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Poverty in Palanpur

Peter Lanjouw and Nicholas Stern

The meaning and identification of poverty are examined using three indicators of standard of living in the North Indian village of Palanpur. The first is intended as a measure of "apparent prosperity" based on the personal assessments of investigators after intensive field work in the village over the full agricultural year 1983–84. The other two are income in 1983–84, and a measure of permanent income obtained by averaging incomes from four surveys conducted over a twenty-six-year interval. A comparison of these three indicators shows that income measured in any one year may give a misleading impression of the incidence of poverty. The risk of poverty for households is calculated. Vulnerability is high among low-caste households and those which are involved in agricultural labor. Categories, however, are not homogeneous; for example, whereas the landless and widows are more likely to be poor, some of such households are quite well off. It is argued that poverty in a good agricultural year is a better indicator of sustained poverty than poverty in a bad year. Occupational mobility out of agricultural labor is low, and changes in the distribution of land are largely accounted for by demographic processes such as household splits.

We examine in this article the definition, identification, and determinants of poverty in the village of Palanpur in North India. We discuss correlates of poverty which are commonly analyzed or used in policy design, paying particular attention to understanding why and to what extent they may be appropriate for such use. We draw on data from four detailed surveys conducted in Palanpur in 1957–58, 1962–63, 1974–75, and 1983–84, as well as data and observations recorded on frequent visits to the village since 1974–75. The relative advantages and disadvantages of large-scale surveys of poverty in comparison with small-scale, village-based studies is a matter of some debate (Bardhan 1989), but both have a role in increasing our understanding of poverty.

The authors are at the London School of Economics and Political Science, University of London. This article is an outgrowth of collaborative work of the authors with Jean Drèze on social and economic change in Palanpur, a project in which he played a central role. Section II of this article draws extensively on his contributions to other joint papers within the project, and the authors are also indebted to him for his contributions to and detailed comments on earlier drafts of this article. The authors are also grateful for discussions with Christopher Bliss and Naresh Sharma and for the comments of Ehtisham Ahmad, Robin Burgess, Stephen Howes, and Jean Lanjouw. The project was supported by the U.K. Overseas Development Administration and the Suntory Toyota International Centre for Economics and Related Disciplines at the London School of Economics and Political Science, University of London.

The intensive study of one village provides detail on living standards not available by other means. For example, such a study can reveal whether the lifestyle of a villager appears very different from that which might be implied by measured income, whether there are any particular circumstances concerning household members' health or problems with its animals, equipment or fields which might disrupt income, whether nonagricultural employment is likely to persist, whether tenancy exists, and so on. Such questions can be crucial to the sensible definition, measurement, and accurate interpretation of income, or, more broadly, standard of living, and thus of poverty.

A village study can identify those underlying mechanisms affecting the incidence and severity of poverty which might be concealed in larger surveys, and it can provide a check on standard procedures of measuring poverty to ensure that they are not misleading. At the same time a village study cannot have the scope of a larger survey, so one must be aware of any special conditions in a particular village which might make it a misleading example. Although Palanpur does not seem to be outstandingly unusual in any critical sense, we do not claim that it, or any other single village, could be representative of the more than half a million villages in India. One must be careful in generalizing what has been learned in Palanpur to all of rural India. But, at the same time, if we find that common paradigms of village India do not apply, or that particular policies implemented in, or proposed for, the countryside appear to be inappropriate in Palanpur, we are entitled to ask why that is. The village study and the large-scale survey are, or should be, complementary vehicles for analysis.

Palanpur is situated in the district of Moradabad in western Uttar Pradesh. The railway line between Moradabad and the smaller town of Chandausi runs just outside the village and provides the main connection between Palanpur and the outside world. The village is surrounded by open fields (the "village land") covering about 400 acres. At the beginning of the 1983–84 survey, the village numbered 960 inhabitants divided into 143 households. Hindus made up 87 percent of the village population, and Muslims 13 percent.

The three largest castes in the village are Thakur, Murao, and Jatab. The Thakurs, who belong to the Kshatriya group, occupy the top position in the social hierarchy. They were traditionally warriors, and even though most of them are currently farmers, factory workers, or government employees, they nevertheless retain a noticeable preference for military service and a discernable aversion to most forms of manual labor. The Muraos, traditionally a cultivating caste, are the opposite in their attitude toward labor. They share a strong ethic of hard work, frugality, independence, and honesty. Many are also skilled farmers, and they have taken the greatest advantage of recent technological advances in agriculture. Their progress has become a source of acute rivalry with the Thakurs, who are rapidly losing their ability to retain a privileged economic and social position while minimizing their work effort. The Jatabs in Palanpur are traditionally leather workers and belong to one of the so-called

Scheduled castes, which, being particularly disadvantaged, have been singled out in the Indian constitution for special assistance. Most of them are now casual laborers or marginal farmers.

More socioeconomic details on Palanpur are provided in table 1. Further details of the village and analysis of its economy based on data from 1974–75 can be found in Bliss and Stern (1982). Preliminary results and analysis based on data collected in 1983–84 can be found in Drèze and Stern (1986); Drèze and Mukherjee (1987); Drèze (1988); Drèze (1990a, 1990b); Drèze and Sharma (1990); Drèze, Lanjouw, and Sharma (1990); Kynch and McGuire (1989); and Lanjouw and Stern (1989).

The article is organized as follows. In section I we consider the problems of measuring standard of living in a village like Palanpur. In section II we examine the relationship between poverty and household characteristics which incorporate different definitions of income and poverty. A more formal analysis of the determinants and correlates of poverty is presented in section III, and in section IV we consider mobility and the distribution of income. Section V is devoted to some concluding remarks.

I. Measuring Standard of Living

The empirical work reported here concentrates on two measures of standard of living. The first, the "apparent prosperity" index for 1983–84, is based on the observations and assessments of Jean Drèze and Naresh Sharma, who lived in Palanpur throughout the agricultural year 1983–84. The second is a measure of current per capita income in each of the survey years.

The affluence of a household in a small village is, to a great extent, a matter of common knowledge. Similarly, the extent to which a particular household's asset position, or the health and nutritional status of its members, bears on the household's prosperity is also widely understood. The investigators who constructed the apparent prosperity classification were involved in intensive fieldwork in Palanpur for more than a year and therefore had access to this common knowledge.

