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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

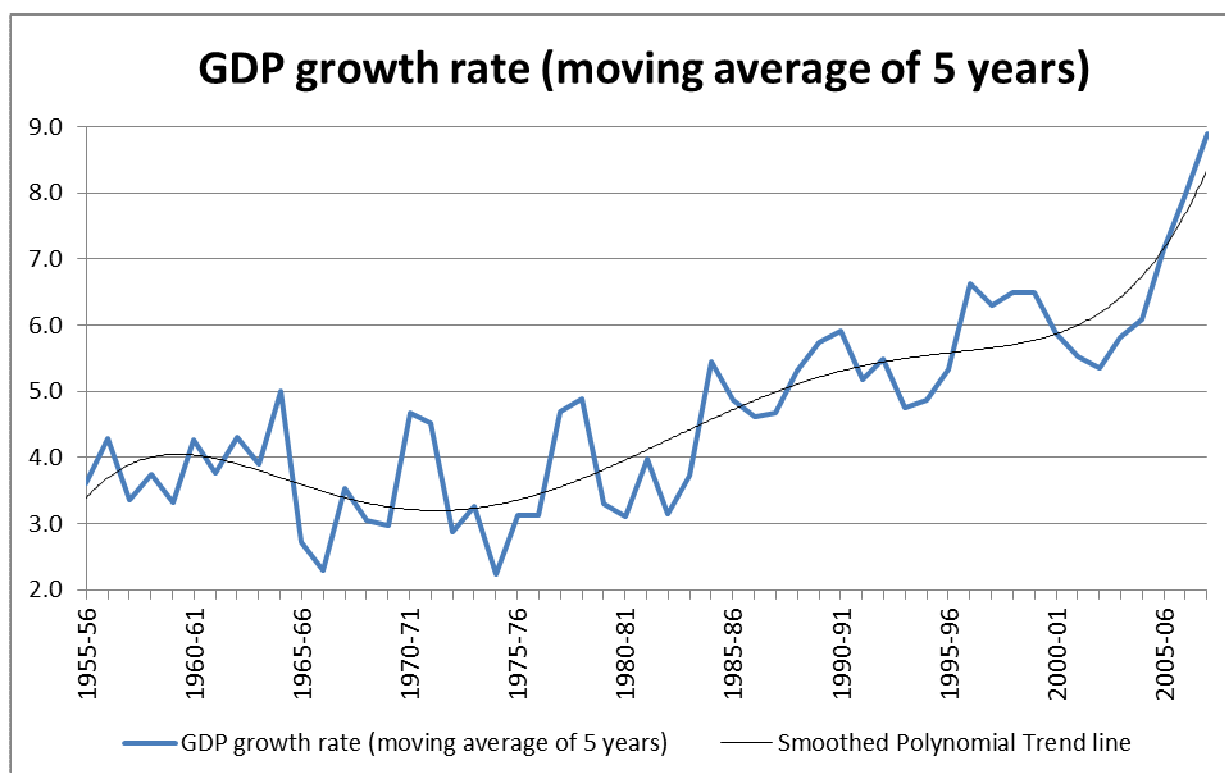
India's transformation over the last half-century has had a profound effect on Palanpur. This includes rapid population growth for much of the period, zamindari abolition in the 1950s, the expansion of irrigation and the green revolution in the 1960s and 1970s, and the acceleration of the overall growth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

