mellitus</i>	22
<i>Diarrhoea/ dysentery</i>	01	<i>Under-nutrition</i>	23
<i>Gastritis/gastric or peptic ulcer</i>	02	<i>Anaemia</i>	24
<i>Worm infestation</i>	03	<i>Sexually transmitted diseases</i>	25
<i>Amoebiosis</i>	04	Febrile illnesses	
<i>Hepatitis/Jaundice</i>	05	<i>Malaria</i>	26
Cardiovascular Diseases		<i>Eruptive</i>	27
<i>Heart disease</i>	06	<i>Mumps</i>	28
<i>Hypertension</i>	07	<i>Diphtheria</i>	29
		<i>Whooping cough</i>	30
<i>Respiratory including ear/nose/throat ailments</i>	08	<i>Fever of unknown origin</i>	31
<i>Tuberculosis</i>	09		
<i>Bronchial asthma</i>	10	<i>Tetanus</i>	32
<i>Disorders of joints and bones</i>	11	<i>Filariasis/Elephantiasis</i>	33
<i>Diseases of kidney/urinary system</i>	12		
<i>Prostatic disorders</i>	13	Disabilities	
<i>Gynaecological disorders</i>	14	<i>Locomotor</i>	34
<i>Neurological disorders</i>	15	<i>Visual including blindness (excluding cataract)</i>	35
		<i>Speech</i>	36
<i>Psychiatric disorders</i>	16	<i>Hearing</i>	37
Eye ailments		<i>Diseases of Mouth/Teeth/Gum</i>	38
<i>Conjunctivitis</i>	17	<i>Accidents/Injuries/Burns/</i>	
<i>Glaucoma</i>	18	<i>Fractures/Poisoning</i>	39
<i>Cataract</i>	19	<i>Cancer and other tumours</i>	40
<i>Diseases of skin</i>	20	<i>Other diagnosed ailments</i>	41
<i>Goitre</i>	21	<i>Other undiagnosed ailments</i>	99

PALANPUR VILLAGE STUDY**PVS-CL1-2008 SCHEDULE CL: CHILD ACTIVITY SCHEDULE Page 1**

Household No.:

Date:

Respondent:.....

Investigator:.....

Activity No	Activity	1. Whether Done in Last One YEAR 1- YES, 2- NO (GO TO NEXT ACTIVITY)	IF RESPONDENT ANSWERED YES IN Q1.	3. No. of Days of Activity in Last One Year	4. Number of Farms worked in	5. Whether paid for the Activity (1- YES 2-NO (GO TO 12))	6. IF YES in Q6. THEN PAYMENT FORM 1-DAILY WAGE 2- PIECE RATE (GO TO 9)
			2. Detailed Description of Activity				
1	Work on Own Farm						
	<i>Kharif Season</i>						
	<i>Rabi Season</i>						
	<i>Any Other Time (Specify)</i>						
2	Work on Own Non Farm						
3	Work on Other person's Farm						
	<i>Kharif Season</i>						
	<i>Rabi Season</i>						
	<i>Any Other Time (Specify)</i>						
4	Work on Other person's Non Farm Business						
5	Work in Govt Project						
6	Going to School						
7	Tution						
8	Taking Care of Live Stock						
9	Studying at Home						
10	Sibling Care						
11	Other Hh Work						
12	Any other (Specify)						

PALANPUR VILLAGE STUDY**PVS-CL2-2008 SCHEDULE CL: CHILD ACTIVITY SCHEDULE Page 2**

Household No.:

Date:

Respondent:.....

Investigator:.....

Activity No	Activity	7. Daily Income for the activity (IF DAILY WAGE)		8. IF PIECE RATE		9. Who Negotiated Rate: 1- Self 2- Parents	10. WHO RECEIVED MONEY/ KIND 1- SELF 2- PARENTS 3- OTHERS (SPECIFY)	11. PLACE OF ACTIVITY: 1- INSIDE VILLAGE 2 - NEARBY VILLAGE 3 - NEARBY TOWN
		Cash	Kind	Number of Days to finish work	Income for completed work (Cash and Kind)			
3	Work on Other person's Farm							
	<i>Kharif Season</i>							
	<i>Rabi Season</i>							
	<i>Any Other Time (Specify)</i>							
4	Work on Other person's Non Farm Business							
5	Work in Govt Project							
6	Going to School							
7	Tution							
11	Other Hh Work							
12	Any other (Specify)							

Remarks:

WOMEN'S WORK AND CHILD HEALTH: MOTHER'S QUESTIONNAIRE

MOTHER'S SCHEDULE: Respondents are mothers who have at least one child under the age of three.

Respondent ID:

Date:.....

Respondent:.....

Investigator:.....

At the end of the interview measure the height and weight of all the respondent's children who are under three years old

S.No	Name	Height (in cms)	Weight (in kgs.)

Fill the answer codes in the last column. If there are multiple responses then write both the codes. For instance if the response to a question is both 2 and 5 then write 25

1	Caste (Write here the caste name: _____)	(1) SC (2) ST (3) OBC (4) General (5) Not Applicable	
2	Religion	(1) Hindu (2) Muslim (3) Christian (4) Other (specify) _____	
3	Nature of Family [Nuclear is husband-wife and unmarried children, nuclear extended is husband-wife, unmarried children and parents-in-law(either or both), Joint is husband-wife, parents-in-law, unmarried children and others]	(1) Nuclear (2) Joint (3) Nuclear-extended (4) Other _____	1

TABLE 1: HOUSEHOLD MEMBERS SCHEDULE

1. ID No	2. Name (Start with the respondent)	3. Relation to respondent (use codes given below)	4. Sex (1) Male (2) Female	5. Age (in completed years)	6. Marital Status (1) Currently married (2) Married, no gauna (3) Widowed (4) Divorced (5) Separated (6) Never married

CODES:

Relationship to respondent							
Self	0	Mother-in- law	3	Sister-in-law	6	Nephew	9
Husband	1	Father-in-law	4	Grandparent	7	Other relatives (specify)	10
Child	2	Brother-in-law	5	Niece	8	Other non relative (specify)	11

TABLE 1 (contd) HOUSEHOLD MEMBERS SCHEDULE (2)

ID No	Name (Same order as above)	7. Education: (The last completed level)	If currently studying:		10. Main Occupation	11. Subsidiary Occupation
			8. Which level/class	9. Govt or private school (1) Govt (2) Private		

CODES:

Casual Agri Labour	1	Other self employment	3	Domestic work	6
Non-Agri Labour	2	Salaried employment	4	Nothing in particular	7
Cultivation	3	Studying	5	Not Applicable (under 6)	8
				Other (specify)	

TABLE 2: MATERNAL HISTORY

1	How old were you when you got married?	_____in years	
2	How old were you during your first pregnancy?	_____in years	

*In this column **list the order of the pregnancy**, beginning from the first pregnancy (if any of these resulted in twins, list as two separate births and make a note of this). For additional pregnancies, use an extra sheet.

