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Issues in Chronic Poverty:
Panel Data based Analysis[1]

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1. Introduction

The distinction between chronic or extended duration poverty and transient poverty is rarely made in the substantial literature on poverty in India. Determination of poverty as chronic or temporary requires that the same households be tracked over time through a panel data set and/or use of life or event history and other qualitative approaches. This paper reviews the limited panel data based literature on chronic poverty in India as also the literature on other countries. It then uses panel data that longitudinally track 3,139 households in rural India to try to provide an initial identification and understanding of the characteristics of households that exhibit mobility out of poverty and of those that simply stay poor. The paper draws attention to the policy implications of this analysis.

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In the next section of the paper, we present a review of some of the panel data based literature on chronic poverty. Section 3 provides information regarding the panel data set used for the analysis. Section 4 presents analysis of the incidence, mobility and persistence of poverty drawn from the panel data set while section 5 concludes the paper.

2. Panel data based research on Chronic Poverty: A Brief review of the findings

Research using panel data shows that in several countries and/or geographic locations where poverty incidence is high, there is considerable movement into and out of poverty. Questions that need to be addressed are:

1) While there may be considerable movement into and out of poverty, does the data allow us to argue (as postulated by Baulch and McCulloch, 2001) that very few households remain poor over time?

2) Do the correlates of poverty status and of entry/exit differ?

3) If in a 5-wave panel data set a household moves marginally above the poverty line in wave 3 and remains in poverty in 4 out of 5 waves should we conclude that the household is not chronically poor?

These issues can have serious policy implications for the millions of people living below or around the poverty line. Therefore we examine the existing literature in this field more closely.

In a comprehensive review of chronic poverty research using panel data, McKay and Lawson (2002) point out that few panel data sets suitable for poverty analysis have been collected and these vary with regard to time duration (1 to 19 years), the number of waves in the panel (2 to 9), the sample size (146 to 5,854 households) and geographic coverage (from a few communities to the entire country).

They stress the value of panel data as a tool for looking at inter-temporal variations in living conditions of individual households but note that they suffer from measurement errors due to attrition of

households, inability to capture household-level variations between two rounds and changes in willingness or attitude of households to a second interview. They draw attention to the distinction made by Yaqub (2000) between two main methods that can yield different results; a "spells" approach (variation in number of periods of poverty experienced could change the results considerably) and a "components" approach (people who may temporarily move marginally above the poverty line but are generally below it, would be included among the chronically poor).

How prevalent is chronic poverty?

Baulch and Hoddinott (2000) emphasise the importance of data sets that permit analysis of poverty dynamics to help reduce errors of inclusion and exclusion, and help us to design safety net and other policies intended to protect the vulnerable. Some of the poverty observed in one-time surveys is due to consistently low welfare levels while some of it is due to short-term shocks. They provide information on households that are always poor, sometimes poor and never poor for 13 different panels located in 10 different countries (Table 1). The range of estimates of those in chronic poverty varies from an unbelievably low 3% for Pakistan to a high 33% for India and 54% for Chile.

Baulch and McCulloch (2001) use the results of a 5-year longitudinal household survey of 686 households in rural Pakistan to show that while the incidence of income poverty was high at 60%, only 35% remained in poverty for two years or more and *only 3% of sample households were poor in all 5 years* of the panel.

Their research extends the boundaries of existing work by investigating the factors that are associated with movements into and out of poverty and shows that the correlates of entries and exits differ from correlates of poverty status. Important correlates of poverty status are dependency ratio and geographic variables, while important correlates of increasing exit and decreasing entry include education and livestock ownership. They argue that there is considerable movement in and out of poverty and this occurs as shocks and changing