The classification was carried out in several stages. Initially, all households were divided into seven groups by Drèze. These groups were labeled very poor, poor, modest, secure, prosperous, rich, and very rich (Drèze 1988). These labels roughly correspond to the way in which different households would be described in the village itself. Needless to say, there is no implication that any of the households of Palanpur can be considered very rich in an objective sense. The number of households in these fractiles was, respectively, 8, 8, 43, 38, 29, 6, and 11. Next, Sharma (who collaborated with the fieldwork throughout 1983–84) produced an independent classification of Palanpur households, aiming at fractiles of the same size as Drèze's. Reassuringly, there was a strong degree of agreement between the classifications of Drèze and Sharma, with 137

Table 1. *Palanpur: Basic Socioeconomic Characteristics, 1983–84*

Caste	*Number of households*	*Number of individuals*	*Traditional occupations*	*Main current occupations*	*Land owned per capita (bighas)*	*Number of households with at least one member in regular nonagricultural employment*
1. Thakur	30	217	Landlords	Cultivation; outside jobs	3.51	13
2. Murao	27	217	Cultivation	Cultivation	4.979	6
3. Dhimar	13	74	Water carriers	Cultivation; outside jobs	0.879	10
4. Gadaria	12	83	Shepherds	Cultivation; outside jobs	2.351	5
5. Dhobi	4	27	Washermen	Cultivation; agricultural labor	0.767	0
6. Teli	16	92	Oil Pressers	Cultivation; agricultural labor	1.062	4
7. Passi	15	85	Mat makers	Outside jobs	1.658	6
8. Jatab	19	118	Leather workers	Cultivation; agricultural labor	1.84	1
9. Others	7	47	Miscellaneous	Miscellaneous	0.363	2
Entire village	143	960			2.70	47

Note: Except for the "others" category, this list of castes follows a tentative hierarchical ranking, with Thakur at the top and Jatab at the bottom (for details, see Bliss and Stern 1982). Dhobi and Teli households are Muslim. Total village land amounted to 2,596.1 bighas (405.6 acres) in 1983–84.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

of the 143 households being put in the same or adjacent categories. This high compatibility supports the view that relative positions in terms of apparent prosperity are in many cases unambiguous.

It is not, of course, easy to spell out precisely what the basis of one's impressions about the prosperity of different households is, even when those impressions are quite strong. To a great extent prosperity is associated with "lifestyle": the quality of housing, food, and clothing, the possession of durable goods, the consumption of luxuries, and so on. There are, however, some difficulties with this association, which account for many of the discrepancies between the classifications of Drèze and Sharma. Two of these difficulties deserve special mention.

First, one must recognize the distinction between consumption or lifestyle and income or commodity command. A good illustration of this difference is provided by household 226, classified as modest by Drèze but rich by Sharma. (Throughout this article, the first digit of a household identification number indicates the caste of the household, as detailed in table 1. The identification number of Thakurs, for example, begins with the digit 1, Muraos with digit 2.) Bhikkay (226) is an old and childless man who lives alone and whose income comes exclusively from the rent of his land. He owns 25 bighas (about 4 acres) of land and, under the standard terms of sharecropping in Palanpur, this would give him a per capita income well above the Palanpur average. Bhikkay's consumption patterns, however, are those of a poor man: his small mud house is dilapidated and empty, his clothes are tattered, and he eats barely enough to survive. His lifestyle seems to have led Drèze to classify Bhikkay as modest, whereas Sharma classified him as rich in view of his relatively high income. Later it was learned that the motivation behind Bhikkay's high savings rate was his desire to build a small temple. The classification of such households for which income and lifestyle measures differ widely can be problematic.

Second, intrahousehold inequalities of lifestyle may cause classification difficulties. A good example is provided by household 705, which consists of a widow (Champa), her adolescent son (Raj Kumar), and a small daughter. Raj Kumar works in a steel-polishing workshop in Moradabad, and his earnings are the main source of household income. Polishing steel is hard work, but under the piece rate system it yields relatively high daily wages (about Rs20), and Raj Kumar himself leads the relatively privileged life of those who have daily access to a substantial sum of cash. But his mother Champa is comparatively neglected and leads a severely deprived life. She even engages in wage labor, a symptom of severe deprivation in Palanpur. This household has been classified as modest by Drèze and as very poor by Sharma.

The final stage of the classification exercise consisted of grouping the households from the seven fractiles into deciles of equal size, integrating the separate rankings produced by Drèze and Sharma. A more detailed account of the entire classification exercise, along with a further discussion of the difficulties involved in such an assessment, is provided in Drèze (1988).

The second measure of living standards employed here, current income, is a

natural and widely used prosperity indicator. The difficulties in defining income, both in theory and in practice, which can be substantial in developed countries (see Atkinson 1989, chap. 1), are much more troublesome in developing countries. First, there is the problem of the time period used. Yearly income in agricultural communities is a sensible concept given the seasonal cycles in agriculture. But the year is in some respects too long, because seasonal hardship can be severe, and is in other respects too short, because there are considerable year-to-year fluctuations, so that income in one year may not reflect the long-term standard of living. Related to the problem of time period is the problem of inputs. Like other production activities, agriculture involves inputs which go in in one period and outputs which come out in another. How should the inputs be debited against outputs? In some cases inputs will obviously be associated with outputs in a particular season, but in the case of investment in water resources, for example, the inputs are used over a much longer time period. Also, households may use the same inputs for both production and consumption purposes. For example, bicycles and carts can be used to go to town for shopping simultaneously for consumption goods and productive inputs. A third problem is the family unit. Village households may number from one to thirty persons and vary considerably in composition. Should one use equivalence scales to standardize households? Are there important consumption goods which are public goods within the household? Different resolutions of the problems of relevant time period, input accounting, and household heterogeneity will lead to different measures of income. And different measures of income can lead, as we shall show, to very different conclusions regarding the incidence and severity of poverty.

Besides income, there are a number of other dimensions of standard of living one would like to measure. Expenditure or expenditure on food may be a more reliable measure of living standards than income, but for Palanpur, expenditure data were not collected. Land and other assets are important indicators of wealth and earning power. Finally, health and nutrition are crucial aspects of the standard of living often not well captured by income measures (see, for example, Drèze and Sen 1990).

Our notion of current income is intended to measure the returns to land, labor, and other household assets, but due to the theoretical and practical difficulties mentioned above, current income does not measure this perfectly. In addition, to retain comparability between time periods, we have used measures which do not go beyond the data availability for early survey years. Current income is defined here as gross revenue minus current input costs, which include payments for hired labor but not family labor.

We have experimented with two further measures of income. One of these, "normal income," takes account of agricultural fluctuations by replacing current output with the "normal" output appropriate for the particular year. Insofar as expectations are derived from an averaging of past harvests, normal income could correspond to average incomes from previous years. This measure is not

the main focus of this article, and the reader may consult Lanjouw and Stern (1989) for a more detailed discussion. We also construct a "permanent" income measure, which is an unweighted average of real per capita income across all four years of the survey. Experiments with the use of equivalence scales have not led to dramatically different results in the analysis of income distribution (see Lanjouw and Stern 1989).

II. Poverty and Household Characteristics

There are different ways of defining and measuring "poverty", even if we restrict ourselves to the conventional view of poverty as a lack of commodity command. The characteristics of poor households may therefore vary depending on the measure chosen. We shall be concerned both with the identification of the characteristics of the poor and with the robustness of these characteristics with respect to changes in the definition and measurement of poverty. Throughout this section the unit of analysis will be the household as opposed to the individual, although household size will be taken into account.

