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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 being[2] 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 2007-08[3]. 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
Annual growth rates		**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 activities[4].

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 inputs[5].

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 pisiculture, 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

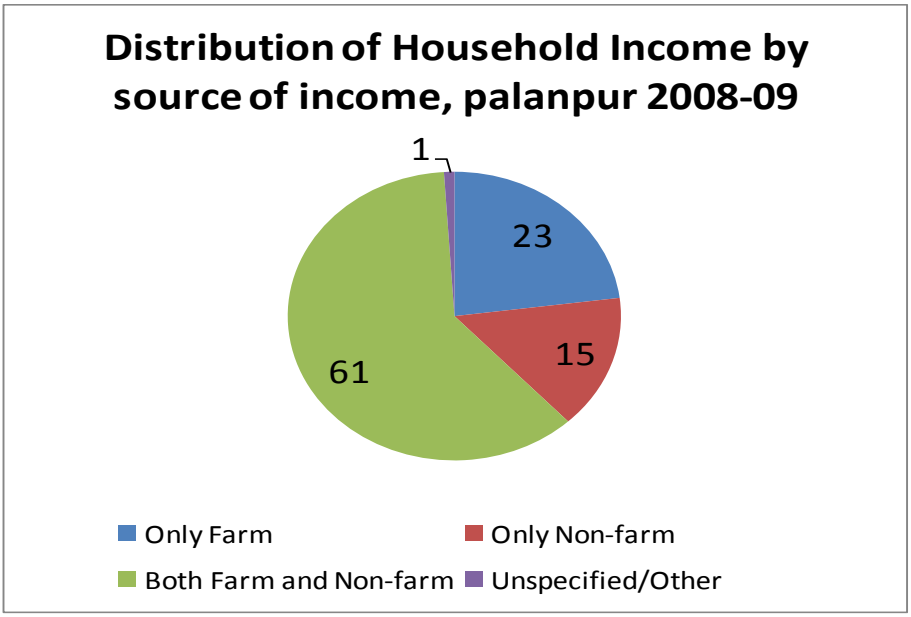
	Per Capita total income	Per Capita Non Farm income	Per Capita farm income	Percentage share of Non-farm	Number in the sub-population
Thakur	13956	9986	3970	71.6	53
Murao	11132	4189	6943	37.6	46
Dhimar	11774	10953	822	93.0	18
Gadariya	19012	13029	5983	68.5	12
Dhobhi	6335	1999	4336	31.6	3
Teli	15111	13599	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 surveys[7]. 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 inequality[8]. 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 Vijyendra Rao (2010) on data from previous surveys[9].

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 features[10].

[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 possible[11].

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 Palanpur 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 spilt 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 Jatabs 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 Jatabs. There are only 5 Thakur households which have seen upward mobility (this is one household with five brothers) but only 1 Murao 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 Jatabs 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.

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