

Snakes, ladders and traps:
changing lives and livelihoods
in rural Bangladesh (1994-2001)

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Abstract

This paper examines national-level explanations for poverty decline in Bangladesh in micro-level detail, in order to better understand the nature of the causalities at work and why some households have gained, while others have failed to gain, in the processes of change involved. The analysis is based on empirical data on the lives and livelihoods of rural households in two locations: Chandina thana in Comilla district and Modhupur thana in Tangail district. The data is drawn from panel data on 1184 household in 1994 and 2001, and qualitative data collected by the author at various points during the period covered by the study. The paper demonstrates that the distribution of 'winners' and 'losers' is not determined purely by chance; it also reflects differences in endowments and efforts.

Following on from the introduction, Section 2 of the paper provides background information on the study locations. Section 3 presents a preliminary analysis based on descriptive statistics of the key factors that might explain changes in poverty status during the study period. Section 4 continues the analysis using multiple regression techniques to establish the relative importance of these factors for households with differing experiences of economic change. Section 5 draws on the qualitative data to interpret these findings and throw further light on the nature of the snakes, ladders and traps faced by households in our study locations. Section 6 reintegrates this micro-level analysis with the macro-level explanations for poverty decline in Bangladesh, and draws out what it has to say about policies for the further reduction of poverty.

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1. Introduction: poverty decline in Bangladesh

There is persuasive evidence to suggest that there has been a substantial decline in poverty¹ in Bangladesh since the years following its independence in 1971. Estimates suggest that poverty had reached levels as high as 70-80% in the 1970s (Sen, 1995). Poverty levels fluctuated a great deal in the 1980s but since the 1990s, there appears to have been a decline in poverty at a modest but consistent rate of around 1% a year (Sen, 2000). Recent estimates for 2000 suggest national levels of around 40% and rural poverty of 44% (Sen, 2003).

Various factors have been put forward to explain this decline in poverty (Hossain, 1996, Sen, 2003, World Bank, 1998, Toufique and Turton, 2002). The increasing rate of economic growth is clearly one: while the 1970s were characterized by an actual decline in per capita GNP at a rate of about 0.8% a year, per capita rates began to rise in subsequent years, reaching 3.8% a year in 1996-97 (Sen, 2000). Rising levels of income inequality may have slowed down the pace of poverty decline, but nevertheless economic growth has clearly played a role in bringing it about. However, rising rates of economic growth have themselves to be explained.

A second important change, one which contributed directly to the rise in per capita income growth, is the rapid decline in fertility rates from TFRs of around 7 at the end of the 1970s to around 3 in the early 1990s, with the decline taking place in all socio-economic strata (Cleland et al., 1994; Kabeer, 2001). The resulting slow down in the rate of population growth in what remains one of the world's most densely populated countries has clearly helped to ease the pressure of people on land in a still largely agrarian economy. By the 1980s, average GDP growth rates of 4% were outpacing population growth rates of around 2% (World Bank, 1998).

A third important change relates to the onset of the Green Revolution in agriculture. Given that the country had reached the extensive margins of cultivation by the 1950s, any further growth in agricultural productivity required intensification. This was made possible with the introduction of the new HYV 'seed-irrigation-fertilizer' technology, which, as Adnan points out (1997), amounted to 'the introduction of a new means of production which was important as land itself' (p. 283). Bangladesh achieved major gains in food grain production in the 1970s and 1980s as a result.

A fourth element in the explanation relates to changes in the policy environment. Bangladesh retained the pre-independence commitment to import-substituting industrialization in the early years after independence. However, since the early 1980s. in the face of growing internal and

external imbalances and under pressure from the donor community, it adopted a series of structural adjustment measures to liberalise its economy. Within the agricultural sector, this included the restructuring of the state's monopoly role in the wholesale trade and distribution of inputs, the withdrawal of subsidies on fertilizer and other inputs, the privatisation of distribution of inputs and the lifting of restrictions on imports. The rapid expansion of area irrigated by shallow tubewells, with the lifting of siting restrictions, has seen a growth in winter grain production and, despite fluctuations, an overall growth in agricultural production (Palmer-Jones, 1999). Cropping intensity² has risen from 142% in 1970 to 175% by 2000.

A fifth change relates to growth in the rural non-farm sector. As Mahmud (1996) notes, this sector has expanded extremely rapidly since the 1980s. There was some debate as to whether this expansion signified the pull of opportunity in the off-farm economy or the push of declining returns to wage labour in agriculture (Osmani, 1990; World Bank 1997). In fact, both explanations may be valid but for different sections of the rural population. The non-agricultural sector consists of a variety of livelihood opportunities, some higher return than others, and it is likely that the poor are driven off the land into the poorer paid end of the off-farm economy. At the same time, however, recent evidence suggests that even the poor can improve their lot by moving out of agriculture. Landless agricultural labourers, who were found to be the poorest sub-group in the rural population, stood most to gain if they were to enter an off-farm occupation (World Bank, 1998).