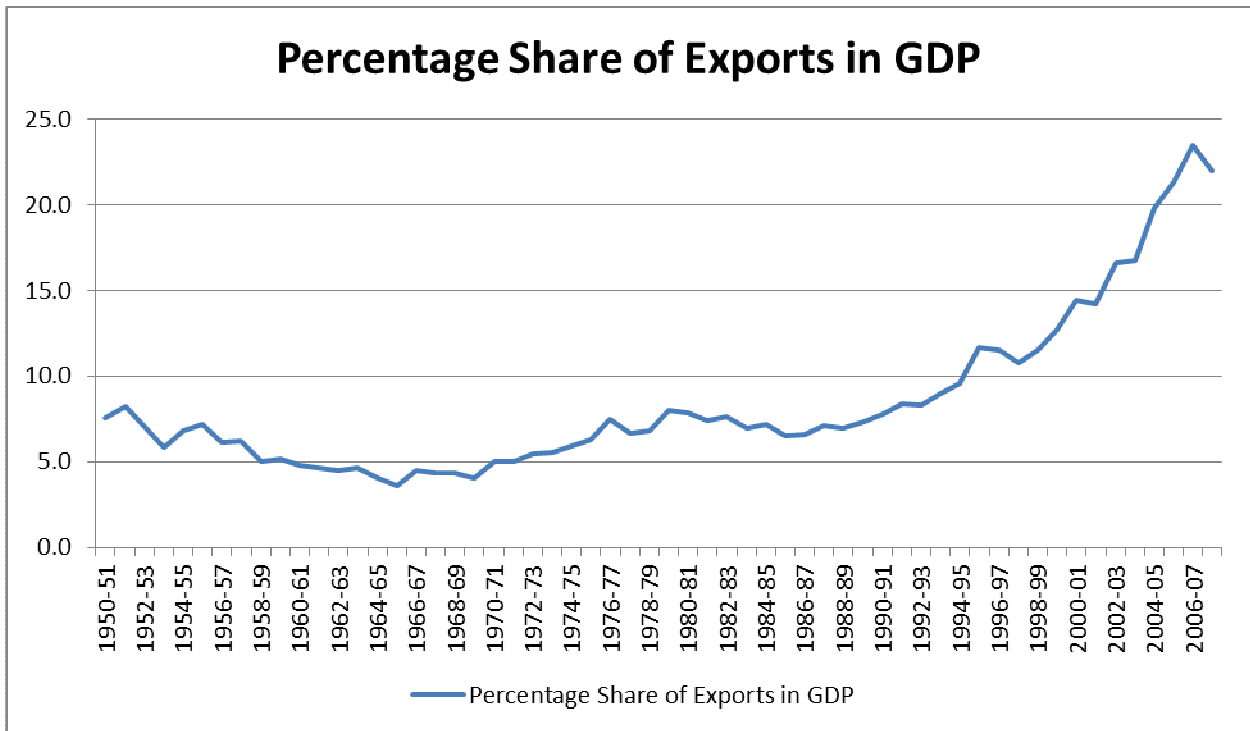
Figure 1



Source: National Accounts of India

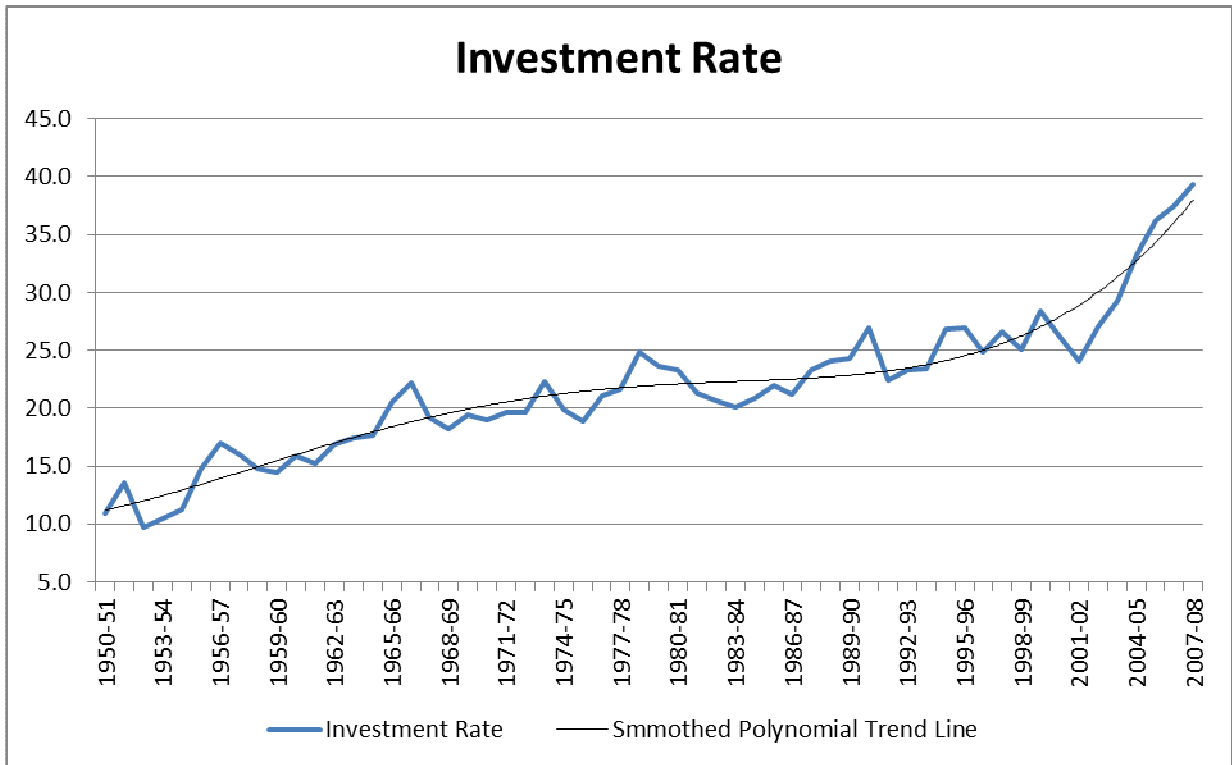
¹ Exports as share of GDP increased by more than double after the liberalization of the economy in the early 1990s, investment rates have increased from an average of 25% in the 1990s to more than 35% since 2004-05.