Table 1: Results of Panel Data Analysis for Different Countries

Country, years and (source)	**Number of Waves**	**Welfare measure**	**% of households**	**% of households**	**% of households**
			Always Poor	Sometimes Poor	Never Poor
South Africa, 1993-98 {Carter, 1999)	2	Expen-ditures per capita	22.7	31.5	45.8
Ethiopia 1994-95 {Dercon and Krishnan, 1999}	2	Expen-ditures per capita	24.8	30.1	45.1
India (NCAER) 1968/69-1970/71 {Gaiha 1998}	3	Income per capita	33.3	36.7	30.0
India (ICRISAT) 1975/76-1983-84 {Gaiha and Deolalikar, 1993}	9	Income per capita	21.8	65.8	12.4
Cote d'Ivoire 1985-86 {Grootaert and Kanbur, 1995}	2	Expen-ditures per capita	14.5	20.2	65.3
Cote d'Ivoire 1986-87 {Grootaert and Kanbur, 1995}	2	Expen-ditures per capita	13.0	22.9	64.1
Cote d'Ivoire 1987-88 {Grootaert and Kanbur, 1995}	2	Expen-ditures per capita	25.0	22.0	53.0
Zimbabwe 1992/93-1995-96 {Hoddinott, Owens and Kinsey, 1998}	4	Income per capita	10.6	59.6	29.8
China 1985-90 {Jalan and Ravallion, 1999}	6	Expen-ditures per capita	6.2	47.8	46.0
Pakistan 1986-9 McCulloch and Baulch, 1999	5	Income per Adult equivalent	3.0	55.3	41.7
Russia 1992-93{Mroz and Popkin, 1999}	2	Income per capita	12.6	30.2	57.2
Chile 1967/68-1985/86 {Scott, 1999}	2	Income per capita	54.1	31.5	14.4
Indonesia {Skoufias, Suryahadi and Sumarto, 2000}	2	Expen-ditures per capita	8.6	19.8	71.6

Source: *Baulch and Hoddinott (2000).*

circumstances force households below or above the poverty line before opportunities or shocks help them surface above or push them below it. This has important implications for policy. Therefore, reducing the poverty headcount would require that attention be focused on increasing exits from and decreasing entries into poverty rather than on the correlates of poverty status.

However, they also note that the relatively few longitudinal household studies for South and East Asia "*seem to confirm this characterization of poverty as a temporary phenomenon*". Does the data for India support the characterization of poverty as a temporary phenomenon?

Prevalence of chronic poverty: Evidence based on panel data for India

Two data sets that have been used in the literature to analyse long duration poverty in India are the NCAER panel data for rural households and the ICRISAT panel data for semi-arid areas. Some of the findings from both sets of panel data are given below.

Gaiha (1989) used a panel survey of 4118 rural households of India, carried out by the NCAER in 1968-69, 1969-70 and 1970-71. He identified the chronically poor as households that were below the poverty line in each of the three years under consideration.

He found that about 47 per cent of the poor households in 1968 (on an income criterion) were chronically poor. Among the chronically poor, casual agricultural labourers were the largest and cultivators the second largest groups. Most of the chronically poor were either landless or near landless and were more dependent on wages. Household size was about the same and dependency burden and illiteracy was slightly higher among them than among the just poor.

Gaiha's results show that (47% of the poor households in 1968 were chronically poor) and this *contradicts* the argument made by Baulch and McCulloch that the "poverty problem is one involving a large turnover of vulnerable people rather than a hard-core of the chronically poor".

In an earlier paper Gaiha (1988) analysed income mobility among the rural cultivating poor also on the basis of the NCAER panel survey. (see table 2).

Table 2: Chronic Poverty in Rural India in the late 1960s

Poverty Status	% of Aggregate Sample
still poor or poor who remained poor without becoming poorer	21.09
poorer or poor who became poorer	12.18
ceased to be poor or poor who became non poor	24.00
never poor or not poor who remained not poor	39.94
new poor or not poor who became poor	12.69

Source: *R. Gaiha (1988).*

Gaiha (1988) notes that the factors that enabled the cultivating poor to overcome poverty included greater access to cultivable land combined with modern agricultural inputs and "escape from poverty was not a result of growth trickling down to the rural poor…"

Adelman, Subbarao and Vashishtha (1985) also used NCAER panel data for 1968-69 to 1970-71 to provide a dynamic dimension to the discussion of poverty trends by calculating the long run dynamics implicit in household mobility among rural Indian households. However, their analysis was primarily focused on performance of Indian states and found that 7 states were likely to experience a reduction in the poverty ratio while 3 states were likely to experience long run high poverty.

NCAER (1986a and 1986b) provides an analysis of the mobility of the rural households in India based on the panel data of 3,139 households collected for 1970-71 and 1981-82. The study notes both upward and downward movement of the households across income classes. The factors associated with the upward movement of households in the lower income categories were identified as more 'intensive use' of labour resources and acquisition of land. The factors associated with the downward mobility were loss of land and rigidities in inter-occupational mobility. The study notes that education, caste

and demographic factors were important in explaining changes in per capita income over the period.