Unless otherwise stated, the term "poor" is used to describe those households (fifty-nine in all) which are located among the poorest four deciles of the population in terms of the particular measure of standard of living used. The notion of poverty is, therefore, a relative one, but it does correspond to a widely used poverty line (Dandekar and Rath 1971), the use of which would result in 40 percent of Palanpur households being classified as poor in 1983–84.[1]

Apparent Prosperity and Current Income

Current income is often used to measure poverty and to identify a target population for poverty alleviation programs. (See Drèze 1990a on income and eligibility conditions of the Integrated Rural Development Program, IRDP.) It is of interest, then, to compare the rankings of different households in Palanpur using 1983–84 per capita income with rankings using the apparent prosperity classification which was based on personal observation. Differences between the two rankings may illuminate the inadequacy of using current income alone as a measure of standard of living. This comparison is illustrated in table 2, which shows the position of each of Palanpur's 143 households on both the apparent prosperity scale (row index) and on the per capita income scale (column index), both scales having been divided into deciles. It is clear that there are substantial differences between the rankings obtained under each method. These reflect partly the inaccuracies inherent in each method of assessment, but also some real

1. An all-India poverty line for rural areas proposed by Dandekar and Rath (1971), was Rs15 per person, per month (at 1960–61 prices). Relative prices between Uttar Pradesh and India as a whole in 1963–64 were used to obtain a poverty line of Rs11.3 for Uttar Pradesh in 1960–61 (see the contribution by Bhattacharya and Chatterjee in Bardhan and Srinivasan 1974). Inflating 1960–61 prices to the 1983–84 level, using the Consumer Price Index for Agricultural Labourers (CPIAL), an annual per capita poverty line of Rs718 was obtained.

Table 2. *Comparison of Current Income and Apparent Prosperity Rankings of Standard of Living*

Apparent prosperity decile	*1983–84 Current income decile*									
	First (poorest)	*Second*	*Third*	*Fourth*	*Fifth*	*Sixth*	*Seventh*	*Eighth*	*Ninth*	*Tenth (wealthiest)*
First (poorest)	608 711 804 612 714 817 613 801	501 808 611 812 710	307	610	802	609				
Second	303 810 814	809 818 819	712 815 905	713 806 807	901				705	
Third	803	309 315 403	128 409 816	302 811	504 606 703	301	615			
Fourth	113 903	605 617	117 308		407	115 131	103 120 601	114		304
Fifth	715	813	105 406 223 227	129 [404] 218 219	503 805	402			123	

Sixth					108 [607] 124 305	107	216 311	104 602 306 312	604	206 707
Seventh	122		212	126		110 909 412 603	109 704	411	102 106 310	214
Eighth	225			[121] 203	215 222	127	[202] 210 906	204 209 902	708 709	
Ninth						207	119 205	226 614	111 408 211 701 401	220 907 405 702
Tenth (wealthiest)				112		125 410	[221]	[101] [213] 502	[224]	[116] 208 118 217 201 706

Note: Current income is ranked on a per capita basis. Each column of the table represents one decile of the scale of "current income," and each row represents one decile of the scale of "apparent prosperity," with deciles ranked in increasing order of affluence. Cell entries are household identification numbers. The number of households in the poorest decile for each measure is 17, and in all other deciles is 14. Households with 3 or fewer members are in bold type. Households with 12 members or more are in square brackets.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

differences in the underlying concepts of prosperity and poverty. One of the most obvious and important contrasts arises from the fact that current income varies widely from year to year. As a result, per capita income in 1983–84 can be quite a poor indicator of both the long-run earning opportunities of a household, and of its living standard in that year.

Among the factors that account for the short-run instability of income, the quality of the harvest is one of the most influential. The year 1983–84 was one of poor harvest in Palanpur (with yields 35 percent below average) but good harvest in Uttar Pradesh as a whole, resulting in low output prices. This combination depressed incomes for households which derive a substantial part of their earnings from farming. Close inspection of table 2 and complementary land ownership data reveals that for the majority of the households cultivating 10 bighas of land or more, 1983–84 per capita income is somewhat low relative to apparent prosperity. The incomes of Murao farmers are particularly depressed, as farming accounts for a large part of total income for this cultivating caste. Of the 23 Murao households cultivating more than 10 bighas, 16 lie below the diagonal in table 2, indicating that their per capita income ranking understated their apparent prosperity. In only 3 out of the 23 cases did per capita income overstate the prosperity of Murao households.

Fluctuations in the quality of the harvest for the village as a whole are compounded by fluctuations for individual farmers related to factors such as pests, management errors, and risk-taking behavior. An extreme example is provided by household 122, which had a negative income in 1983–84. This household owns a large amount of land, excellent draught animals, and a variety of consumer durables, including a good house. But the household experienced a disastrous harvest in 1983–84, resulting in a negative income for that year. Current income clearly understates this household's true prosperity. Other important sources of instability of short-run income include fluctuations in prices and wages (with, for example, real agricultural wages being at a temporary peak in 1983–84), temporary illness (household 113), and job search (household 715).

In regard to inaccuracies of assessment, we have already commented on a number of difficulties, but two further problems deserve mention. First, our measure of current income excludes income earned from illegal activities (for example, stealing coal from passing trains and selling liquor) as well as interest income. The latter leads to some systematic underestimation of the incomes of richer households and overestimation of the incomes of heavily indebted households. Among the 8 households which are positioned in the richest decile in terms of apparent prosperity but *not* in terms of per capita income, *all* 5 of the non-Murao households are moneylenders. One of these households (410) is also notorious for earning large sums of money from illegal activities, especially selling liquor. Other omissions in the measurement of income, such as the imputed rent of houses, will also have led to some underestimation of richer households' incomes.

The second problem relates to the treatment of household size. As can be seen from table 2, there is a systematic tendency for the scale of apparent prosperity to boost the position of large households (in square brackets), and reduce the position of small ones (in bold type), compared with the scale of current income. The reason for this is not obvious, and two nonexclusive possibilities come to mind. First, it could be that perceptions of lifestyle are influenced more by total household income than by per capita income, and are biased upward, especially for large households, by intrahousehold inequalities. Household 224, for example, is widely regarded as one of the most well off in the village, and its endowment of land and other assets in 1983–84 was indeed very impressive: it possessed, for instance, the only functioning tubewell in the village, the only tractor, and the only flour mill. The head of the household, Bhupal (who rarely works himself) smokes cigarettes, travels, and gives generous feasts at marriages. This exceptionally large household contains no less than 35 members, however, and the other 34 members rarely smoke cigarettes or travel, yet this household is placed in the richest decile on the prosperity scale.

The second possibility is that the observed bias arises from the failure of per capita income measures to capture the effects of economies of scale and adult equivalence. There are obvious economies of scale involved, for instance, in the ownership of a number of consumer durables such as handpumps, radios, and bicycles. The use of adult equivalence scales would lead to upward corrections of the incomes of large households, where the proportion of children tends to be higher than average.

It is clear from this discussion that apparent prosperity and current per capita income each have strengths and weaknesses as indicators of the standard of living. What should be stressed, perhaps, is that defining "poverty" simply in terms of current income can lead to rather unsatisfactory and counterintuitive classifications. Consider, for instance, the set of households falling in the richest three deciles of the apparent prosperity scale in table 2. This group contains households which appear quite low in the current income scale. It includes Dumber (410), the liquor dealer, and Gulabo (112), the leading moneylender in the village. It also includes a number of households whose incomes were temporarily depressed by a bad harvest, illness, or job search. Measured income in one year does not reflect the long-run prosperity of these households.

The observation that current income has major deficiencies as an indicator of prosperity is hardly surprising, but it has far-reaching policy implications given the use of current income in targeting government assistance to vulnerable households. Even in the absence of measurement errors, the benefits of such schemes would accrue to the "transiently poor" as well as to the "chronically poor." Furthermore, there are good reasons to believe that the transiently poor would, in general, have a greater chance of being selected than the chronically poor. The transiently poor usually have more influence, are better educated, and can incur the costs of search and bribery more easily, in addition to the fact that

government officials themselves often prefer to deal with the less poor among eligible households. The use of current income as the criterion for eligibility for public support is problematic, and alternatives must be carefully considered.