Figure 2



Source: National Accounts of India

Figure 3

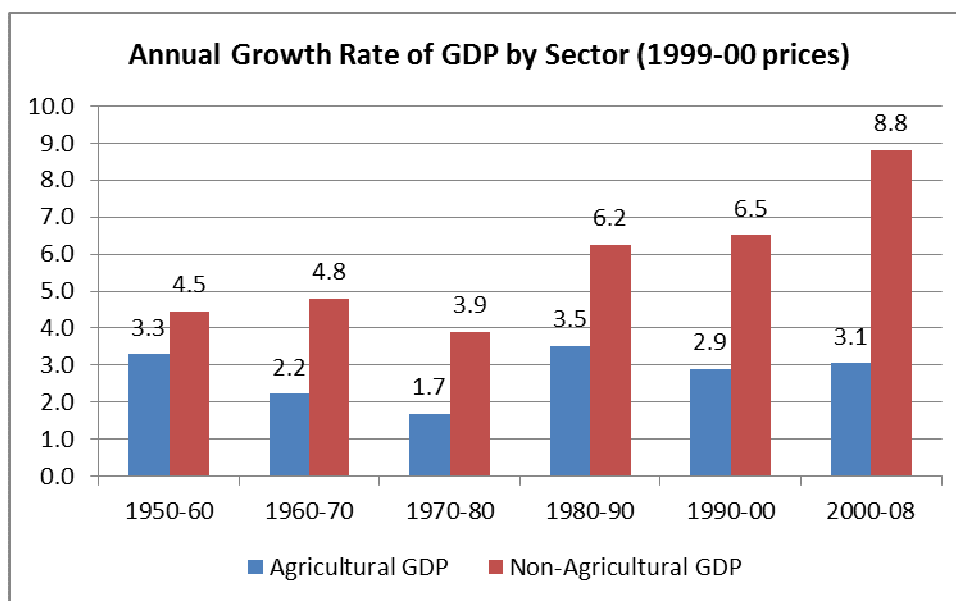


Source: National Accounts of India

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

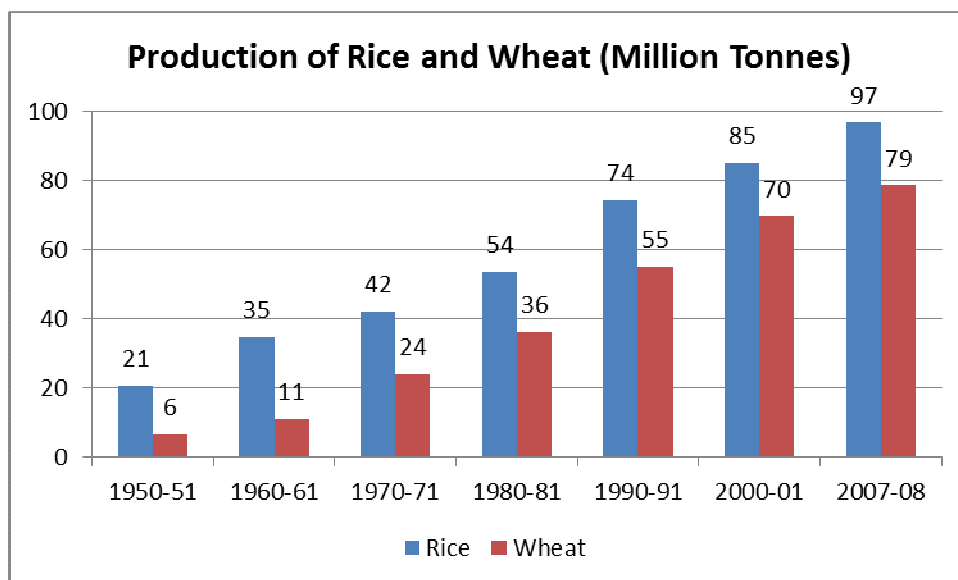
Whilst overall agricultural output has gone up by a factor of around four in the 60 years from 1950 to now, output of rice has risen a little faster and wheat much faster, growing by a