Kurosaki (1999) used a household panel data set collected by ICRISAT covering three villages from 1975-1984 to investigate the dynamics of individual consumption and its fluctuation due to shocks across households. The complete panel data set comprised 35 households in Aurepalle, in Andhra Pradesh, 33 in Shirapur, Maharashtra and 36 in Kanzara, Maharashtra.

The econometric results indicated that risk was shared among villagers in that more wealthy households served as implicit insurance providers. This also implied that more landed households were likely to extract more on average from less wealthy villagers in exchange for the insurance service. In the long run, this could lead to increased inequality in asset accumulation and isolation of the poor from economic growth.

Using the ICRISAT panel survey of 240 households in six villages in the semi-arid region of rural South India covering the period 1975-76 to 1983-84, Gaiha and Deolalikar (1993) found that 87.8% of sample households were poor at some time during the 9-year panel period. Over 60% of households were poor for roughly half the time (i.e. during 5 out of 9 sample years). And more than one-fifth of households were poor during all 9 years. They conclude "*the persistently poor are by no means a small subset of the poor*". And further that persistence of poverty is the result of "deep-rooted characteristics" such as schooling of head of household. Further, drastic measures, such as income transfers on a continuing basis, are needed to compensate subsets of the poor for their innate disadvantages.

Singh and Binswanger (1993) also used longitudinal data collected by ICRISAT from 218 rural households from six villages in India's semi-arid tropics (SAT) for a period of nine cropping years from 1975-76 to 1983-84. They found that:

- Poverty was closely associated with the resource base of the people in addition to their personal characteristics (Singh, 1990). Compared to the non-poor households, the poor cultivating

households had poorer quality land, poorer resource base, lower risk bearing capacity, stronger subsistence orientation and a stronger preference for coarse gains in their cropping pattern (Jodha and Singh, 1982).

- The initially poor, who escaped poverty experienced a decline in their family size by more than one member. At the same time, the initially non-poor households, who became poor, experienced an increase in their family size by more than one member.
- Poor households who remained poor neither accumulated wealth nor reduced liabilities.
- Households who remained poor or became poor lost considerable operational area while those who escaped poverty were able to maintain their operational holding sizes in the face of increased demographic pressure. The same group was also able to increase its irrigation level.
- The percentage gains in income over the period did not differ much across these caste groupings.
- Out of 218 rural households studied over time, 131 were initially poor. After nine years, 48 of these households had income above the poverty line threshold. Nine of the initially 87 non-poor households became poor despite considerable growth in the average income of the sample.

However, they point out that generalizations of these results should be made with caution because the sample selected for the study could not remain truly representative after a period of nine years.

Explaining chronic poverty

Jalan and Ravallion (2000) use panel data from 5,854 households in China to identify factors that determine transient and chronic poverty. They include as explanatory variables, household specific human and physical assets, and community effects. They find that while 6.21% of the population was persistently poor or poor at all dates, 14.38% had mean consumption below the poverty line, but was not poor at all

dates. Further these estimates rose to 39.56% and 30.46% respectively if the poverty line was raised by 50%. Both chronic and transient poverty are reduced by greater access to physical capital and life-cycle effects are also similar between the two types of poverty. Demographic characteristics and human capital indicators such as literacy, having a household member with a job outside the village or town, living in a revolutionary base area or a minority area as also higher grain yields seem to be more important for chronic poverty than for transient poverty.

The household's stage of life cycle, wealth holdings and the standard deviation of the household's wealth holdings and cultivated land holdings are important in determining transient poverty. While higher physical wealth tends to decrease transient poverty, greater volatility in a household's wealth holdings is likely to increase it. There is little sign that education reduces transient poverty, and very few of the other demographic and country characteristics seem to be important factors. Hence they suggest that different types of policies will be needed to deal with the two types of poverty.