3. Order of Pregnancy*	4. What was the gap between this and the previous pregnancy (in years)?	5. What was the outcome of this pregnancy? (1) Live birth (2) Still birth (3) Miscarriage (4) Abortion	6. SEX (1) Male (2) Female	7. Name of the child	8. Is this child (1) Alive (2) Dead	9. Current Age/Age at Death	10. Place of birth (1) Home (2) PHC (3) Govt. Hos (4) Pvt. Hos (5) Other (specify)	11. Place of birth (1) Marital village (2) Parents' village

12. In case of any infant mortality, still birth or miscarriage please make a note of the reasons for this:

ANTE- AND POST-NATAL, NEW BORN CARE AND BREASTFEEDING

The following questions are all in relation to the last pregnancy/delivery that resulted in a live birth and the child is still surviving. To reconfirm please note name of child in relation to whom these questions were asked: _____

1	Was this pregnancy registered with the ANM?	(1) Yes (2) No	
2	Did you get a card from the ANM?	(1) Yes (2) No	
3	Did you see anyone for ante-natal care?	(1) Yes (2) No	
4	Whom did you see? <i>[Multiple responses possible]</i>	(1) Doctor (2) ANM/Nurse (3) Dai/TBA (4) Anganwadi worker (5) Other	
5	Where did you receive ante natal care? <i>[Multiple responses possible]</i>	(1) At home (2) Sub centre (3) PHC (4) Private clinic/Hospital (5) Govt. Hospital (6) Other	
6	How many months pregnant were you when you first received antenatal care for this pregnancy?	In months	
7	How many times did you receive ante-natal care during this pregnancy?	Number of times	
8	As part of ante-natal care during this pregnancy were any of the following done at least once? (1) Yes (2) No	(1) Height Measured	
		(2) Blood Pressure Measured	
		(3) Urine test	
		(4) Blood test	
		(5) Abdomen Checked	
		(6) Advise on hospital delivery	
		(7) Advise on Nutrition	
		(8) Scan/Ultrasound (9) Advice on signs of complications	
9	Was your husband present during any of your ante-natal visits?	(1) Yes (2) No	

10	When you were pregnant, were you given [iron folic] tablets or syrup?	(1) Yes (2) No	
11	When you were pregnant, were you given an injection in the arm to prevent you and the baby from getting tetanus?	(1) Yes (2) No	
12	How many times did you get this injection?	_____ times	
13	During your pregnancy did you eat more nutritious food than normal?	(1) Yes (2) No	
14	If yes, Describe:		
15	During your pregnancy did you reduce the amount of physical work you did?	(1) Yes (2) No	
16	If yes, Describe:		
17	If the last delivery was in an institution, did the ASHA accompany you for the delivery?	(1) Yes (2) No	
18	Did you see anyone for post-natal care?	(1) Yes (2) No	
19	Whom did you see? <i>[Multiple responses possible]</i>	(1) Doctor (2) ANM/Nurse (3) Dai/TBA (4) Anganwadi worker (5) Other	
20	Where did you receive post natal care? <i>[Multiple responses possible]</i>	(1) At home (2) Sub centre (3) PHC (4) Private clinic/Hospital (5) Govt. Hospital (6) Other	
21	How soon after the delivery did you start doing household work?	(1) Less than 15 days (2) 15-30 days (3) 30-45 days (4) More than 45 days	
22	How soon after the delivery did you start doing non-household work (for which you had to go outside the house), including working on own farm or taking out own animals to graze?	(1) Less than 30 days (2) 1-2 months (3) 2-3 months (4) More than 3 months (5) Still not working (6) Never worked	

23	Did you have any problem/complication during the pregnancy, delivery or post partum? Write down details on what problem, treatment taken etc.		
24	Was your baby weighed at birth?	(1) Yes (2) No	
25	If YES, how much did he/she weigh?	_____kg	
26	When your baby was born, was he/she very large, larger than average, average, smaller than average, or very small?	(1) Very large (2) Larger than average (3) Average (4) Smaller than average (5) Very small	
27	When did you start breastfeeding your baby?	(1) Immediately after birth (within one hour) (2) The day of the birth (3) The day after birth (4) 2 days after delivery (5) 3 days after delivery (6) More than 3 days after delivery (7) Did not breastfeed	
28	Did you feed your baby colostrum?	(1) Yes (2) No	
29	In the first three days after delivery was your baby given anything to drink other than breastmilk?	(1) Yes (2) No	
30	What was he/she given? <i>[Multiple responses possible]</i>	(1) Water (2) Sugar/honey water (3) Milk (other than breastmilk) (4) Janam ghutti (5) Gripe water (6) Other specify_____	
31	For how many months did you exclusively breastfeed? (explain 'exclusively')	_____months	
32	For how many months did you continue to give breastmilk?	_____ months (99) Still Giving Breastmilk	
33	In the first month after birth, did the baby fall ill or face any complications? Write down details on what problem, treatment taken etc.		

<i>The following questions are all in relation to all the respondent's children who are under three years of age. If there are more than 2, use an additional sheet.</i>			Youngest Child Name:	Older sibling Name:
34	Has your child ever been immunized?	(1) Yes (2) No (3) Don't know		
35	If not, why not?	(1) Mother/ household not interested (2) Service not available (3) Not aware of the service at the right time (4) Inconvenient timings (5) Need to pay money to Anganwadi/ health workers (6) Other (please specify) _____		
36	Was your child given an immunisation card?	(1) Yes (2) No (3) Don't know		
37	Has your child been given the following vaccinations?	Vaccine	Number of Doses	Number of Doses
		BCG		
		DPT		
		Polio		
		Measles		

ILLNESS IN THE LAST TWO WEEKS

This table relates to the youngest child; Name: _____

	38. Has your child had any of the following illnesses in the last two weeks? (1) Yes (2) No	39. How long did the illness last? _____ days	40. When your child had this illness was he/ she given less than usual to drink, about the same amount, or more than usual to drink? (1) Much less (2) Somewhat less (3) About the same (4) More (5) Nothing to drink (6) Don't know	41. When your child had this illness was he/ she given less than usual to eat, about the same amount, or more than usual to drink? (1) Much less (2) Somewhat less (3) About the same (4) More (5) Nothing to drink (6) Don't know	42. Where did you seek advice or treatment for the illness? (1) AWC (2) Sub centre (3) RMP (4) PHC (5) Private clinic/Hospital (6) Govt. Hospital (7) Other (8) Did not seek treatment – home based	43. What was given to treat the illness? (1) Pill or syrup (2) Injection (3) I.V (4) ORS (5) Home remedy/herbal medicine (6) Other (7) Nothing
(a) Diarrhoea						
(b) Persistent cough						
(c) Fever						
(d) Fever with difficulty in breathing						
(e) Skin rashes						
(f) Eye infection						
(g) Other illnesses _____						
44. Any other details about diarrhoea/illness that you think must be recorded:						

This table relates to the older sibling: _____

	38.a. Has your child had any of the following illnesses in the last two weeks? (1) Yes (2) No	39.a. How long did the illness last? _____ days	40. a. When your child had this illness was he/ she given less than usual to drink, about the same amount, or more than usual to drink? (1) Much less (2) Somewhat less (3) About the same (4) More (5) Nothing to drink (6) Don't know	41.a. When your child had this illness was he/ she given less than usual to eat, about the same amount, or more than usual to drink? (1) Much less (2) Somewhat less (3) About the same (4) More (5) Nothing to drink (6) Don't know	42.a. Where did you seek advice or treatment for the illness? (1) AWC (2) Sub centre (3) RMP (4) PHC (5) Private clinic/Hospital (6) Govt. Hospital (7) Other (8) Did not seek treatment – home based	43. a.What was given to treat the illness? (1) Pill or syrup (2) Injection (3) I.V (4) ORS (5) Home remedy/herbal medicine (6) Other (7) Nothing
(a) Diarrhoea						
(b) Persistent cough						
(c) Fever						
(d) Fever with difficulty in breathing						
(e) Skin rashes						
(f) Eye infection						
(g) Other illnesses						