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.

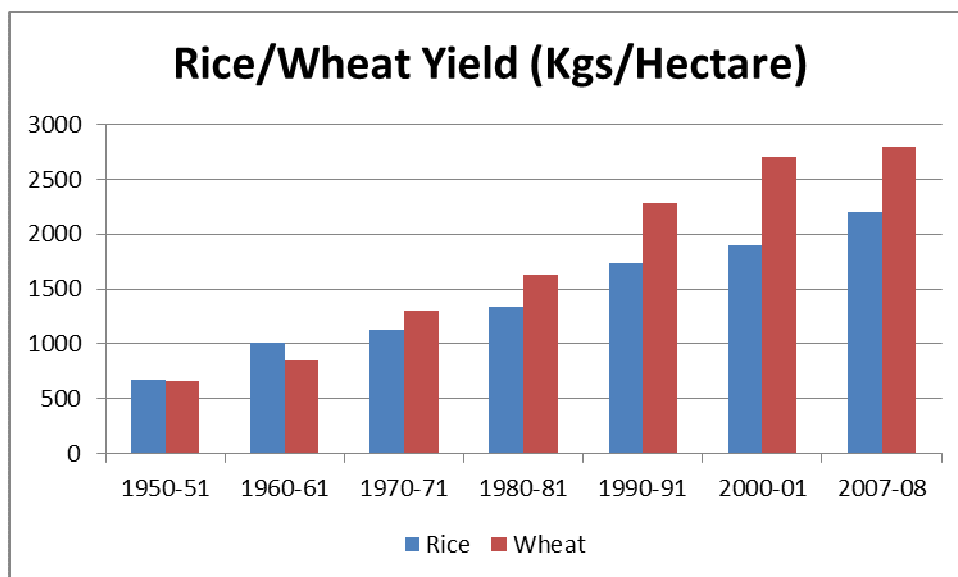
factor of around 13, see Figure 5. This partly reflects an increase in productivity per hectare associated with the green revolution (see Figure 6) but also with a related switch towards wheat.