McCulloch and Baulch (2000) use a 5-year panel of 686 households to show that different types of anti-poverty interventions may be needed to address chronic and transitory poverty. They examine the impact on chronic and transitory poverty of two types of policy simulations – those designed to smooth incomes over time (such as safety nets, micro credit and insurance schemes) and those designed to promote income growth. Interventions that enable households to smooth their incomes might achieve large reductions in transitory poverty but make little difference to chronic poverty, which is reduced by large and sustained growth in real incomes. They also find that provision of child benefits of as little as Rs.100 to each child could dramatically reduce poverty as also improving education via educational subsidies, especially education of the household head. They conclude that while interventions to improve human and physical capital of the poor are likely to be successful in the long run in reducing chronic poverty, in the short term large reductions in income poverty could be achieved through smoothing incomes for instance through

provision of micro-credit, seasonal public works, crop insurance and food price stabilization schemes.

Binayak Sen analyses a panel data set of 379 rural households from 21 villages in Bangladesh for 1987-88 and 2000 to find that the drivers of escape from poverty and descent into poverty are not mirror images of each other. Escape from poverty is based on overcoming structural obstacles by pursuing multiple strategies such as crop intensification, agricultural diversification, off-farm activity and irrigation that permit rapid accumulation of a mix of assets. Descent into poverty is associated with lifecycle changes and crises like floods and ill health. The likelihood of escape from poverty and entry into it is sensitive to initial asset position. The pattern of livelihood change has been of a lower quality and potential and increased at a slower pace in the case of the chronic poor than for ascending households.

Ascending households were found to be faster accumulators of human, physical and financial assets, better diversifiers with regard to adopting modern varieties of rice and occupational diversification to higher productivity non-agricultural activities. They showed increased supply of labour with declining dependency. The pace of improvement in human capital (years of schooling) was highest for ascending households.

The key causes of downward mobility were crisis or discrete shocks, unfavourable lifecycle factors and structural factors such as loss of natural or human or financial assets or adverse market conditions.

Grootaert and Kanbur (1995) used the CILSS multi purpose panel data set for Cote d'Ivoire for around 700 households in 1985-86, 1986-87 and 1987-88 and found that over the 1985-88 period, despite recession, there were numerous people who luckily bucked the trend and escaped poverty. They were widespread regionally, although in some socioeconomic groupings, the poor had higher chances of escaping poverty amidst general decline.

Grootaert, Kanbur and Oh (1997) build further on this work to explore the role of other household characteristics especially human

and physical assets in addition to region of residence and socioeconomic status in differentiating those who escape from poverty from those who remain poor. Both initial conditions and pattern of changes in endowment affected changes in welfare.

In urban areas households that were more successful in raising their welfare levels and escaping poverty despite the economic decline, were those who were well educated, (skills more than diplomas) with young heads of household, few children and holding a wage job, preferably in the public sector. In rural areas, those households that had fewer members, heads younger than 45 years of age, with larger and better-equipped farms and with a non-farm source of income (diversified sources of income) were most likely to achieve welfare gains. Education played a smaller role in rural areas. Female-headed households did better than male-headed households and export crop farmers did better than food crop farmers. In both urban and rural areas, household size and composition were important. Region and socioeconomic status were strong predictors of welfare change.

Their suggestions for policy makers include the relevance of education in coping with economic decline, targeting social safety nets to larger households, providing support targeted at children through school lunches or subsidized uniforms, and support to small holders who are more vulnerable to welfare losses in periods of overall economic decline. They suggest using age of (older) head of household and number of durables owned by the household as useful in identifying target households.

Helzi Noponen (1991) used a panel of 300 poor women informal sector workers and their households in Madras city over a five-year period (1980-85) to focus on the key contribution made by women in sustaining poor households despite constrained labour market choices. On average, 4 economic stress events affected the sampled households over the 5-year study period. The event with the greatest influence on the sampled households was illness. The stress of fire or flood related house damage was also prominent. The overwhelming response to economic stress events was 'indebtedness'. As economic stress events hit the family over time, women helped by increasing earnings,

adding on secondary jobs, utilizing their earning status to obtain loans from a variety of sources, sacrificing their subsidized business loan for family debt repayment, and foregoing personal expenditures and leisure.