Current Income and Permanent Income

An obvious remedy to the problem of short-run fluctuations in income is to average income over several years. This requires panel data on incomes, which tend to be rare for rural India. In the case of Palanpur, income data are available for the years 1957–58, 1962–63, 1974–75, and 1983–84 (authors' data, available for a nominal reproduction charge upon written request to the authors), and our measure of permanent income is the average over these survey years. Not all households were present in all four survey years, having migrated in after the earlier surveys or having been absent during one or more survey years. For these households, permanent income is the average of income in survey years during which they were present. Incomes were made comparable by deflating with the appropriate price index. Table 3 compares the ranking of households in terms of 1983–84 per capita income with their ranking in terms of permanent per capita income.

An obvious difficulty in interpreting differences between current income and a measure of permanent income based on such a long period of time is that for any particular household, current income can deviate from permanent income either because of a long-run change in economic status (caused, say, by the loss of an earning member) or because of a short-run fluctuation (for example, due to a poor harvest). In spite of this difficulty, some interesting observations do emerge from table 3.

First, access to employment opportunities outside the village seems to have played a major role in upward income mobility. Of the 11 households which were not in the richest decile on the permanent income scale but which moved into the richest decile on the 1983–84 per capita income scale, 8 had at least one (4, more than one) member employed in the formal sector outside the village—in spinning factories, railways, teaching, and so on. Six of these eight households have *pacca* (permanent) jobs, with secure employment and comparatively high monthly salaries. As table 3 shows, regular employment outside the village also accounts for a large part of upward mobility at other levels of income. To some extent, this upward mobility results from the short-run downturn in farm incomes in 1983–84. However, much the same conclusion is reached if we compare permanent income with apparent prosperity in 1983–84 instead of current income.

Second, a number of the more dramatic cases of downward mobility are clearly related to the loss of income-earning household members. In some cases (113, 225), the loss is temporary, and due to illness or accident. In other cases (613, 711, 712, 714), the loss is permanent, due to death or permanent disability (see Drèze 1990b on the connection between widowhood and downward mobility in Palanpur).

Third, table 3 confirms previous statements on the relationship between caste and poverty. A very high incidence of poverty emerges among Jatabs, all of which are in the poorest 40 percent by at least one of the two income criteria. Similarly, a high proportion of large Murao farmers among the unambiguously rich households is noticeable. Downward mobility is discernable among Thakur households, with only eight of them below the diagonal (five due to access to outside employment). It is not likely that all this downward mobility is attributable to the bad harvest, because cultivation income is not particularly important for Thakur households. This observation fits with the widely held view in Palanpur that the relative economic position of the Thakur caste has deteriorated in the last few decades.

Poverty and Household Characteristics

This section investigates the incidence of poverty among households in relation to economic, demographic, occupational, and caste characteristics. Some relevant information is presented in table 4, where a number of different household groups are considered. The first column indicates the proportion of households which would be included in the poorest 40 percent of households under the apparent prosperity criterion, and the second and third columns denote the proportion of households in the poorest 40 percent of the population according to the current income and permanent income classifications, respectively. Note that in this exercise permanent income refers to the average of 1974–75 and 1983–84 incomes only, as the household characteristics considered apply to 1983–84 and some are not likely to be long term.

It is reassuring that different approaches to the assessment of poverty give broadly similar indications of the relative incidence of poverty in various kinds of household groups. For example, both the apparent prosperity and the current income criteria suggest that households without land, households with no fit adult male, households headed by widows without a fit adult male, and households of the Jatab caste are substantially more vulnerable than average. Similarly, both measures show that there is relatively little poverty among households with access to regular jobs, Thakurs, Muraos, and joint families (in which brothers and other relatives live together). The criterion of rural poverty income implies similar levels of poverty for most household groups, except those defined in terms of transient demographic characteristics. For example, widow-headed households without a fit adult male in 1983–84 was a highly vulnerable group in that year according to both the apparent prosperity and current income criteria, but not particularly so in terms of permanent income. This is hardly surprising, since most of these widows would have been living with their husbands in 1974–75. Similarly, households with regular jobs in 1983 were relatively unlikely to be among the poor in that year in terms of apparent prosperity and current income, but faced close to the village-average risk of poverty (40 percent) according to the permanent income criterion.

Depending on the classification used, the risk of poverty among landless

Table 3. *Comparison of Permanent Income and Current Income Rankings of Standard of Living*

1983–84 Current income decile	*1957–84 Permanent income decile*									
	First (poorest)	*Second*	*Third*	*Fourth*	*Fifth*	*Sixth*	*Seventh*	*Eighth*	*Ninth*	*Tenth (wealthiest)*
First (poorest)	303 817 612 903 801	810 814	608	613 803 804	711 714 715	113			122 225	
Second	309 617 813 315 808 501 812	605 809 819	403 611 818			710				
Third	307 905	117 816	223 308	227		128	406 815	105 409	212 712	
Fourth	806	129 302 811	219	218	121 807	203 404	112 713 126 610			
Fifth	607 805	503 802	407 504 703	305 901	222 606			124 215	108	

Sixth			301	603	131 609 909	127 412	107 402 110 115		410	125 207
Seventh		311 601	615	120	704	906	216	103 205 109 221 119	202	210
Eighth			312 411	114 614 306 602		902		502	101 209	104 226 204 213
Ninth					111 604	310 705 708	123 224	106 401	222	102 709 408 701
Tenth (wealthiest)				304	405	220 702	118	116 907	201 706 206 214	208 217 707

Note: Rankings are of per capita income. Each column of the table represents one decile of the scale of "permanent income," and each row represents one decile of the scale of "current income," with deciles ranked in order of increasing affluence. Cell entries are household identification numbers. The number of households in the poorest decile for each measure is 17, and in all other deciles is 14. Households with at least one member in a regular outside job are entered in bold type.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

Table 4. *Poverty Risk for Different Household Groups*

Household characteristic	Proportion of households with stated characteristic classified as poor			Total number of households with stated characteristic
	Apparent prosperity	Current income	Permanent[a] income	
With regular job	0.24	0.13	0.30	47
Landless	0.70	0.44	0.55	27
Landless without regular job	0.76	0.52	0.64	17
Doing agricultural labor	0.76	0.64	0.59	42
Landless and doing agricultural labor	0.99	0.63	0.54	11
Without fit adult male	0.66	0.55	0.39	18
Landless without fit adult male	0.55	0.43	0.57	7
With widow	0.45	0.48	0.42	33
Widow without fit adult male	0.66	0.66	0.44	9
Joint family	0.19	0.21	0.40	37
Thakur	0.27	0.30	0.33	30
Murao	0.00	0.26	0.22	27
Dhimar	0.61	0.46	0.38	13
Gadaria	0.25	0.33	0.16	12
Dhobi	0.50	0.25	0.75	4
Teli	0.68	0.43	0.50	16
Passi	0.46	0.40	0.40	15
Jatab	0.89	0.89	0.73	19
Other	0.43	0.28	0.71	7
All households	0.41	0.41	0.41	143

a. Permanent income is calculated as the average of 1974–75 and 1983–84 per capita income.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

households ranges from about 75 percent above the village average risk (using the apparent prosperity criterion) to roughly the same as the average (using the current income criterion). The link between poverty and landlessness is therefore not so strong as might have been imagined. This may result from the heterogeneity of the landless group, which includes households with widely divergent economic opportunities. In Palanpur we can identify at least three subgroups of landless households which one would not expect to be particularly poor. These are (1) households with no land but with access to regular employment outside the village; (2) households from castes traditionally providing services not requiring the use of land, for example, carpenters, barbers, potters, and sweepers; and (3) households consisting of adult sons who live separately from their parents and have no legal title to land but who are entitled to cultivate their fathers' land.