Figure 5



Source: Agriculture Statistics at a Glance, Government of India

Figure 6

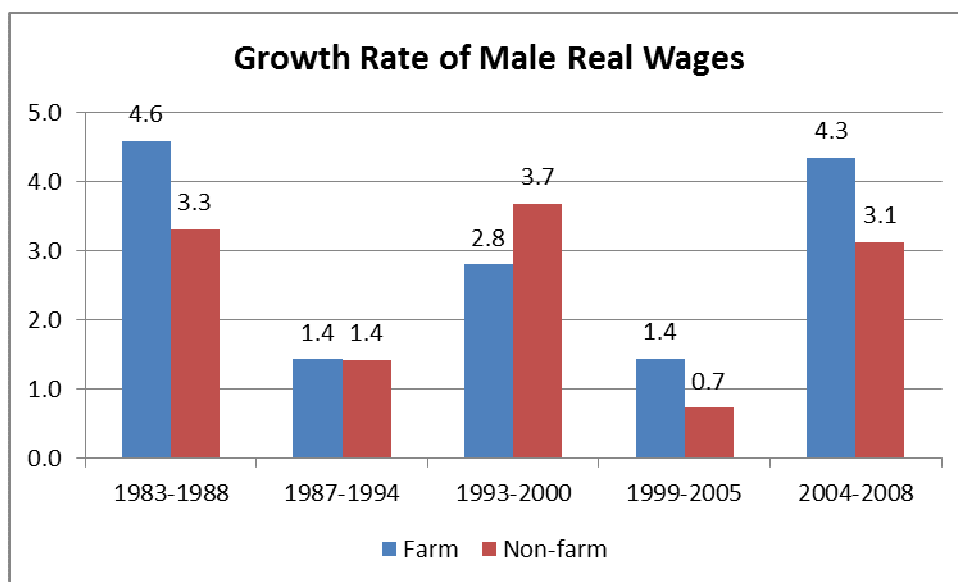


Source: Agriculture Statistics at a Glance, Government of India

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

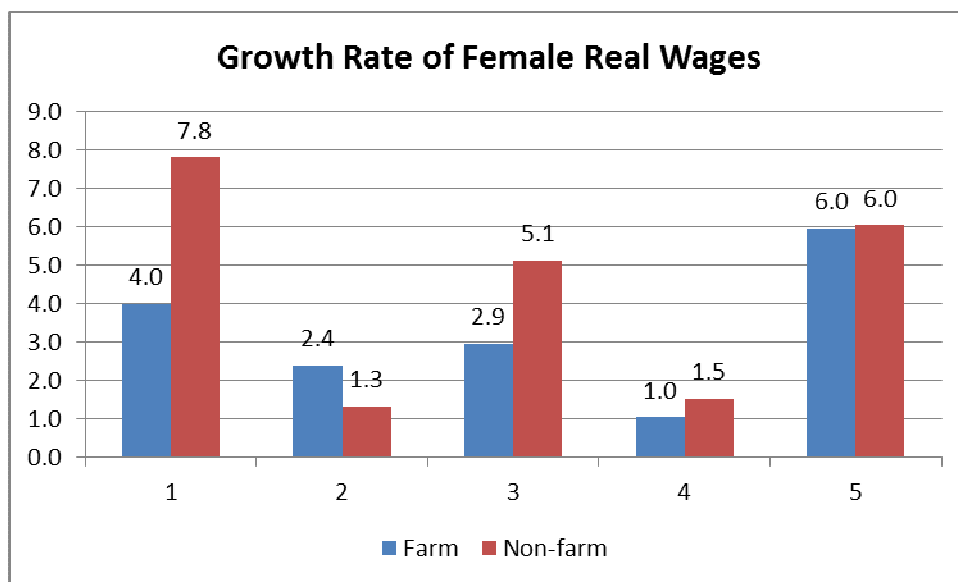
rates for wages were near or below 2.5%, with some modest ‘catch-up’ in women’s wages, although those for men were still 40% higher than those for women in 2008. Comparing growth rates in national output and income for this period of close to 6%, the much slower growth in wages was associated with a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

Figure 7



Source: National Sample Survey Organisation

Figure 8



Source: National Sample Survey Organisation

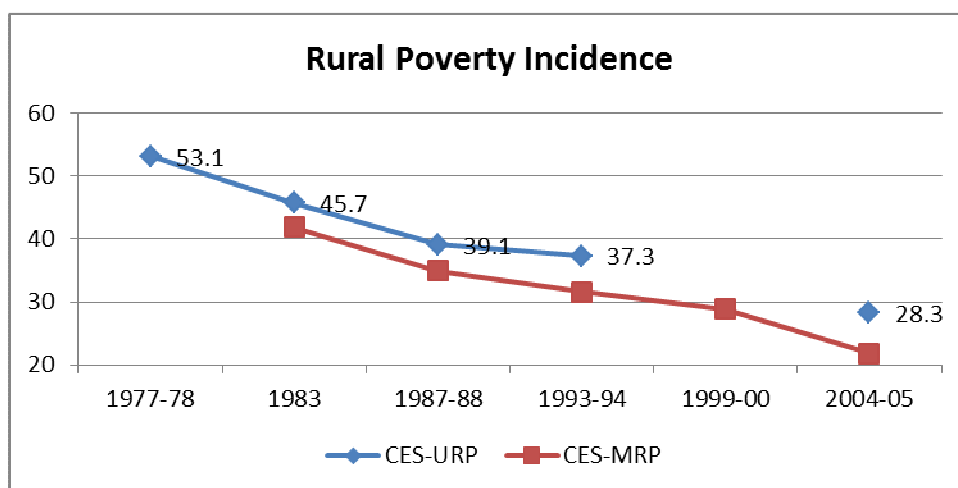
Along with slow growth of wages, there are also concerns that the benefits of growth may not have been shared equally by all population groups. Estimates of poverty show a