A sixth factor is investment in infrastructure development. Bangladesh lags behind most Asian countries in this respect - only 9.5% of its roads were paved in 1999 compared to 45.7% in India and 43% in Pakistan, according to the World Bank's development indicators. Nevertheless, since the late 1980s, there has been a remarkable expansion of rural infrastructure and a number of studies have noted its contribution to the creation of economic opportunities. For instance, Hossain and Sen (1995) found that villages with electricity and good transportation facilities had lower proportions of both moderate and extreme poor households in their population while Yusuf (1997) reports that agricultural output is positively associated with density of paved roads and number of bank branches.

The seventh factor reflects policies which are likely to have had positive implications for the country's human resources. Despite the restructuring of the state's role in the economy, the public sector has been extremely active in the promotion of a number of social services such as

child immunisation, family planning, drinking water provision and education, all areas in which Bangladesh has made considerable progress. The spread of education, in particular, has been credited with playing an important role in the reduction in poverty. World Bank estimates suggest that per capita consumption increases with increases in levels of education of both household head and spouses, and in both urban and rural areas (1998).

Finally, there is the role played by the NGOs in the provision of a variety of services, but most prominently, the provision of microfinance services. Taken as a whole, the NGO sector distributes more financial resources than public sector financial institutions and it has been suggested that it has helped to reduce poverty, and less directly, contribute to economic growth in the countryside (Khandker,1998). Since a great deal of microfinance lending is targeted to women from poor households, it has been found to have had gender as well as poverty impacts (Hashemi et al. 1996; Kabeer, 2001)

This paper explores these national-level explanations for poverty decline in Bangladesh in greater micro-level detail in order to better understand the nature of the causalities at work and why some households have gained, while others have failed to gain, in the processes of change involved. It draws its title from the introduction to a collection of essays on 'villages revisited' in the Asian context (Breman et al. 1997) which suggests that the capacity of villagers to adapt to, and profit, from changing opportunities in the countryside can be likened to a game of snakes and ladders in a context of changing rules and resources. As this paper demonstrates, the distribution of 'winners' and 'losers' is not determined purely by chance - although chance does play a role. It also reflects differences in endowments and efforts. The 'ladders' in the title refer to those circumstances, events and processes which constituted escape routes out of poverty for the population surveyed while the 'snakes' refer to those which led to their decline into poverty. In addition, we are also interested in the 'traps' which prevented certain sections of the poor - the chronically poor - from climbing out of poverty during the period under study.

The analysis in the paper will draw on empirical data on the lives and livelihoods of rural households in two locations: Chandina thana in Comilla district and Modhupur thana in Tangail district. The choice of locations reflects the availability of a panel data set on 1184 households in two villages in each of these locations. These villages were originally part of a eight village study on rice cropping patterns in Bangladesh in 1979-80 carried out by Greeley (1987). Unfortunately the data set from this survey is no longer directly accessible. In 1994, 5062 households from

these villages were surveyed again by Greeley with an adapted version of the earlier survey instrument (Greeley, 1999). A third round of data was collected on 1741 households in four of the eight villages in 2001 in connection with the present study (Toufique, 2001), including 1184 households who had also been included in the 1994 round. 711 of these households came from Chandina, 473 from Modhupur.

The analysis in this paper is based on this panel data on 1184 household in 1994 and 2001. It also draws on qualitative data collected by the author at various points during the period covered by the study. In 1998, I spent 4 weeks carrying out open-ended interviews on the nature and causes of socio-economic change with key informants in the two study locations. A further three weeks were spent in 2002 interviewing members of households covered by the survey to explore their own personal experiences and explanations for economic change. In addition, 60 case studies were compiled on households with different experiences of poverty decline and 40 chronically poor households were interviewed in greater detail by Saiful Islam who assisted in both the 1994 and 2001 household surveys.

The paper is laid out in the following sequence. Section 2 provides background information on the study locations. Section 3 uses descriptive statistics on various aspects of household resource base and livelihood activities to carry out preliminary analysis of the key factors which might explain changes in their poverty status during the study period. Section 4 continues the analysis using multiple regression techniques to establish the relative importance of these factors for households with differing experiences of economic change. Section 5 draws on the qualitative data to interpret these findings and the light that they throw on the nature of the snakes, ladders and traps faced by households in our study locations. Finally Section 6 reintegrates this micro-level analysis with the macro-level explanations for poverty decline in Bangladesh and draws out what it has to say about policies for the further reduction of poverty.