44. Any other details about diarrhoea/illness that you think must be recorded:

<i>The following questions are all in relation to all the respondent's children who are under three years of age. If there are more than 2, use an additional sheet.</i>			Youngest Child Name:	Older sibling Name:
45	Does anyone help your child eat or does he/she eat on his/her own?	(1) He/she eats on her own (2) An adult feeds her (3) An adult helps her		
46	Whose primary responsibility is it to feed your child?	(1) Mother (self) (2) Father (3) Sibling (4) Grandparent (5) No such thing, whoever is available (6) Other		
47	What was the first liquid that you fed your child, other than breastmilk?	(1) Water (2) Cow/buffalo milk (3) Formula/powdered milk (4) Other		
48	How old was your child when you first gave him/her the above?	In months		
49	What was the first semi-solid/solid food that you fed your child?	(1) Rice (2) Banana/fruit (3) Baby cereal/packaged (4) Other		
50	How old was your child when you first gave him/her the above?	____ In months		
51	How many times a day did your child drink milk yesterday during the day or night?	____ times		
52	How many times a day did your child eat any solid, semi-solid or soft other than liquids yesterday during the day or night?	____ times		
53	Can you tell me everything that your child ate and drank yesterday? Youngest child			
53.a.	Can you tell me everything that your child ate and drank yesterday? Older sibling			

			Youngest Name:	Older Name:
54	How often does your child consume the following food items: (1) Daily (2) Weekly (3) Occasionally (4) Never	a) Milk or curd		
		b) Commercially produced infant formula		
		c) Tea or coffee		
		d) Pulses or beans		
		e) Dark green leafy vegetables		
		f) Eggs		
		g) Chicken or meat		
		h) Fish		
		i) Food made with oil, fat, ghee or butter		
		j) Nuts		
		k) Fruits		
		l) Commercially fortified baby food such as Cerelac or Farex		
		m) Porridge or gruel		
		n) Rice or roti		
		o) Biscuits		
55	How do you know when your child is hungry? <i>[Multiple responses possible]</i>	(1) When he/she cries (2) When it is time to feed (3) When he/she begins to get irritable (4) Other _____		
56	What do you do when your child does not eat? <i>[Multiple responses possible]</i>	(1) Stop feeding (2) Persuade/cajole (3) Other _____		
57	Do you wash your hands before feeding your child?	(1) Always (2) Sometimes (3) Rarely (4) Never		
58	Do you wash your child's hands before feeding your child?	(1) Always (2) Sometimes (3) Rarely (4) Never		
59	Does your child eat/fed in a separate plate/bowl?	(1) Yes, always (2) No, shares from adult's plate (3) No, shares from other child's plate (4) Other		

MOTHER'S PERCEPTIONS

			Youngest Child Name:	Older sibling Name:
60	Do you think your child is healthy?	(1) Mostly healthy (2) Somewhat healthy (3) Not healthy (4) Other		
61	Do you think that your child is underweight/the correct weight/overweight for his/her age?	(1) Underweight (2) Appropriate (3) Over weight (4) Don't know		
62	Do you think your child is short/OK/tall for his/her age?	(1) Short (2) Appropriate (3) Tall (4) Don't know		
63	Do you think your child is eating enough quantity food?	(1) Yes (2) No (3) Don't know		
64	Do you think your child is eating enough variety/quality food?	(1) Yes (2) No (3) Don't know		
65	Do you think that your child is doing all the things that a child of his/her age should be doing? (1) Yes (2) No (3) Don't know	(a) Physical Development (such walking, sitting etc)		
		(b) Mental Development (talking, understanding etc)		

KNOWLEDGE/AWARENESS

66	What do you think a baby's first feed should be?	(1) Breastmilk/Colostrum (2) Water (3) Janam Ghutti (4) Other _____ (5) Don't know	
67	For how long do you think a mother should exclusively breastfeed her baby, without giving anything else, including water or animal milk?	_____ months (99) Don't know	

68	At what age do you think one should start giving a baby semi-solid/solid foods?	____ months (98) Whenever the baby starts to reach out for food (99) Don't know	
69	Can you name some complimentary/weaning foods that is usually given (explain)		
70	For how long should a child be breastfed?	(1) Less than six months (2) Up to six months (3) Up to one year (4) Up to two years (5) More than two years (6) As long as there is milk (7) Don't know (8) Other_____	
71	What do you think should be done if a child has diarrhoea? <i>[Multiple responses possible]</i>	(1) Stop feeding milk (2) Stop feeding solids (3) Give more liquids (4) Give ORS (5) Take him/her to a doctor (6) Other _____	
72	What are the signs to know whether a child is adequately nourished? <i>[Multiple responses possible]</i>	(1) Child is weak (2) Child is ill (3) Child is 'underdeveloped' (4) By checking the child's height/weight (5) Other _____	
73	From what age can children be enrolled at the anganwadi centre?	____ years	
74	When they are under six years of age, do boys and girls require the same amount of food to grow adequately?	(1) Yes (2) No, Boys need more (3) No, Girls need more (4) Don't know	

ACCESS TO PUBLIC SERVICES

75	Do you have a ration card?	(1) Yes (2) No	
76	If yes, what kind of a card do you have?	(1) APL (2) BPL (3) Antodaya (4) Other	
77	During the last three months did you buy any item from the PDS?	(1) Yes (2) No	
78	During the last three months how many times did you purchase the following from PDS? _____ times	a) Rice	
		b) Wheat	
		c) Edible Oil	
		d) Sugar	
		e) Kerosene	
		f) Other	
79	How often is the ration shop open?	(1) Everyday (2) Two or three times a week (3) Once a week (4) Less than once a week (5) Don't know	
80	Are you satisfied with the functioning of the ration shop/PDS in your village	(1) Very satisfied (2) Satisfied (3) Not satisfied	
81	When members of your household get sick where do they normally go for treatment? <i>[Multiple responses possible]</i>	(1) Sub-centre (2) PHC (3) Government hospital (4) Private clinic in village (RMP) (5) Private doctor outside village (6) Private hospital (7) NGO/charitable clinic/hospital (8) Other	
82	If non-government, why don't members of your household generally go to a government facility when they are sick?	(1) No nearby facility (2) Facility timing not convenient (3) Health personnel often absent (4) Waiting time too long (5) Poor quality of care (6) Other	
83	In the last three months, have you visited a health facility or camp for any reason for yourself (or for your children)?	(1) Yes (2) No	