Gaiha and Imai (2003) use panel data for 183 households belonging to 5 sample villages in Andhra Pradesh and Maharashtra (i.e., two states of India - ICRISAT data) for 1975-84 to assess the impact of crop shock. They note that large segments of rural households experience long spells of poverty (over 3 years) even without negative crop shocks. Occurrence of crop shocks leads to an increased proportion of households experiencing short spells of poverty (1 to 2 years). There is greater vulnerability of low caste households and small farmers to long spells of poverty when large or severe crop shock occurs. They note with concern that much larger transfers of land and non-land assets are needed if vulnerable sections such as landless households in the lowest caste category are to protect themselves better against crop shocks. Anti-poverty strategy needs to be reoriented in view of this.

Wlodzimier Okrasa (1993-96) used four-year panel data from Poland's Household Budget Survey to explore the distinction between transitory and long-term poverty and examine poverty mobility. The section of the population that could minimize or avoid chronic poverty in Poland included those living in urban areas, with older, educated household heads, few children, few unemployed members and possessing financial or physical assets. Households with a larger kinship network faced significantly less danger of falling into chronic poverty or vulnerability.

In concluding this section of the paper, it is important to emphasise that while analysis of existing data sets reflects considerable movement into and out of poverty, it cannot be argued that very few households remain poor over a long duration of time. This may be true in some specific cases or locations but cannot be generalized. In particular, in the Indian context the results of several studies clearly contradict this. Further the incomes corresponding to which poverty thresholds are set in most developing countries are so low that if the levels are raised marginally this will lead to dramatic increases in poverty estimates.

For instance, Jalan and Ravillion (2000) show that a 50% increase in the poverty threshold leads to a dramatic more than six-fold increase in population in chronic poverty. Further, even if a household moves marginally above the poverty line at one point but remains in poverty during most years we may not easily be able to conclude that the household is not chronically poor. Estimates for Bangladesh, Ethiopia, Chile, South Africa and India clearly indicate that it cannot be argued that very few households remain poor over the entire duration of the panel.

3. The Sample[2] for the Panel Data

The National Council of Applied Economic Research undertook a study of rural household income in the late 1960s. Base data for this study was collected from a sample of 4,363 households from 261 villages. A multi-stage stratified random sample design was adopted for the selection of the 261 villages. All the households in the sample villages were listed and this list formed the sample frame. In 1981-82, a re-survey of the sample villages was carried out. However only 250 out of the 261 villages could be covered, as the survey could not be carried out in the state of Assam. All the households were listed yet again in 1981-82. The final sample was selected by taking into account the households that were part of the original sample in 1970-71. The sample common to both years, in this sense a panel, consisted of 3139 households and covered rural areas in the whole country with the exception of the state of Assam. The key criteria for the sample households to qualify as panel households were:

a. The household in 1970-71 is fully intact in 1981-82 with the same person heading the household.

b. The household head is the same in 1970-71 and 1981-82 but the household of 1970-71 is not intact with all the members of 1970-71 not staying together in 1981-82.

c. The household head has changed between 1970-71 and 1981-82 but the rest of the household is the same.

2 This description of the sample is based on the description given in "Changes in Household Income, Inter-Class Mobility and Income Distribution in Rural India- A Longitudinal Study: 1970-71 to 1981-82", NCAER, mimeographed, April 1986.

The survey used a detailed questionnaire to elicit information on social, economic and demographic characteristics of the households. Besides the household information, village level information was also collected in both the surveys. Since we had access to village level data for only the 1970-71 survey, we supplemented this with village and district level data from the Census and Indian Agricultural Statistics for 1970-71 and 1981-82.

4. Patterns of Incidence, Mobility and Persistence: Panel Data for 1970-71 and 1981-82

One-time surveys do not capture the 'persistence of poverty' or 'chronic' or long duration nature of poverty'. At any given time, some households may be poor but their consumption levels may rise above the poverty line in the following year: poverty may be transient caused by crop failure in a particular year or natural or other shocks to livelihoods. 'Panel data sets' can track the status of a given household with respect to their income or consumption pattern at various points in time. Using such a panel data set, we examine the patterns of poverty in rural India in the 1970s and attempt to identify the factors that may either perpetuate poverty or facilitate escape from it.

What factors enable households to 'exit' from poverty? What are the characteristics of households that are unable to 'exit' from poverty? These are important questions that can be addressed from the panel data. In this paper, we use the national NCAER data set for 1970-71 and 1981-82 to present the pattern of mobility of households between poor and non-poor categories over the period covered by the panel data.