Households without a fit adult male are also thought to be particularly vulnerable to poverty, especially in villages such as Palanpur where female employment and land rights are severely restricted. But the average risk for these households is above the village average by at most 65 percent (using the apparent prosperity criterion). Once again, this is a heterogeneous group; the means through which some of these households escape poverty in Palanpur include the ownership of milch animals (household 409), access to a sedentary but secure job (103), and

remittances from a male family member who lives outside the village and is therefore not counted as a household member (503, 907).

Widows are another group considered particularly vulnerable, but again their risk of poverty as measured in table 4 is perhaps not as high as one would predict. Once again this is a heterogeneous group which includes a number of very deprived households but also Gulabo (112), who is the largest moneylender in Palanpur and is entered in the richest decile of the apparent prosperity classification. The vulnerability of widows in Palanpur is strongly affected by the presence or absence of an adult son. Through the practice of patrilocality, a woman in Palanpur normally joins her husband's village immediately after marriage and is generally unable to appeal to her own relations when she becomes widowed; in-laws in Palanpur rarely provide any support to a widow. Employment opportunities in Palanpur are very limited for women: the Muslim custom of purdah prohibits a woman from uncovering her face in public, and related practices restrict her movements. Thus a widow has great difficulty in earning income by hiring out her labor. As a consequence of these factors, usually only a widow with adult sons can be confident that she will receive some support.

Indicators of poverty incidence by caste broadly confirm the patterns discussed earlier: the incidence of poverty is very high among Jatabs, and relatively low among Thakurs and Muraos. Poverty among Muraos is practically nonexistent, though current incomes reveal some poverty in this group mainly due to the bad harvest. Although a considerable amount of change has taken place at the top of the economic and social hierarchy, little progress has been made in Palanpur by the lower castes, especially the Jatabs. Among this group, poverty remains endemic. This is a reflection not only of poor endowments of productive assets, but also of low educational standards and vulnerability to caste-based discrimination resulting in, among other things, little access to any kind of regular employment outside the village.

Households with at least one member involved in agricultural labor are quite likely to be included among the poor. To be employed as a manual worker for another farmer is generally considered to be demeaning and would not be undertaken if other earning opportunities were available. Furthermore, wages offered are low and employment is irregular. It is an option of last resort, and thus those who take it are likely to be the poor. Many of the agricultural laborers are Jatabs, and any attempt at disentangling the separate contribution of these characteristics requires a multivariate analysis.

III. The Determinants and Correlates of Poverty

The analysis of the preceding section can be extended and formalized using simple econometric analysis of the determinants of poverty. The problem of specifying exogenous variables is both important and difficult here. We have selected two types of variables in this category. The first type consists of three dummy variables characterizing the household's asset or labor market position.

The first of the three is landlessness. Landholdings were determined for many families by the holdings allocated in the early 1950s when the zamindars were abolished. The zamindars were agents of the colonial government who held virtual ownership of the lands over which they were given adminstrative and tax-collecting responsibilities. Because the land market in Palanpur is almost wholly inactive, landholdings and landlessness were virtually set from that time and may be thought of as exogenous. The second variable is the presence of a fit adult male, which we may view as arising from birth, or marriage, and good health. The third variable is the possession of an outside job by a household member. Access to these jobs largely depends on factors unrelated to a household's economic position (for example, a relative in urban employment who can approach his own employer on behalf of his relations). We must acknowledge that one can provide arguments why each of these might be endogenous (particularly the last), but these variables are less problematic than other possible selections. The second type of explanatory or exogenous variables are dummy variables representing four of the castes in the village.

Results from probit analysis of the influence of household characteristics on the risk of poverty are presented in table 5. In each case we display results with and without the caste dummies. Without the caste dummies we find that when poverty is measured using the apparent prosperity criterion, landlessness significantly increases the probability of poverty while possession of an outside job significantly decreases it. Using the estimated parameters, we find that the landless are more than two times as likely to be poor as those with land when the other variables are held at their means. The probability of poverty if the household is landless and the other variables are at their means is calculated by substituting these means (using information from table 4) into the estimated equation with the landless dummy equal to one. This produces a Z value of 0.544, which corresponds to a probability from a standard normal table of 71 percent. A similar calculation with the landless dummy equal to zero yields a probability of poverty of 33 percent for households with land. A similar exercise shows that (holding the other explanatory variables constant at their means) households without a regular job have a probability of poverty 26 percentage points higher than households with outside jobs.

Using the current income criterion, the landless variable becomes insignificant, possibly the consequence of the poor harvest in 1983–84. With the permanent income criterion, not one of the independent variables is significantly related to the probability of being included among the poor, and even the signs of the relationship are not as we would expect. The reason for this is probably that the "explanatory" variables apply to 1983–84 while the permanent income criterion is much longer-term.

The presence of a fit adult male is not of independent significance for any of the three poverty criteria. Where the coefficients on landlessness or on a regular job are significant, the significance survives the introduction of variables representing caste.

Table 5. *Probit Analysis of the Characteristics of Poor Households*

	Poverty criterion used		
	Apparent prosperity	*1983–84 per capita income*	*Permanent per capita income*
Analysis without caste dummies			
Landless	0.98	0.19	−0.95
	(3.28)	(0.64)	(−0.35)
Regular job	−0.79	−1.27	0.43
	(−3.06)	(−4.68)	(0.19)
No fit adult male	0.35	0.13	−0.57
	(1.04)	(0.39)	(−0.17)
Constant	−0.22	0.76	−0.23
	(−1.51)	(0.53)	(−1.56)
Analysis with caste dummies			
Landless	0.68	0.12	−0.27
	(2.03)	(0.37)	(−0.88)
Regular job	−0.73	−1.27	0.32
	(−2.53)	(−4.19)	(1.26)
No fit adult male	0.39	0.63	−0.83
	(0.97)	(0.18)	(−0.22)
Thakur	−0.37	−0.32	−0.60
	(−1.13)	(−0.93)	(−1.85)
Murao	−5.76	−0.69	−0.72
	(−0.18)	(−1.87)	(−2.03)
Jatab	1.32	1.11	1.55
	(2.81)	(2.47)	(3.44)
Muslim	0.29	−0.34	0.32
	(0.78)	(−0.89)	(0.91)
Constant	−0.67	0.21	−0.25
	(−0.26)	(0.78)	(−1.02)

Note: t-statistics are in parentheses following the estimated coefficients. Permanent income here is an average of per capita income in 1974–75 and 1983–84.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

For given values of the three asset–labor market variables, Jatab caste membership had a significant effect (increasing the probability of poverty) regardless of the poverty criterion used. For the apparent prosperity criterion, the likelihood of poverty among Jatabs, with all other variables held constant at their means, is almost four times higher than among non-Jatabs. Using the apparent prosperity and current income criteria, membership in the Thakur and Murao castes does not appear to have a significant independent effect on poverty, but with the permanent income criterion the Murao variable becomes significant (and decreases the probability of poverty). The effect of the Jatab dummy seems particularly strong and robust to changes in poverty criterion, whereas in no case is the dummy representing a Muslim household significant.