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

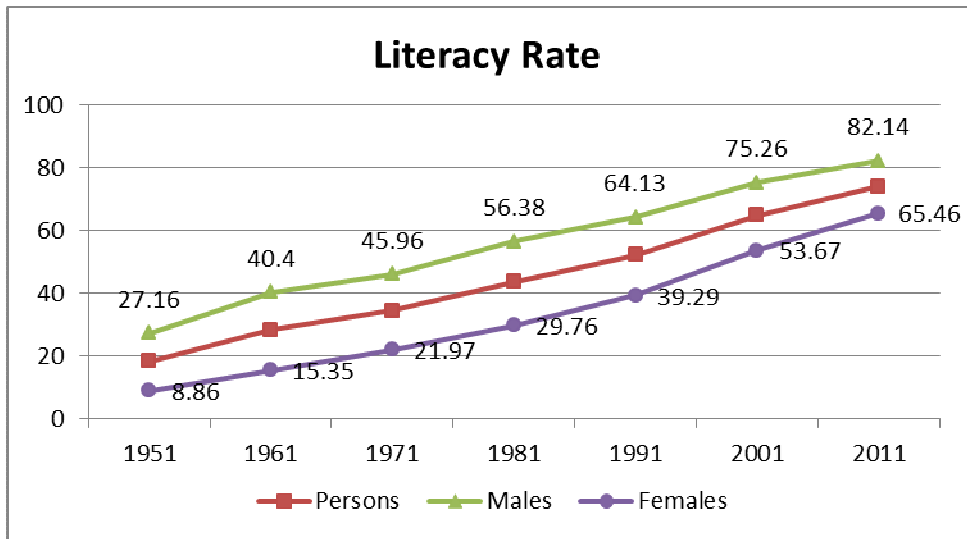


Source: Planning Commission

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

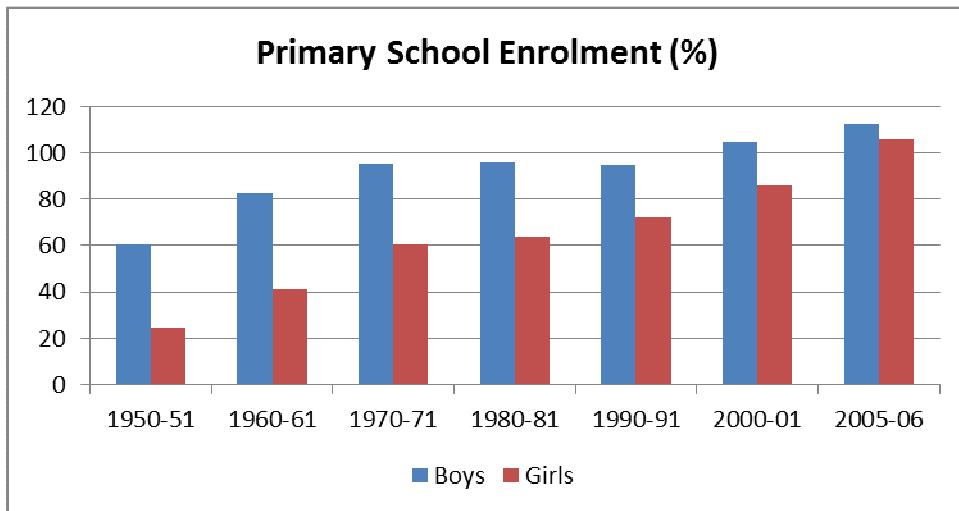
⁶ The graph here presents rural poverty incidence based on the official poverty lines based on Lakdawala Expert Group (Planning Commission, 1993) methodology. However, recently poverty estimates have been revised by the planning commission based on Tendulkar Committee Expert Group (Planning Commission,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