Information on consumption expenditures and on the poverty line is used to classify each household in the sample as poor or non-poor. We have used the poverty line estimated for rural households for the year 1980-81 and the Consumer Price Index for Agricultural Labour (CPI-AL) to derive the poverty line at 1981-82 prices.

The analysis in this paper is at two levels. First we examine the impact of various factors on the incidence of poverty and then consider the impact of factors that influence the changes in the poverty status

of households over time. While there are numerous examples of the first type in the development literature, the latter type of analysis is reported in limited cases due to lack of data needed for such analysis.

The broad trends relating to the incidence of poverty are only suggestive of the persistence of poverty at the household level. In other words a household, once poor, may continue to be poor indefinitely into the future. A child born into a poor household, in a poor neighbourhood is likely to remain poor. What factors facilitate escape from poverty?

The incidence of poverty in rural India in the two different time periods varies considerably across selected socio-economic characteristics of the households. We also present an estimate of persistence of poverty defined as,

P = 100 (Number of poor in the category in 1981-82 who were also poor in 1970-71/Number of poor in that category in 1970-71)*

Tables 3 to 7 given below show the patterns that emerge in the context of incidence and persistence of poverty, poverty correlates and poverty mobility on the basis of a panel of 3,139 households in rural India.

Analysis of the data in Tables 3 and 4 below shows that the percentage of the sample households that were below the poverty line was 48.14% in 1970-71 and 38.67% in 1981-82.

More than half (52.61%) of the households who were poor (P) in 1970-71 remained in poverty over a decade later. A little less than half (47.39%) of households below the poverty line in 1970-71 escaped from poverty and became non-poor (NP). Conversely one fourth of households who were non-poor in 1970-71 became poor a decade later.

Thus, while the data supports the view expressed in the literature that there may be considerable movement into and out of poverty,

Table 3: Distribution (%) of the Sample Households by Poverty Status

Poverty Status	1970-71	1981-82
P	48.14	38.67
NP	51.86	61.33
Total	100.00	100.00

Table 4: Income Mobility of the Households and Poverty Status (%)

Poverty status in 1970-71	Poverty Status in 1981-82		
	P	NP	Total
P	52.61	47.39	100.00
NP	25.74	74.26	100.00
Total	38.67	61.33	

with more than half the households remaining in poverty eleven years later, it is not possible to argue that very few households remain poor over time.

The pattern with respect to the educational level of the household and occupation of the head of the household presented in Table 5 suggests the following main features:

Table 5: Pattern of Incidence and Persistence of Poverty in Rural India in 1970-71 (ARIS) AND 1981-82 (REDS): Education and Occupation

Characteristics	Incidence %		Persistence %
	ARIS%	REDS%	ARIS to REDS
1. Household Head Education			
Illiterate	55.14	45.07	56.68
Literate LE	46.33	34.12	46.18
Others	24.54	21.27	35.00
Total	48.23	38.71	52.51
2. Highest Level in Household			
Illiterate	59.36	52.79	62.55
Literate LE	58.10	43.70	52.65
Others	35.91	27.14	41.92
3. Occupation of Household Head			
Agriculture	49.08	40.18	53.77
Professional/ technical workers	22.37	17.11	35.29
Other	47.75	34.05	46.64
4. Work status of Household Head (for agricultural occupations)			
Cultivator	43.09	36.06	49.24
Professional/ technical workers	22.37	17.11	35.29
Agr. Labour	71.88	55.87	63.73

Note: LE = education upto primary schooling.

- The positive correlation between education (literacy) and reduction in the incidence of poverty is unambiguous. The pattern holds even for persistence of poverty. In other words, households that are educated (the head of the household or any other member) are more likely to escape from poverty than those without education.
- A large proportion of households that are in agricultural occupations, (including agricultural labour) experience poverty.
- Persistence of poverty was the highest for agricultural households and those in 'other' occupations.
- Incidence is lower for households in professional occupations including those with regular salaries.
- Incidence of poverty was greater for households in occupations that include non-agricultural labour, trade and other services in 1970-71 but it was lower in 1981-82.
- Differentiating the 'agricultural households' into cultivators and agricultural labour shows that the incidence and persistence of poverty is far greater for agricultural labour households.