IV. Mobility and the Distribution of Income

The incidence of poverty, as measured by the fraction of the population of Palanpur with current income per capita below the official poverty line, was 40

percent in 1983–84. Using the same absolute poverty line in real terms, 46 percent, 49 percent, and 13 percent of the population were poor in 1957–58, 1962–63, and 1974–75, respectively. From this perspective it appears that there was a sharp decline in poverty between 1962–63 and 1974–75, but that this was followed by a marked rise between 1974–75 and 1983–84. The quality of harvest is no doubt exerting a strong influence here with a good agricultural year in 1974–75, followed by a bad year in 1983–84.

Whether the poor in any one year are always the poor is an important question which merits exploration. In a study at the national level, Gaiha (1989) found that only about half the poor in India in 1968 were chronically poor in that they were also poor in 1969 and 1970. Our attitudes toward and suggested remedies for poverty will be affected by the degree to which poverty is a sustained or temporary condition. The question of poverty duration is particularly difficult or impossible to address when using large-scale survey data which do not attempt to follow individuals or households over time (see Bardhan 1989). Despite the advantages of the apparent prosperity measure of poverty, it is available only for 1983–84, and so cannot be used here. We will consider instead the movements over time of households' actual incomes. Before assessing and interpreting the relative position of a household in different years, we will first examine the different distributions of income in those years.

Changes in Income and Inequality in Palanpur

Changes in the distribution of income in Palanpur between 1957 and 1984 can best be viewed against the background of a growing population, substantial change in agricultural practices, and a process of closer integration with the outside world. In table 6 we see that the population of Palanpur almost doubled

Table 6. *Broad Indicators of Economic Change in Palanpur*

Indicator	*1957–58*	*1962–63*	*1974–75*	*1983–84*
Population	528	585	757	960
Number of households	100	106	112	143
Village real income (Rs)	85,166	94,712	208,024	186,402
Real income per capita (Rs)	161.3	161.9	274.8	194.1
Gini coefficient for income	0.336	0.390	0.253	0.307
Price index (1960–61 = 1.00)[a]	1.07	0.92	3.78	5.28
Agricultural daily wages, real (1962–63 = 100)	123	100	123	158
Food purchasing power (kg wheat per day)	2.5	2.25	3.1	5.0
Index of real wages for regular outside jobs	n.a.	100	122	193
Wheat yields, actual kg per bigha[b]	40	40	114	97
Wheat yields, normal kg per bigha[c]	40–50	50	100	150–60

n.a. Not available.

a. The price index is the consumer price index for agricultural labourers (CPIAL), which is taken from the *Bulletin of Food Statistics* for the relevant years. See Lal (1976) for the price index for 1957–58.

b. An acre = 6.4 bighas.

c. "Normal" yields correspond to the expected yield for Palanpur without advanced knowledge of each year's harvest.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

between 1957–58 and 1983–84, and the number of households also rose, particularly between 1974–75 and 1983–84. This was the result of net migration into the village, as well as a process of families splitting over time as married sons separated from their parents.

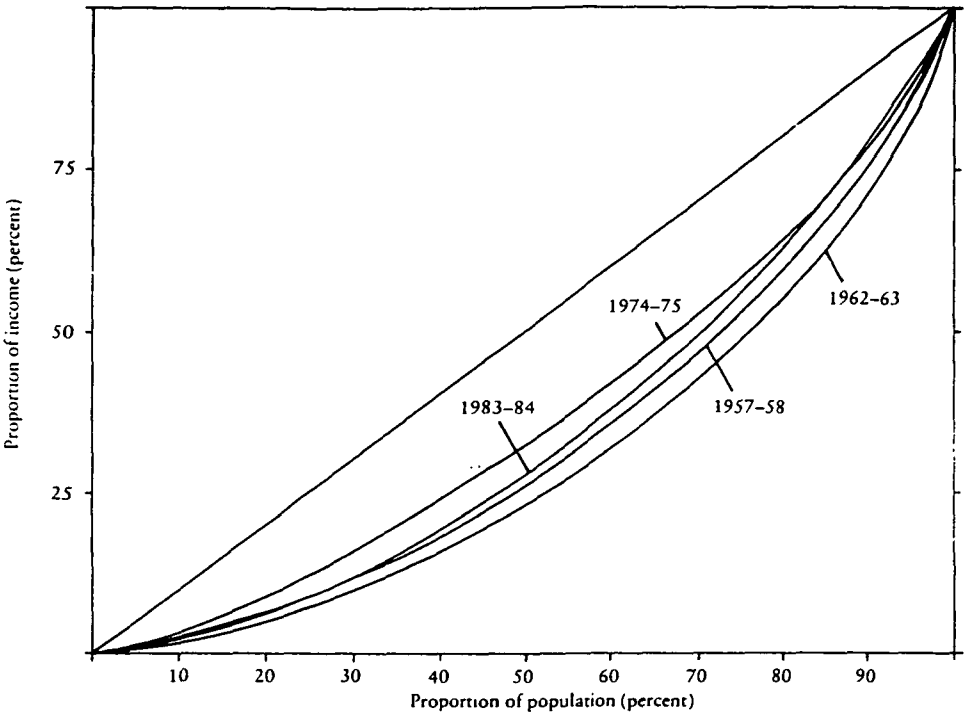
On average, the rate of growth of incomes in Palanpur was similar to that recorded for India as a whole. Average real per capita incomes in 1960–61 prices rose from Rs161.3 in 1957–58 to a peak of Rs274.8 in 1974–75, then fell back to Rs194.2 in 1983–84. Income in each of the survey years will depend on the agricultural harvests in the respective years. In comparing actual wheat yields with normal yields in each year, we note that 1957–58 seems to have been an average agricultural year, 1962–63 bad, 1974–75 rather good with yields perhaps 15 percent or so higher than average at that time, and 1983–84 a bad year with yields 35 percent or so below the average. On the basis of the perceived normal wheat yield in 1983–84 of 150–60 kilograms per bigha, normal income per capita in 1983–84 was probably about Rs240–50 (see Lanjouw and Stern 1989), and the annual growth rate of normal per capita income over the 26 year period was approximately 1.9 percent. This is not far from figures for all of India (World Bank 1980, 1983).

Inequality of incomes in Palanpur was not constant across the four survey years, nor did it follow a monotonic path over time. Between 1957–58 and 1962–63, the Gini coefficient for individual incomes (calculated by dividing household income by the number of household members and allocating to each member the per capita income) rose from 0.336 to 0.390, which may be regarded as a substantial increase in inequality. Looking at the Lorenz curves in figure 1, we see that the curve representing 1962–63 lies below that of all other years, implying that a whole range of inequality measures would present the distribution of income in 1962–63 as the most unequal (Atkinson 1970). Between 1962–63 and 1974–75, the Gini coefficient fell from 0.390 to 0.253, and then rose again to 0.307 in 1983–84, reflecting a decline and a subsequent rise in inequality.