84	What type of health facility did you visit most recently for yourself (or for your children)?	(1) Sub-centre (2) PHC (3) Government hospital (4) Private clinic in village (RMP) (5) Private doctor outside village (6) Private hospital (7) NGO/charitable clinic/hospital (8) Other	
85	What service did you go for?	(1) Family planning (2) Immunization (3) Antenatal care (4) Delivery care (5) Postnatal care (6) Disease prevention (7) Medical treatment for self (8) Treatment for child (9) Treatment for other person (10) Growth monitoring of child (11) Health check-up (12) Other _____	
86	How long did you have to wait before you received the service you went for?	(1) Less than half an hour (2) 30 minutes to one hour (3) One to two hours (4) More than two hours (5) No wait at all (6) Did not get service	
87	Was the person who provided the service to you responsive to your problems and needs?	(1) Yes (2) No	
88	Did she/he respect your need for privacy if you needed it?	(1) Yes (2) No (3) Privacy not needed	
89	Would you say that the staff of the health centre was friendly, indifferent or unfriendly?	(1) Friendly (2) Indifferent (3) Unfriendly	
90	Would you say that the health facility was very clean, somewhat clean, or not clean?	(1) Very clean (2) Somewhat clean (3) Not clean	
91	If you need advice on breastfeeding, complimentary feeding or any other child health and feeding related issues who would you go to? <i>[Multiple responses possible]</i>	(1) Husband (2) Mother-in-law (3) Anganwadi worker (4) ANM (5) ASHA (6) Other _____	

	ICDS		Youngest Child Name:	Older sibling Name:
92	During the last 3 months, has your child received any benefits from the anganwadi or ICDS centre?	(1) Yes (2) No		
93	In the last 3 months, how often has your child received food from the anganwadi/ICDS centre?	(1) Not at all (2) Almost daily (3) At least once a week (4) At least once a month (5) Less often		
94	In the last 3 months how often did your child go to the anganwadi centre for early childhood care or pre-school?	(1) Regularly (2) Occasionally (3) Not at all (4) Don't know		
95	In the last 3 months has your child been weighed at the anganwadi/ICDS centre?	(1) Not at all (2) Once (3) Twice (4) Three times (5) Don't know		
96	After your child was weighed did you receive any counselling from the anganwadi worker?	(1) Yes (2) No		
97	When you were pregnant did you receive any benefits from the anganwadi centre?	(1) Yes (2) No		
98	Did you receive any of the following benefits?	Supplementary Nutrition (1) Yes (2) No		
		Health and Nutrition Counselling (1) Yes (2) No		
		Health Check up (1) Yes (2) No		
		Home visits (1) Yes (2) No		

99	When you were breastfeeding did you receive any benefits from the anganwadi centre?	(1) Yes (2) No		
100	Did you receive any of the following benefits?	Supplementary Nutrition (1) Yes (2) No		
		Health and Nutrition Counselling (1) Yes (2) No		
		Health Check up (1) Yes (2) No		
		Home visits (1) Yes (2) No		

101	SCHOOL: If any of the children in the household go to a private school, then why not private?	(1) Government school too far (2) Teacher irregular (3) Quality of education not good (4) Other	
102	If any of the children in the household go to government school, do they get a mid day meal in the school?	(1) Yes (2) No	
103	OTHER: Have you or any of your family members benefitted from any other government sponsored programmes/schemes in the last two years? (Probe; especially about health insurance)	(1) Yes (2) No	
104	If yes, give details		

ASSETS AND WEALTH

105	Does your family own the house you live in?	(1) Yes (2) No (3) Don't Know	
106	Does your (nuclear) family own any agricultural land?	(1) Yes (2) No (3) Don't know	
107	How much agricultural land do you or your husband own? <i>[Note down the units in which the respondent reports and later convert to acres]</i>	_____ acres	
108	Does your household own any of the following animals? <i>If yes, write the number of animals owned. In case of none, write '0'</i>	(a) Cows/Buffaloes	
		(b) Goats/Sheep	
		(c) Chicken	
		(d) Other _____	
109	Do you or anyone in your household own any of the following? (1) Yes (2) No	(a) Gas Stove	
		(b) Electric Fan	
		(c) Bicycle	
		(d) Radio	
		(e) Sewing machine	
		(f) Telephone/Mobile	
		(g) Refrigerator	
		(h) Television	
		(i) Motorcycle/Scooter	
		(j) Tractor	
110	What kind of a house do you live in?	(1) Kachcha (2) Pakka (3) Semi-pakka (4) Other	
111	What is the main source of water for members of your household?	(1) Piped water (2) Tube well or borehole (3) Dug well (4) Water from spring (5) Tanker truck (6) Surface water (river/Lake/pond/stream/canal) (7) Other	
112	Where is the water source located?	(1) In own building/yard (2) Outside home	
113	If elsewhere, who usually goes to this source to fetch water?	(1) Self (2) Daughter (3) Son (4) Husband (5) Other _____	

114	How long does it take to go there, get water, and come back in one trip?		
115	What type of fuel does your household mainly use for cooking?	(1) Wood (2) Dung cakes (3) Kerosene (4) LPG	
116	Is there a toilet in your house?	(1) Yes (2) No	
117	Do you have electricity in your house?	(1) Yes (2) No	

WORK AND EMPLOYMENT

WORK OUTSIDE HOME

These set of questions are in relation to work done outside the home	118. Were you involved in any of the following work in the last one week either for others or for your own family? (1) Yes (2) No	119. How many days in the last one week were you involved in this?	120. Who was this work for? (1) Self/Family (2) Others	121. Was this work paid for? (1) Paid, in cash (2) Paid, in kind (3) Paid, in both (4) Unpaid	122. Approximately how many hours did you spend on the activity last week (total hours)?	123. How often did you do this work in the last one year? (1) All year (2) Seasonally (3) Once in a while
(a) Farm/agri work Describe:						
(b) Tending animals/collecting fodder Describe:						
(c) Processing food for preservation Describe:						

(d) Weaving/sewing/ handicrafts Describe:						
(e) Non-agricultural work construction/road building etc Describe:						
(f) Gathering food/fuel/wood Describe:						
(g) Shop keeping Describe:						
(h) Factory work Describe:						
(i) Service work – teacher, nurse etc Describe:						
(j) Anything else? _____ Describe:						

WORK AT HOME

		124. How often do you do each of these following tasks? (1) Everyday (2) Once in two days (3) About once a week (4) Seasonally (5) Never	125. How much time each day do you spend on each of these following tasks on an average day? (in hours)
(a)	Cooking Meals		
(b)	Cleaning (including washing clothes)		
(c)	Tending animals (including cutting the grass, feeding animals and bathing them)		
(d)	Preparing fuel (dung cakes)		
(e)	Child care		
(f)	Any work for payment that is home-based? Describe: _____		
(g)	Any unpaid agriculture/family business related work that is home-based? Describe: _____		
(h)	Any other? Describe: _____		

EARNINGS

126	In the past one year, approximately how much did you yourself earn from all the work you did, either in cash or kind?	Cash in Rs.	
		Kind	
127	Who decides how the money you earn will be used mainly you, mainly your husband, or you and your husband jointly?	(1) Self (2) Husband (3) Both, jointly (4) Other	
128	Who decides how your husband's earnings will be used mainly you, mainly your husband, or you and your husband jointly?	(1) Self (2) Husband (3) Both, jointly (4) Other	