Figure 10



Source: Registrar General of India

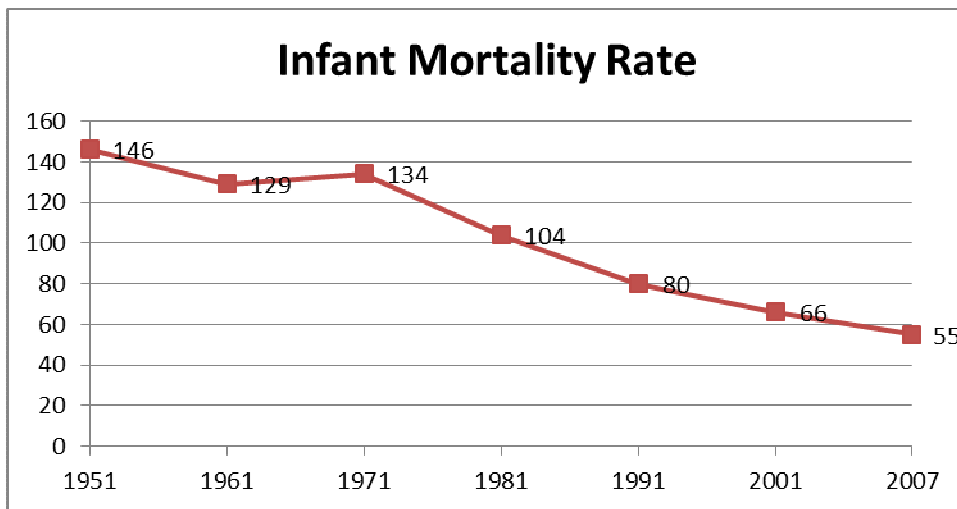
Figure 11



Source: Ministry of Human Resource Development, Annual Reports

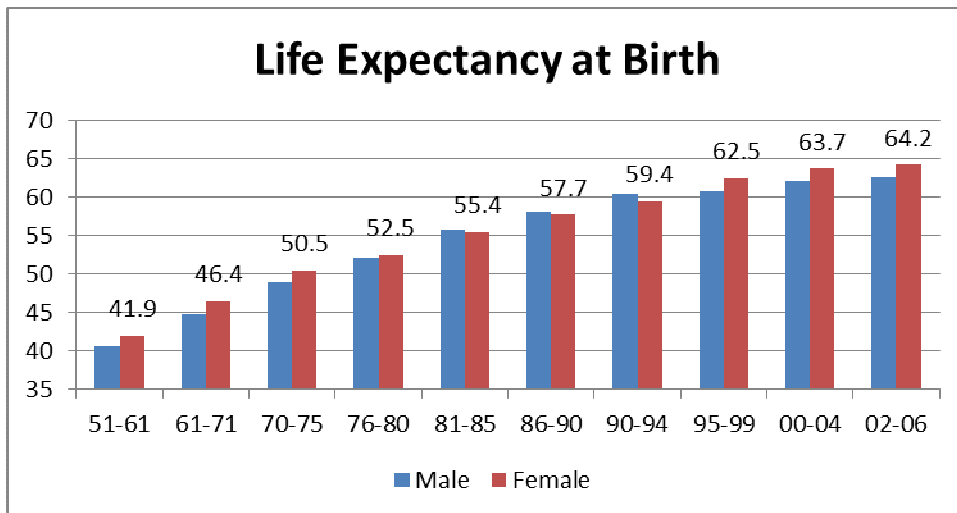
Literacy rates have gone up by a factor of around three and half for males and eight for females, although the latter is still much lower. The latest estimates from Census 2011 suggest a significant decline in the gender gap in literacy rates from around 20-25% earlier to 17% in 2011. Primary enrolment 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
	% of literates (7+) [Female]					
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). Pasis 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