Atkinson index parameters, which give a greater weight to changes in income among the poor when calculating inequality, indicate that inequality was greater in 1983–84 than in 1957–58. This can also be seen in figure 1 at the lower end of the income scale, where the curve for 1983–84 lies below that for 1957–58 (and for 1974–75). Adjustments to income using equivalence scales in order to correct for different needs according to age and gender were attempted, but had little effect on the calculations of inequality and are therefore not reported here. Attempts to adjust agricultural incomes for "good" and "bad" years by using normal income also had little effect on calculations of inequality (see Lanjouw and Stern 1989).

Gini coefficients for the distribution of land were calculated, as with income, attributing an equal proportion of a household's land to each member. The Gini coefficient for 1983–84 was 0.503 (based on 960 observations), compared with 0.495, 0.472, and 0.468 for 1957–58, 1962–63, and 1974–75, respectively

Figure 1. *Lorenz Curves for Individual Incomes in Palanpur*



Note: Individuals in the population are each allocated their household per capita incomes.
Source: World Bank data, available for a nominal reproduction charge upon written request to the author.

(based on 528, 585, and 757 observations). These figures suggest a gradual decline in landholding inequality from 1957–58 through 1974–75, with a substantial increase in inequality in 1983–84.

Much of the difference in the distribution of land between the survey years is eliminated, however, if we evaluate the distribution of land between "dynasties": we consider only those households which were present in all four survey years and merge those households which split over the twenty-six-year period. Given this aggregation, the observed Gini coefficients from 1957–58 to 1983–84 are 0.477, 0.456, 0.452, and 0.443 (based on 450, 497, 593, and 822 observations). Thus aggregating land across families actually reverses the measured inequality: landholdings across these extended families became *more* equal over the four periods. This supports the view that the main determinant of the changes in the distribution of land over time has been the phenomenon of household splits. The market for land in Palanpur is not very active, and land sales, most of which were by rich households, played a minor role in the changing distribution of land (Drèze and Stern 1986).

In Palanpur, the Green Revolution initially brought a reduction in income inequality. By 1983–84, however, there was an increasing disparity in the amount of land cultivated per household, the result of large landholders (a

group which now included a larger proportion of Muraos and hence a larger proportion of serious and capable farmers) taking more land under tenancy from the middle and small landholders. This resulted in increasing income inequality. The adverse cultivating conditions in 1983–84, which led to a greater dispersion in yield per acre as well as a reduction in the mean, also contributed to a widening of the distribution of agricultural income.

The other major influence on income inequality (again see Lanjouw and Stern 1989) came from the expansion of outside jobs. In the earlier survey years, outside employment was relatively uncommon and generally held by less well off individuals, often from lower castes. By 1983–84, the higher castes were more prominently represented, particularly in the new, better paid positions, and income from outside jobs became a source of inequality as significant as agricultural income.

Income Mobility

The data for the four surveys were collected in such a manner that individual households could be followed through the whole period. In tables 7, 8, and 9, we present transition matrixes showing the movements of individual households between deciles of the income distributions of adjacent survey years. For instance, household 571900 moved from the first (poorest) decile of the income distribution in 1974–75 to the second decile of the income distribution in 1983–84 (table 7). Note that household numbers in these tables are not the same as those in earlier sections, as they are constructed to reflect not only caste (first digit) but also household splits and departures from the village. (If a household split between 1974–75 and 1983–84, the last digit of the household number will be strictly between 0 and 9; if the household split between 1962–63 and 1974–75, the second to last digit will be between 0 and 9, and so on. If a household was not present in the village for a survey year, the corresponding entry in the appropriate of the last three digits is 9.) Not all of the 143 households from 1983–84 are found in each transition matrix, because households came into existence in different years.

A low degree of mobility over time in terms of current income would be represented in these transition matrixes by a concentration of households along the diagonal. It is clear that this is not the case in Palanpur. The percentage of households located on the diagonal of each transition matrix is about 12–14 percent. Between 1957–58 and 1962–63, 48 percent of all households were either on the diagonal or one adjacent decile. This percentage declined to 34 percent between 1962–63 and 1974–75 and to 33 percent between 1974–75 and 1983–84. Even those households identified as being poor in 1983–84 (those in bold type in the matrixes) are quite widely scattered around each matrix.

Although the mobility pictured certainly appears to be rather high, we must remember that we are here using the current income measure. Although arguably quite comprehensive, it fails to capture many important features of the standard of living. Current income may be considerably more variable than the underlying living standards of households in Palanpur. The current income of

Table 7. *Transition Matrix of Per Capita Income Distribution between 1974–75 and 1983–84*

1974–75 income decile	*1983–84 income decile*									
	g = 1	*g = 2*	*g = 3*	*g = 4*	*g = 5*	*g = 6*	*g = 7*	*g = 8*	*g = 9*	*g = 10*
g = 1		571900	809010	810002	810001	605030	605020	572900 210000	605010	403020
g = 2	813001	301000 805002	809020 805001	816000	813002 701000 608000		604000	218000	401010 307200	
g = 3	306002 815000	606200 814000 804000 807002	807001	310002 704100 106000	408000 910001		310001	910002		306001
g = 4		601001		803000 407000 219000 309000	110021	307010	206020	307102 603000	601002 403010 110022	
g = 5	108001 108002 607020	402001	404000	109002	201000	305000 402002 116020	109003	109001		706200 116010 271900

$g = 6$				115020		101000	906001 102000 **111031**	204030	**704200** 303000	220000 906002 105000 703000 111032
$g = 7$	**606100**		**808000** 216000	113020	207000	110010	209000	171900	161000	103000
$g = 8$	**602003** **802001** **802002**	208010 **812000**	206010	214100		208020 602001	602002	702000 261010	205000	
$g = 9$		901000	221000	**607010**	**401022**	401021 202000	115010 214300		111020 705110	406000 204010
$g = 10$	573900				211000 117000	104000	203000 111010	114000 214400 113010		214200 215000 204020

Note: $g = 1$ represents the bottom 10 percent in income per capita terms. Correspondingly, $g = 10$ represents the top 10 percent. Cell entries are household identification numbers. The 59 households which are poor in 1983–84 by the apparent prosperity criterion are in bold type.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

Table 8. *Transition Matrix of Per Capita Income Distribution between 1962–63 and 1974–75*

1962–63 income decile	*1974–75 income decile*									
	g = 1	*g = 2*	*g = 3*	*g = 4*	*g = 5*	*g = 6*	*g = 7*	*g = 8*	*g = 9*	*g = 10*
g = 1		80500	80400	80300 30710		10500	21600 60610	76100		10400 20300
g = 2		81300 60800		30900		10200	10300	70200	90100 21430	21440
g = 3		30720 30100	40800 30600 81500	60100	30500			81200 20500	40600	11700
g = 4	40302 81000	70100 60400	60620 81400	40301 60300	10800		16100			
g = 5	60502 60503 60501 26102		70410		20100	30300	20700 80800	21410 60200 26101		21420

$g = 6$	11200			20602	**10900** **60702** 11601 11602	70300 22000		20601 **80200**	20200 **60701**	11400
$g = 7$	**80901**	80902	**80700** **31000** **91000** **10600**	21900	40200 70620	90600 11502			11501	21100
$g = 8$		**81600** **21800**		40700	40400		20900 11302		70510 11102	11101 11301
$g = 9$	21000	40101				10100 70420	40900	20801 20802	**40102** 22100	
$g = 10$				11002		20403	11001		20401	20402 10700 21500