CHILD CARE ARRANGEMENTS

			Youngest Child Name:	Older sibling Name:
129	Ask if mother does any work outside of home: When you are working away from home, where do you normally keep your child?	(1) With self at the work place (2) At home (3) At the anganwadi (4) At school (5) Other		
130	If the child is left at home , who takes care of the child?	(1) Sibling (2) Mother-in-law (3) Husband (4) Neighbours (5) Child is left alone (6) Other		
131	Does this person feed your child, when you are away?	(1) Yes (2) No		
132	Are you aware of what and how much your child has eaten while you are away?	(1) Yes (2) No		
133	Do you feel anxious about your child when you are at work?	(1) Yes (2) No		
134	If yes, explain			
135	If child is with mother at the place of work , where do you keep your child when you work?	(1) Beside her on the ground (2) In a shaded spot close to her (3) In a palna/ jhoola (4) In the care of older siblings at the place of work (5) Other specify_____		
136	Do you face any difficulties in looking after your child when working?	(1) Yes (2) No		

137	If yes, explain			
138	How do you feed your child at the place of work?	(1) Breastfeeding (2) Child shares mother's food (3) Other specify_____		
139	If at anganwadi , how long does it take for your child to reach the anganwadi			
140	How does your child get to the anganwadi?	(1) Mother drops the child to the centre (2) Sibling drops the child to the centre (3) Other family members drop the child to the centre (4) Anganwadi helper fetches child (5) Other		
141	Does your child eat at the anganwadi?	(1) Yes (2) No		
142	Do you think the food given at the anganwadi is sufficient?	(1) Yes (2) No		
143	Are you satisfied with the care your child receives at the village anganwadi?	(1) Yes (2) No		
144	If no, why not?			
145	Are you satisfied with the child care arrangement you have when you are working?	(1) Yes (2) No		
146	Do you think it would be useful to have a service to take care of your child while you were working, what should this service be, can anganwadi do this etc.? (PROBE ABOUT CRECHE)			

147	IF THE MOTHER DOESN'T WORK OUTSIDE HOME: Why don't you go out to work?	(1) Must care for children or household duties (2) Ill or disabled (3) No work available (4) No need to work (5) No desire to work (6) Husband or other family members opposed to her working (7) Recovering from delivery (8) Other	
148	If reason for above is care for children, would you go for work if there was child care available in the form of crèches?	(1) Yes (2) No	

AUTONOMY, DECISION-MAKING, MOBILITY, EXPOSURE

149	Do you have a say in how the household's overall income is spent?	(1) Yes (2) No	
150	Do you get any cash in hand to spend on household expenditure?	(1) Yes (2) No	
151	Do you own any land in your name?	(1) Yes (2) No	
152	How much land do you own? [Write verbatim, convert later]	_____ acres	
153	Could you sell or trade this land without getting someone else's consent?	(1) Yes (2) No (3) Don't know	
154	Do you personally own any other property or valuables such as jewellery, gold/silver vessels etc.?	(1) Yes (2) No	
155	Could you use this property or valuables as you wish?	(1) Yes (2) No (3) Don't Know	
156	In your community, when a man dies, can a daughter inherit a share of his land, or is it only inherited by sons?	(1) Only sons (2) Daughter has equal right but doesn't exercise it (3) Both (4) Only daughter (5) Depends (6) Don't Know	

157	Are you afraid to disagree with your husband because he will be angry with you?	(1) Yes (2) No	
158	How often does this happen?	(1) Frequently (2) Not often (3) Varies	
159	Do you have a say in the following decisions? (1) Yes (2) No	a) What food to buy for family meals?	
		b) Whether or not you should work outside the home?	
		c) How many children to have?	
		d) Whether to purchase or sell animals?	
		e) Whether to purchase or sell (gold/silver jewellery)?	
		f) What to do if a child falls sick?	
		g) How much schooling to give your children?	
		h) What kind of school to send the children to?	
160	In your opinion would a husband be justified in beating his wife if: (1) Yes (2) No (3) Don't know	(a) She was disrespectful to his parents or other senior family members	
		(b) She neglected household chores	
		(c) She was disobedient or did not follow his orders	
		(d) She was drunkard or drug addict	
		(e) She beat the children frequently	
161	Does your husband ever hit or beat you?	(1) Yes (2) No	
162	How often does this happen?	(1) Regularly (2) Sometimes (3) Rarely (4) No answer	

163		Do you have to ask your husband or senior family member for permission to go to: (1) Yes (2) No	164. Can you go to any of these places alone? (1) Yes (2) No
(a)	Any place outside your house or compound		
(b)	To the local market in the same village		
(c)	To the doctor in the same village		
(d)	Fields outside the village		
(e)	Home of relatives or friends in the village		
(f)	Temple/place of worship in the village		
(g)	A nearby fair		
(h)	A nearby shrine		
(i)	To visit your parents		
(j)	SHG/Mahila mandal meeting		
(k)	To health centre outside village		
(l)	To government office outside village		

165	Do you have a bank/post office account in your name?	(1) Yes (2) No	
166	Have you ever been to a govt/panchayat office in your village?	(1) Yes (2) No	
167	Have you ever been to a government office outside your village?	(1) Yes (2) No	
168	Have you ever attended a gram sabha or any such meeting in your village?	(1) Yes (2) No	
169	Have you voted in the elections?	(1) Yes (2) No	
170	Have you ever gone for a public meeting/political meeting/rally outside your village?	(1) Yes (2) No	
171	Do you practice ghunghat/purdah?	(1) Yes (2) No	

172	Do you cover your head in front of the following people? (1) Yes (2) No	a) Husband	
		b) Father in law	
		c) Mother in law	
		d) Elder brothers in law	
		e) Elder sisters in law	
		f) Outside men	
173	Do you practice ghunghat/purdah in the following places?	(1) In the home	
		(2) Outside the home but in the village	
		(3) Outside the village	
174	What would happen if you did not observe ghunghat/purdah in front of these people?		
175	Do you feel uncomfortable speaking/giving an opinion in the presence of the following people: (1) Yes (2) No	a) Husband	
		b) Father in law	
		c) Mother in law	
		d) Elder brothers in law	
		e) Elder sisters in law	
		f) Outside men	
176	Is it safe for women to move around in the village alone?	(1) Yes (2) No (3) Don't Know	
177	When your family takes the main meal of the day, do you usually eat with the others?	(1) Husband and wife eat together (2) Husband eats first, wife eats later (3) Wife eats first, husband eats later (4) Varies/depends (5) No answer (6) Other (specify)	
178	Would your husband object to your visiting your friends without him?	(1) Yes (2) No	
179	Would he permit you to improve your education if you wanted to?	(1) Yes (2) No	

180	How much schooling would you like to give to your sons?	(1) None (2) Primary (3) Secondary (4) University (5) As much as they want to (6) No sons (7) Don't know	
181	How much schooling would you like to give to your daughters?	(1) None (2) Primary (3) Secondary (4) University (5) As much as they want to (6) No sons (7) Don't know	
182	What according to you are the benefits of education to boys? <i>[Multiple responses possible]</i>	(1) Improves employment opportunities (2) Increases income (3) Improves social status (4) Improves self-confidence (5) Leads to greater independence (6) Helps writing letters/keeping accounts (7) Helps in teaching own children (8) Improves marriage prospects (9) Other _____	
183	What according to you are the benefits of education to girls? <i>[Multiple responses possible]</i>	(1) Improves employment opportunities (2) Increases income (3) Improves social status (4) Improves self-confidence (5) Leads to greater independence (6) Helps writing letters/keeping accounts (7) Helps in teaching own children (8) Improves marriage prospects (9) Other _____	