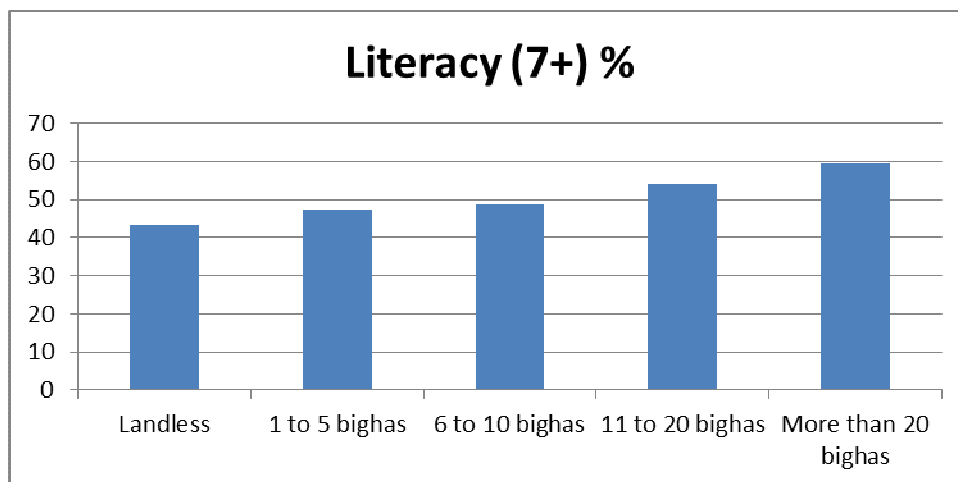
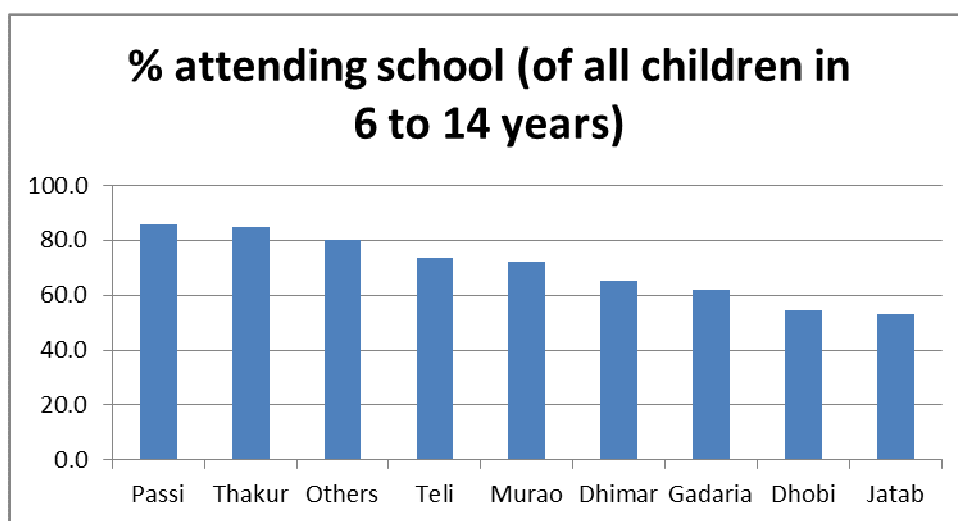


Figure 15



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
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

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.

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

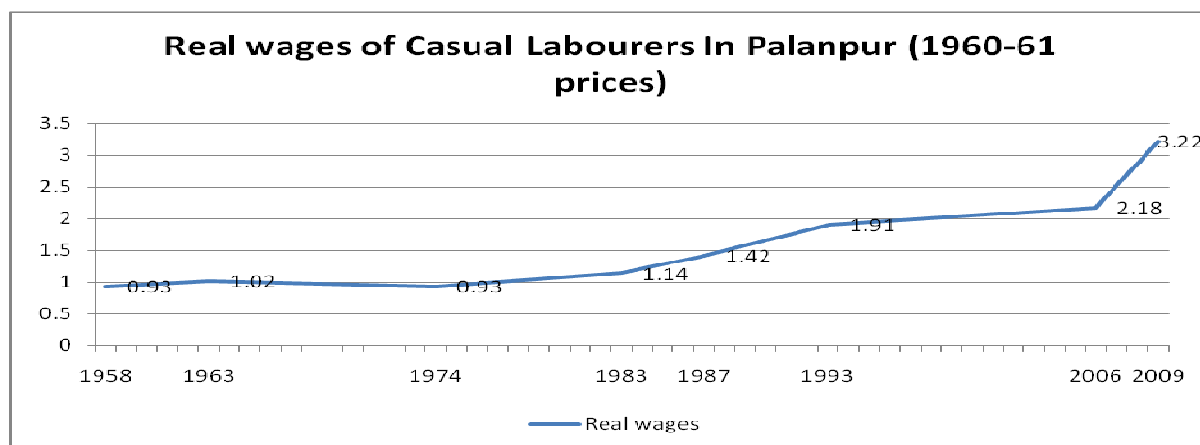


Table 7 provides basic indicators of income, consumption and inequality in Palanpur. For the first time, data on consumption expenditure of households were also collected. Estimates of consumption expenditure suggest that the poverty ratio of Palanpur at 33% is similar to the average of rural areas of 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.

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