Note: $g = 1$ represents the bottom 10 percent in income per capita terms. Correspondingly, $g = 10$ represents the top 10 percent. Cell entries are household identification numbers. The 59 households which are poor in 1983–84 by the apparent prosperity criterion are in bold type.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

Table 9. *Transition Matrix of Per Capita Income Distribution between 1957–58 and 1962–63*

1957–58 income decile	*1962–63 income decile*									
	g = 1	*g = 2*	*g = 3*	*g = 4*	*g = 5*	*g = 6*	*g = 7*	*g = 8*	*g = 9*	*g = 10*
g = 1	8040	6080 9040 2120	3060	6040	7100	1090 1120				
g = 2		1030	3010	8100 6030		7030 2200	3100 7062 8090		7061	
g = 3	3071 8050	7020	1170 3072 8120	4030			8070			1070
g = 4	8030		4060 6010 4080 8150	2170 3040	3030 6020				7090	
g = 5	6061 1050	8130	3050	6062 7010	2010	2060 8020	2190 4020			

$g = 6$		3090		8140	2070 2080		2110 1150 9060	1130 1110		
$g = 7$	**1040**	9010	2050		6050 7071	2020 6070			4090 **7042**	
$g = 8$			2143 2144		2141 2142	1160 1140	1060	2090	4010 4070 1010	7080 2040
$g = 9$								4050 7110 7070 8160	2130 2210	1100 5010
$g = 10$	2030	1020		1080				4040 7051 2180	2080 7052 2100	2150

Note: $g = 1$ represents the bottom 10 percent in income per capita terms. Correspondingly, $g = 10$ represents the top 10 percent. Cell entries are household identification numbers. The 59 households which are poor in 1983–84 by the apparent prosperity criterion are in bold type.

Source: Authors' data, available for a nominal reproduction charge upon written request to the authors.

cultivating households will be sensitive to the quality of their harvest in different years. Further, shocks to households, such as temporary illness of income-earning members, may contribute to significant variation in current incomes between years.

Despite the appearance of high mobility, it is significant that among the fourteen households which belonged to one of the poorest three deciles of the per capita income scale in *both* 1974–75 and 1983–84, all but one were regarded as poor in terms of the apparent prosperity criterion for 1983–84. This appears to lend some further support to the claim that the apparent prosperity measure is successful in identifying those households in 1983–84 which are experiencing sustained deprivation.

Of the 49 households which were poor by the criterion of apparent prosperity in 1983–84 and which were already present in the village in 1974–75, 29 households were in the poorest 40 percent of the current income distribution in 1974–75. It thus appears that, in spite of the high degree of mobility found in the income space, low current income in 1974–75 is a good predictor of low apparent prosperity in 1983–84. Because 1974–75 was a good year agriculturally, when bad farming practices were less severely penalized, and tenancy exerted an equalizing influence on land cultivated, those households which were poor in 1974–75 were likely to be disadvantaged in some basic sense. They did badly at a time when the environment was generally favorable. This suggests that poverty as measured by income in a good year may be a useful measure for analysis and for policy.

Households of the Jatab caste (a "Scheduled" caste) have been shown in earlier sections to be particularly vulnerable to poverty, which may be the result of a lack of endowments or pervasive discrimination. This vulnerability is supported again here because 13 out of the 17 Jatab households considered poor in 1983–84 according to the apparent prosperity measure were among the poorest 40 percent in income per capita terms in 1974–75. Jatab households have not shown much mobility out of the lowest income groups.

Over the survey years there has been an increase in the number of villagers with nonagricultural employment outside Palanpur. This rise has been most marked between the last two surveys, represents a significant increase in occupational mobility, and has contributed to income mobility for households possessing these jobs. However, with respect to agricultural laborers, an interesting finding is that out of the 31 households involved in agricultural labor in 1983–84 and present in the village in 1957–58, 21 were agricultural labor households in 1957–58. Mobility out of this particular occupation seems to be quite limited and is a constraint on these household's income mobility.

V. Concluding Comments

The analysis of policy toward poverty and the poor involves first asking "Who are the poor?" This requires clear definitions of poverty which can be used in

applied analysis, and an identification of who the poor are under the different definitions. We may then ask how policy can be designed so that the standard of living of the poor is improved, and what are the costs and efficiencies, appropriately defined, of the different possible policies. Indicators that can be used for applied research may not be feasible for policy administration. Our major emphasis in this article has been on the first set of questions, although our answers to them for Palanpur do have implications for the second.

We have concentrated in this article on two indicators of standard of living for the purpose of examining who are the most vulnerable. The first is the apparent prosperity index constructed independently yet with strongly similar results by Jean Drèze and Naresh Sharma. The second is income per capita, both current and "permanent," where the latter refers to a simple average over four survey years. Although it has not been our concern here to explore in detail the precise meaning and content of the standard of living (see, for example, Sen 1987), we have been concerned more or less quantitatively with indicators which go beyond income such as wealth (via land, consumer durables, or productive assets), education, health, and occupation.

The index of "apparent prosperity" was only constructed for 1983–84 because it was based on the extended and close knowledge of Palanpur available for that year. Mobility questions were discussed in terms of the other indicators, notably current income. Interestingly, the poor in 1983–84, as identified by the apparent prosperity index, coincided much more closely with the poor defined in terms of current income in 1974–75 than those defined in terms of current income in 1983–84. This points to two things, namely, the variability of income, and the fact that poverty in terms of current income in a good agricultural year (1974–75) may provide a better indication of sustained poverty than it does in a bad agricultural year (1983–84). It cannot, of course, be asserted that income in a good year is necessarily the appropriate concept for measuring poverty. Generally, the changes in the picture of poverty resulting from the use of different measures (apparent prosperity, current income, and permanent income), together with the volatility of income, confirm the inadequacy of income, in its short-term sense, as a basis for identifying the poor.

Other aspects of the standard of living have an association with apparent prosperity but are far from perfectly correlated with it. The changes in both the inequality of land owned and in landlessness have been particularly associated with the splitting of households in advance of the division of land among sons. Hence, if these sons retain entitlement to the use of their fathers' land, a sharp rise in landlessness should not necessarily be associated with a dramatic increase in poverty, notwithstanding the fact that the landless are more likely to be poor than the landed. Apart from this feature of household splits, the distribution of land changes only very slowly.

Involvement in agricultural labor (around 30 percent of households) is strongly associated with poverty. Conversely, those households with regular outside (nonagricultural) employment are unlikely to be poor. Poor health of

earners also appears to be associated with poverty. Another group with high poverty risk is the Jatab caste, which ranks lowest in the caste hierarchy of Palanpur. Although education in Palanpur is unevenly distributed and illiteracy is common, it is striking that the Jatabs are almost entirely illiterate.

The identification of the poor can provide guidance for the evaluation of policy. For example, the association of poverty with agricultural labor might suggest that the provision of more regular employment at current wage levels could provide a substantial improvement in the position of the poor. Such a policy measure would involve the usual administrative advantages of self-targeting of beneficiaries. The close study of a village can contribute to the assessment of a proposed policy in terms of how it might function in a setting that has been examined carefully and is relatively well understood. That work we hope to develop further. The first stage, and the purpose of this paper, has been to understand the meaning of poverty and to find out who are the poor.

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