184	For each of the following statements, do you agree or disagree		
(a)	Most of the important decisions in the family should be made by the man	(1) Agree (2) Disagree (3) No Opinion	
(b)	There is some work that only men should do and some work that men should not do	(1) Agree (2) Disagree (3) No Opinion	
(c)	The husband should help with the children and household chores	(1) Agree (2) Disagree (3) No Opinion	
(d)	A mother should not work outside the home while her children are young	(1) Agree (2) Disagree (3) No Opinion	
(e)	A woman should be allowed to work for cash	(1) Agree (2) Disagree (3) No Opinion	
(f)	If a woman's opinion differs with her husband's opinion, she must accept his opinion.	(1) Agree (2) Disagree (3) No Opinion	
(g)	Girls should be allowed to decide when and to whom they want to marry	(1) Agree (2) Disagree (3) No Opinion	
(h)	Boys should be allowed to decide when and to whom they want to marry	(1) Agree (2) Disagree (3) No Opinion	
(i)	Husbands should decide how household money is spent	(1) Agree (2) Disagree (3) No Opinion	
185	What is the most important consideration in arranging a girl's marriage?	(1) Caste (2) Economic status of the boy/ boy's family (3) Boy's education (4) Girl's choice/approval (5) Other _____	
186	What is the legal age of marriage for a girl?	____ years (99) Don't know	
187	Did you have any say in who you would marry?	(1) Yes (2) No	
188	Do you think widows should be allowed to remarry?	(1) Yes (2) No	

CONTACT WITH PARENTS' FAMILY

189	What is the name of your parents' village?		
190	How far is it from this village	_____ in kms (0) Same village	
191	What is the mode of transport that you normally use to go to your parents' village?	(1) Bus (2) Train (3) Bullock cart (4) Cycle (5) Motorcycle (6) Walking (7) Other _____ (8) Parents live in same village	
192	On an average how long does it take for you to reach your parents' village from this village?	_____ hours (0) Parents live in same village	
193	How often do you generally visit your parents' home?	(1) Not at all (2) More than/about once a week (3) About once a month (4) About once in six months (5) About once a year (6) Living with parents/same village (7) Other	
194	How often does someone from your parents' family come to visit you?	(1) Not at all (2) More than/about once a week (3) About once a month (4) About once in six months (5) About once a year (6) Living with parents/same village (7) Other	
195	Did you have friends in your parents' village?	(1) Yes (2) No	
196	Do you have friends in your marital village?	(1) Yes (2) No	
197	Do you have more or fewer friends in your marital village than you did in your natal village?	(1) More friends in marital village (2) More friends in parents' village	

198	How often do you see your friends in your marital village?	(1) Rarely (2) Occasionally (3) Often (4) Very often	
199	When you lived in your natal home (i.e. before you got married) how often did you see your friends in your natal village?	(1) Rarely (2) Occasionally (3) Often (4) Very often	
200	Do you get any support from your parents' family in case of illness of you or your children?	(1) Yes (2) No	
201	If yes, what kind of support? <i>[Multiple responses possible]</i>	(1) Monetary support (2) I can go and stay with them (3) One of them comes to help me (4) Other _____	
202	If there is an emergency, how do you get in touch with your parents' family?	(1) By phone (2) Send a message through someone (3) Send a letter/telegram (4) Other _____	
203	If you are in need of money, can you turn to your parents for help?	(1) Yes (2) No	

EXPOSURE TO MEDIA

204	Do you read a newspaper or magazine almost every day, at least once a week, less than once a week or Not at all?	(1) Almost every day (2) At least once a week (3) Less than once a week (4) Not at all	
205	Do you listen to the radio almost every day, at least once a week, less than once a week or Not at all?	(1) Almost every day (2) At least once a week (3) Less than once a week (4) Not at all	
206	Do you watch television almost every day, at least once a week, less than once a week or Not at all?	(1) Almost every day (2) At least once a week (3) Less than once a week (4) Not at all	
207	After getting married, have you ever gone to a cinema hall or theatre to see a movie?	(1) Yes (2) No	

PARTICIPATION IN ASSOCIATIONS

	208. Are you a member in this kind of a group? (1) Yes (2) No	209. Since how many years are you a member of this group _____years	210. Who organised the group? (1) Government (2) NGO (3) Other	211. How often do you go for meetings of the group? (1) Rarely (2) Once a month (3) Twice a month (4) Once a week (5) Other	212. Were issues related to health or child care ever discussed in any of these meetings? (1) Yes (2) No (3) Don't Know
(a) Self help group					
(b) Women's club/ mahila mandal					
(c) Bhajan mandal					
(d) Dairy co-operative					
(e) Political party					
(f) PTA/VEC					
(g) Anganwadi Mother's Committee					
(h) Other _____					
(i) Other					

213	What was your family's opinion about joining such groups?	(1) Family made the suggestion (2) Family agreed with my request to join (3) Family weren't thrilled but let me go (4) Family tried to discourage me from joining (5) Family would not let me go at first	
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214	Did participation in these groups change your life in any way?	(1) Yes (2) No	
215	In which ways was it useful? <i>[Multiple responses possible]</i>	(1) Became more confident (2) Able to speak in front of others (3) Able to move around in the village more (4) Have friends now (5) Learnt to take care my baby (6) Learnt about health issues (7) Able to assert in the family more (8) Gave me access to credit (9) Other (specify) _____	
216	Are you involved in any economic activity of the group?	(1) Yes (2) No	
217. What activity? Describe			
218	What are the occasions with the village gets together? <i>[Multiple responses possible]</i>	(1) Festival (2) Pilgrimage (3) Elections (4) Gram sabha (5) Other _____	
219	Have you or your family ever made any contributions (chanda) to any cause?	(1) Yes (2) No	
220	If yes, what was this for? <i>[Multiple responses possible]</i>	(1) Disaster relief (2) Festival (3) Temple building (4) Road building (5) School related (6) Other _____	

PVS. M. LONG TERM MIGRATION SCHEDULE**(HOUSEHOLD MEMBERS HAVE LEFT BUT THERE IS SOME OF THE ORIGINAL HOUSEHOLD IN THE VILLAGE)**

H.H. No

Respondent.....

Date.....

Investigator.....

A. LISTING OF HOUSEHOLD MEMBERS WHO HAVE MIGRATED

MEMBER ID.	SERIAL NO OF THE SUB FAMILY*	MEMBERS WHO HAVE LEFT THE HOUSEHOLD IN THE LAST 10 YEARS	NAME OF FATHER	RELATION TO HEAD	AGE WHEN THE MEMBER LEFT THE HOUSEHOLD	GENDER	MONTH/ YEAR IN WHICH MEMBER MIGRATED	EDUCATION OF THE MEMBER WHEN THE MEMBER LEFT (HIGHEST CLASS PASSED)	OCCUPATION OF THE MEMBER WHEN HE/SHE LEFT THE HOUSEHOLD	CONTACT PHONE NO./ ADDRESS IF AVAILABLE

B. INFORMATION ON CURRENT STATUS

List Members you are still in contact with	How do you stay in contact? (Specify... e.g. by letters, family visits)	Specify last time you communicated with the member	How many times does the member visit the village in a year. (if more infrequent, specify at what frequency)	Does the member stay at your household when he visits your village?	Does the member stay at any one else's house when he visits the village?	When will the household next visit the village? (Specify DK if the household doesn't know)	Have you ever visited the member in his current address? If YES, when?