The incidence and persistence of poverty across religion and caste status over the two time periods presented in Table 6 suggest the following patterns:

- Sharp differences exist in the incidence of poverty only between Sikh and other religious affiliations.
- Incidence and persistence are extremely high in the case of Buddhist households and incidence actually increased in 1981-82 over the levels of 1970-71.
- Across the major caste groupings, the incidence and persistence of poverty is especially high for SC and ST households. It is lower for the Upper Castes but persistence rate exceeds 35% even for this group.
- Larger households showed greater incidence of poverty in 1970-71 but the pattern was mixed in 1981-82. The rate of persistence of poverty shows no clear pattern.

Table 6: Pattern of Incidence and Persistence of Poverty in Rural India in 1970-71 (ARIS) AND 1981-82 (REDS): Religion, Caste and Household Size

Characteristics	Incidence %		Persistence %
	ARIS%	REDS%	ARIS to REDS
1. Religion of Household Head			
Hindu	49.55	39.49	52.18
Buddhism	64.71	82.35	72.73
Jain	40.00	40.00	50.00
Sikh	9.91	2.70	0.00
Islam	48.30	44.89	57.65
Christian	54.39	38.60	64.52
2. Caste			
SC	66.07	56.04	62.65
ST	75.40	66.31	70.21
Backward Caste	50.15	44.48	57.00
Upper Caste	39.42	26.45	37.45
3. Household Size			
<=2	27.93	37.84	61.29
2-4	41.52	41.00	54.58
4-6	51.31	42.34	59.06
>6	52.14	35.58	46.97

Land is the most important asset for the households in the rural areas. The pattern of incidence and persistence of poverty across land holding categories is presented in Table 7.

- There is an unmistakable poverty-reducing impact of land on households.
- Both incidence and persistence of poverty decrease as households have access to more land.
- Access to irrigation also reduces incidence of poverty and its persistence although in the highest irrigation category there is some increase in incidence and poverty, which may be due to small land holding size.

Table 7: Pattern of Incidence and Persistence of Poverty in Rural India in 1970-71 (ARIS) AND 1981-82 (REDS): Land holding categories

Characteristics	Incidence %		Persistence %
	ARIS%	REDS%	ARIS to REDS
1. Land ownership			
None	68.86	49.34	57.96
Up to 2 ha	40.37	34.52	48.86
2-4 ha	17.02	29.79	25.00
4-6 ha	ss	ss	ss
6 ha and above	ss	ss	ss
2. Gross Cultivated Land			
None	59.55	43.66	57.28
Upto 2 ha	43.61	36.83	49.44
2-4 ha	14.04	19.30	25.00
4-6 ha	ss	ss	ss
6 ha and above	ss	ss	ss
3. Proportion of irrigated land			
None	58.92	48.43	54.86
<25%	39.67	34.71	43.75
25-50%	40.71	35.84	39.13
50-100%	22.63	21.05	37.21
100%	26.88	23.96	41.71

Note: ss= sample less than 10

5. Conclusions

India has suffered high rates of incidence of poverty for well over five decades since the development efforts began in the early 1950s. Eliminating poverty is a corner stone of most of the policy efforts in the country. Despite this, poverty continues to persist. Although the data set used is for the early 1970s and 1980s, the findings have considerable relevance for policy. The data shows that more than half (52.61%) of the households who were poor in 1970-71 remained in poverty over a decade later. *With more than half the households remaining in poverty eleven years later, it is not possible to argue that very few households remain poor over time.* However the data also supports the view expressed in the literature that there is considerable movement both out of and into poverty. 47.39% of poor households escaped from poverty. One

fourth of households who were non-poor in 1970-71 became poor a decade later. In other words while exit from poverty did occur, a large number of households have not been able to escape from poverty despite the many existing policy interventions. Further, many of non-poor descended into poverty.

This paper uses a two-way comparison of the characteristics of the households and poverty status based on panel data for rural India to explore the patterns that emerge in the context of incidence and persistence of poverty and poverty correlates. The results show that incidence and persistence are associated with lack of education, lack of assets, especially land, belonging to a scheduled caste or scheduled tribe and working as an agricultural labourer. Our future work will attempt to analyse the relationship between household characteristics and poverty status through use of multi-variate analysis. We will also try to differentiate between factors and conditions driving poverty, persistence of poverty, escape from it and entry into it.

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