Latest Information about the migrated member

Member id	Current Education level of the member (if SAME as above, write SAME)	Current Occupation of the member	If the member works, describe the job	If the member works, how much do you think he/she earns	. Does member own / co own any land in the village	Does the member co own any household land (how much).

C. REASON FOR MIGRATION (ASKED ABOUT EVERYONE WHO MIGRATED)

Member id	Why did the member leave the village?	Was the member employed when he left the village?	Did the member have a job offer when he left? What job?	Did anyone in the village help the member get the job? If Yes, Specify Who?	Did anyone outside the village help the member get the job? Who? (Specify)	Did the member have relatives in the place he went to?	Did the member have friends in the place he went to?

D. MONEY TRANSFERS BY HOUSEHOLD TO MIGRATED MEMBERS

1. Does the household CURRENTLY send money to the migrated members?	2. Specify member ids to whom money is sent currently (List member ids in each row)	3. If Yes, How much in the LAST year to a particular member id? (If other frequency specify)	4. Specify purpose money is sent for. (If purpose not known, write DK)

5. Did the household ever send money to the migrated member before last year?	6. Specify Member ids. Money was sent to.	7. If Yes, Specify total amount sent (per year)	8. Specify purpose money was sent for. (If purpose not known, write DK)

E. MONEY TRANSFERS BY MIGRATED MEMBERS TO HOUSEHOLD

1. Does the household CURRENTLY receive money from the migrated members?	2. If Yes, List member ids from whom household receives money	3. Specify purpose money is sent for.	4. What was the amount received in the LAST year?

5. Did the household ever RECEIVE money from the migrated member before last year?	6. Specify Member ids. Money was received from.	7. If Yes, Specify total amount sent (per year)	8. Specify purpose money was sent for. (If purpose not known, write DK)

F. OTHER NON MONEY TRANSFERS (including GIFTS) BY HOUSEHOLD TO MIGRANT MEMBERS

1. Does the household CURRENTLY HELP THE migrated members in any non monetary way?	2. Specify member ids to whom HELP is given currently (List member ids in each row)	3. Specify form of HELP in the last one year

1. HAS the household EVER HELP the migrated members in any non monetary way before last year?	2. Specify member ids to whom HELP is given before last year (List member ids in each row)	3. Specify form of HELP given before last year

G. OTHER NON MONEY TRANSFERS (including GIFTS) BY MIGRANT MEMBERS TO HOUSEHOLD

1. Does the household CURRENTLY RECEIVE HELP from migrated members in any non monetary way?	2. Specify member ids to whom HELP is received from currently (List member ids in each row)	3. Specify form of HELP in the last one year

1. HAS the household EVER received HELP from the migrated members in any non monetary way before last year?	2. Specify member ids from whom HELP was received before last year (List member ids in each row)	3. Specify form of HELP given before last year

H. MIGRATION POSSIBILITIES

1. Is any member from the household planning to leave the household for more than one year	2. Name of member who may leave the household	3. What reason? (ASK MEMBER WHO IS THINKING OF MIGRATING)	4. Where does he plan to go to?	5. Has he received any help from anyone inside the village? (Who)	6. What help?	7. Has he received any help from anyone outside the village? (Who)	8. What help?

Remarks:

PVS. M2: LONG TERM MIGRATION SCHEDULE: (TO BE ADMINISTERED TO MIGRANTS).

H.H. No.

Respondent.....
Date.....
Investigator.....

A: LISTING OF HOUSEHOLD MEMBERS (MIGRANTS HOUSEHOLD MEMBERS)

MEMBER ID.	NAME	RELATION TO HEAD	GENDER (M/F)	CURRENT EDUCATION LEVEL (HIGHEST CLASS PASSED)	CURRENT PRIMARY OCCUPATION (IF CHILD IN SCHOOL, THEN WRITE STUDYING IN SCHOOL/COLLEGE)	If the member works, describe the job	CURRENT SUBSIDIARY OCCUPATION (Describe)	If the member works, how much does he earn per month. (if part of remuneration is in Kind, please ask respondent to impute value)	CURRENT ADDRESS AND PHONE NUMBER

B: INFORMATION ON HOUSEHOLD MEMBERS WHEN THEY LEFT PALANPUR.

List Members of the Household who lived in Palanpur before they migrated.	AGE WHEN THE MEMBER LEFT THE HOUSEHOLD	MONTH/ YEAR IN WHICH MEMBER MIGRATED (if the migrant has left the village many times, mention the date for the last time)	PLACE WHERE THE RESPONDENT FIRST WENT TO AS A MIGRANT (IGNORE PLACES WHERE MIGRANT STAYED FOR A LESS THAN A MONTH)	EDUCATION OF THE MEMBER WHEN THE MEMBER LEFT (HIGHEST CLASS PASSED)	OCCUPATION OF THE MEMBER WHEN HE/SHE LEFT THE HOUSEHOLD

Remarks:

C: REASON FOR MIGRATION (ASKED TO MIGRANT)

Memb er. id	Why did you leave the village?	Was the member employed when he left the village?	Did the member have a job offer when he left? What job?	Did anyone in the village help the member get the job? If Yes, Specify Who?	Did anyone outside the village help the member get the job? Who? (Specify)	Did the member have relatives in the place he went to?	Did the member have friends in the place he went to?	Who did the respondent first stay with when he migrated?

D: MONEY TRANSFERS TO MIGRATED MEMBERS

1. Does anyone from the village CURRENTLY send money to the migrated member?	2. Specify member ids who send money currently (If households and not any member sends money go to 3)	3. What household (write name of household head) do they belong to? (FILL IN Household id later)	3. If Yes, How much in the LAST year has the member/household sent)	4. Specify purpose money is sent for.

1. Did any village member ever send money to the migrated member before last year?	2. Specify Who sent? (member id/ HH_id)	3. If Yes, Specify total amount sent (per year). If some other frequency Specify)	4. Specify purpose money was sent for.

E: MONEY TRANSFERS BY MIGRATED MEMBERS TO HOUSEHOLD

1. Does any member/household in the village CURRENTLY receive money from you?	2. If Yes in 1., List member ids / HH ids who you sent money to. If NO go to 5.	3. Specify purpose money is sent for.	4. What was the amount received in the LAST year?	5. If you didn't send money to anyone in the village in the last year, Why Not?

1. Did any member/household RECEIVE money from the migrated member before last year?	2. If YES in 1. specify Member ids/ HH_ids . If NO in 1. then go to 5	3. If Yes, Specify total amount sent (per year)	4. Specify purpose money was sent for	5. If you NEVER sent money to anyone in the village before last year, Why Not?

F: OTHER NON MONEY TRANSFERS (including GIFTS) RECEIVED BY MIGRANT MEMBERS

1. Does any Household/ Member in the village CURRENTLY HELP you in any non monetary way?	2. Specify member ids/ HH ids from who HELP the member (List member ids in each row)	3. Specify form of HELP in the last one year

1. HAS any household in the village EVER HELPED you in any non monetary way before last year?	2. Specify member ids to who HELPED before last year (List member ids in each row)	3. Specify form of HELP given before last year

G: OTHER NON MONEY TRANSFERS (including GIFTS) BY MIGRANT MEMBERS TO HOUSEHOLD

1. Do you CURRENTLY help an household/ member in the village in any non monetary way?	2. Specify member ids/ HH ids whom you HELP currently (List member ids in each row)	3. Specify form of HELP in the last one year
1. Have EVER HELPED any household/member in the village in any non monetary way before last year?	2. Specify member ids/ Household ids who you HELP (List member ids in each row)	3. Specify form of HELP given before last year

H: CONTACT WITH VILLAGE

List Members/ Households of the village you are still in contact with	How do you stay in contact? (Specify... e.g. by letters, family visits)	Specify last time you communicated with the member	How many times do you visit the village in a year. (if more infrequent, specify at what frequency)	Who's house do you MOSTLY stay when you visit your village?	Do you stay at anyone else's house he visits the village?	When will you NEXT come to the village?	Has any member from the village visited you. Write Member Name and Frequency (If frequently write how many times a year, if infrequent write how many times in the last 10 years)

I: MIGRATION POSSIBILITIES

1. Has any member in the village approached you for help to leave the village	2. Name of member	3. Why does the member want to leave?	4. In what way, can you help the member?

J: WEALTH AND ASSETS

Do you own any land in the village? IF YES, How Much? (List all land holdings if own more than one and state co-owners if any)

Sr No.	Land Size	Co-owners	What share will you get if the ownership were to split?

Do you own any land outside the village? IF YES, How much and where?

Sr No.	Land Size	Co-owners if any	Where?

K: COMING BACK TO VILLAGE

Do you ever want to come back to live in the village? YES / NO

IF YES, At what age?

What is preventing you from coming back to the Village NOW?

Do you own any property? List here

Do you live in a rented or own house in the place you stay?

How many rooms does it have?

Remark:

PVS – E1: EMPLOYMENT SCHEDULE

Hh No:

Date:

Respondent:

Investigator:

I. ACTIVITY SCHEDULE (For all eligible males)

1. Activity Code	2. Write: (starting from the last month and going backwards) p – if the activity carried on was principal activity in that month s – if activities carried on were subsidiary activity in that month (‘p’ & ‘s’ are determined on the basis of ‘Time Spent Criterion’)												3. Code, if done outside Palanpur
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
	माघ / महा	फाल्गुन	चैत्र / चैत	वैशाख / बैसाख	ज्येष्ठ / जेठ	आषाढ / असाढ	श्रावण / सावन	भाद्रपद / भादौ	आश्विन / कुवार	कार्तिक	मार्गशीर्ष / अघन	पौष / पूस	
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
Status Code													

Remarks:

5. Number of months without work? Specify Months _____

6. Whether made any effort to get work during those months? (Y/N) Specify Monthwise. _____

7. If stopped looking actively for job (Status 'O'), specify why stopped.

Codes:

1. Activity Codes:

- 1 - Own Farm Cultivation Activities (Own or leased in),
- 2 - Casual Wage Labour (Farm),
- 3 – Mechanized farm activities (other's farm)
- 4 – Casual Wage Labour Skilled Non- Farm (excluding any work in NREGA)
- 5 – Casual Wage Labour Unskilled (Non Farm) (excluding any work in NREGA)
- 6 – Employment in NREGA
- 7 – Salaried Employment (farm or non-farm),
- 8 - Self employed (Professional Services)
- 9 – Personal (Jajmani) Services,
- 10 –Business/Trade/Manufacturing

4. Location Code:

- 1 – Chandausi,
- 2 – Moradabad,
- 3 – Delhi,
- 9 – Other (Specify in remarks)

Status Code:

- W - Working or being engaged in economic activity (work)
- U – Unemployed (Being not engaged in economic activity (work) but either making tangible efforts to seek 'work' or being available for 'work' if the 'work' is available)
- O – Not seeking any work. Out of Labor Force.

II. CASUAL LABORERS (For casual labourers apart from AL)

A. Respondent Name	
B. Places you go to (Describe) (If more than one kind of casual labor work done then use another sheet for second job)	
1. Nature of Job.	
2. How are payments determined?	
3. Did you use middle-men/Intermediary to get the job? (No - 1, Contractor - 2, Relative - 3, Friend - 4, Other (Specify in Remarks) - 9	
4. Payment, if made to the middle-men?	
5. Approximately how many days in a month did you go to the workplace to try for the job?	
6. How many days in the above, you did not get the work at the work-place.	

7. What is the payment for your work? (Specify monetary and non-monetary payment)	
8. Did you get to work on this job as much as you desired (Yes or No)	
9. If above is no, why?	
10. Why did you choose this job instead of other choices (specify other choices)	
11. Why do you do daily job instead of migrating out of village?	
12. Referring back to the job, do you think there is discrimination based on caste or health status for this job? If yes, then of what kind?	

Remarks:

PVS – E3: EMPLOYMENT SCHEDULE

Hh No:

Date:

Respondent:

Investigator:

III. NON-CULTIVATION SELF-EMPLOYMENT (Mentha Plant, Oil Spiller, Shop Keepers, Marble Polishing own machine, Flour Mill etc)

1. Description of Business	2. Which members in the household work in this business? List Name	3. If the work is seasonal, how many months do you get the work? List the months.	4.If you stay away from PPR for the work, how many days you stay away from PPR per job contract	5. In a good month (or season), how much in total do you earn from this business. (Profit)	6. What are the fixed expenses/ set up costs for the business?



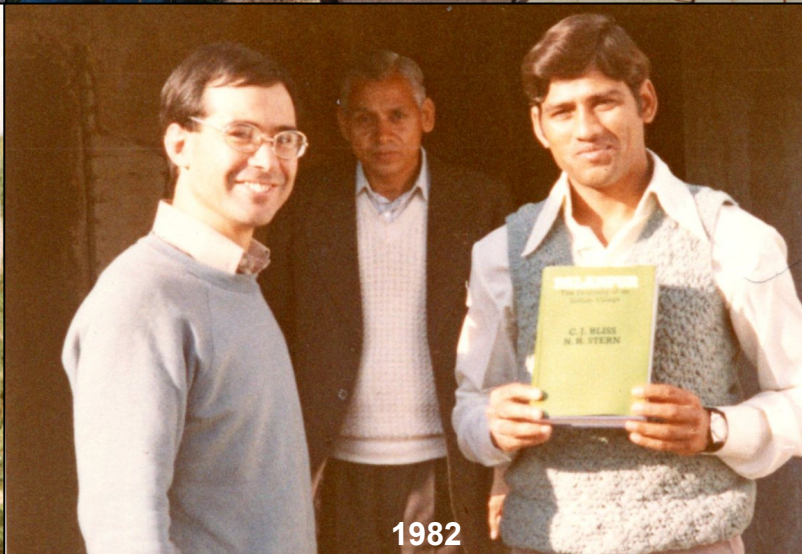
1990



1990



1981



1982



2009