2. Poverty dynamics in Chandina and Modhupur

The villages in the two locations had started out with similar levels of poverty³ in 1980: 88% in Chandina and 85% in Modhupur (Greeley, 1998). Both had shared in the decline in poverty documented at the national level, but the pace of decline had not been uniform. Table 1 reports on estimates of the incidence of poverty in the study villages in 1994 and 2001 calculated by Toufique (2002). It suggests that poverty had declined to 24% in Modhupur and 35% in Chandina by 1994. However, more rapid rates of decline in poverty in Chandina in subsequent

years reduced this differential considerably so that by 2001, poverty was 26% in Chandina and 19% in Modhupur. Table 1 also provides estimates of the ‘poverty gap’ which measures the depth of poverty (the average distance from the poverty line of all households below the poverty line) and the ‘poverty gap squared’ which measures the severity of poverty among the poor. The much smaller magnitudes of change in these latter measures suggest that the forces which led to poverty decline were not evenly distributed among the poor. Their effect was weakest on those furthest away from the poverty line. They point therefore to the existence of chronic or structural forms of poverty, local manifestations of the income inequalities observed at the national level.

Table 1. Changes in poverty levels, poverty gap and poverty gap squared

	Headcount measure (%)		Poverty gap (%)		Poverty gap squared (%)	
	Chandina	Modhupur	Chandina	Modhupur	Chandina	Modhupur
1994	35	24	10	6	4	3
2001	26	19	6	5	2	2

Clearly some of the differences between the two locations at the start of our study period will have played a role in explaining their very different experiences of poverty decline. These are summarized below. Chandina was the less favourably located of the two: it was low-lying, prone to flooding, had less irrigation facilities, was less well-connected to the main road and local towns and had higher levels of fertility. With fewer local opportunities, and a higher population density, it had a long history of seasonal out-migration to other rural localities as well as to nearby towns. It had been largely bypassed by NGOs. Modhupur, by contrast, did not flood as frequently, had more extensive irrigation facilities and hence more extensive cultivation of high-yielding variety rice and other crops. It was also better connected to main roads and to the local town of Modhupur and far better served by NGOs, most of them engaged in the provision of microfinance services.

A number of studies have sought to explore the nature of this role. Cortijo (2001) used the larger version of the 1994 data (i.e. 5062 households located in 8 villages) to explore, among other things, the likelihood of being poor in the two locations. She found, by and large, that certain determinants were relevant in both areas: household size and age composition, female headship, education levels, health status of family, land owned and operated, access to irrigation, cultivation of HYV crops and share of income earned off-farm. However, there were a

Differences between the study villages

Chandina villages	Modhupur villages
Between 6-10 miles from main road	0-0.5 miles from main road
Rainfall around 2245 mm a year	Rainfall around 1742 mm. a year
Fertile, but low-lying and flat. Hence flood prone. Winter crops mainly veg. (potatoes)	High tracts, rare flooding, tradition of cash crops
Many small village markets	Large but more distant markets
Long history of settlement	Shorter period of settlement, tribal population (Garos) nearby
Has small Hindu population (all 139 Hindu households in our sample live in Chandina)	Nearby Garo population but none in study villages
High fertility rates, high population density (1137 persons per square kilometre)	Lower fertility rates and lower population density (750 persons per square kilometre)
History of out-migration (mainly seasonal)	History of in-migration, now declining
Few NGOs (around 5 in the mid-nineties)	Many NGOs (around 37 in the mid-nineties)
Defunct irrigation systems	Traditional irrigation and shallow tubewells
Less crop diversification	More crop diversification
Long history of aquaculture	Aquaculture gaining importance

Adapted from Toufique 2001

number of variables which had location-specific effects. Rural migration and international migration reduced the likelihood of poverty in Chandina but not in Modhupur where urban migration and access to loans were more important.

In his study, Toufique (2002) used the 1994-2001 panel data for 1184 households in four villages to estimate the likelihood of being poor in the two locations in both the survey years. Once again, access to land, diversification out of agriculture, income from migration, household size, female headship and dependency ratios were found to be critical determinants of whether a household was below the poverty line in both areas. However, paradoxically, NGO membership played very little role in predicting the likelihood of poverty in Modhupur, despite the longer history and wider incidence of NGOs activity, but it became increasingly significant in Chandina where NGOs had begun to expand their presence in recent years.

In this paper, we will continue this discussion of the changing face of poverty in rural Bangladesh, but our focus will be on the *dynamics* of poverty, or the movements of households into and out of poverty during the period under study and on the *causal processes* which helped

to explain them. To assist us in this analysis, we have categorised the households in our panel data on the basis of their position at the start of our study period and their position at the end. Our classification criteria gives us four mobility categories:

- chronically poor households who were below the poverty line in 1994 as well as 2001
- upwardly mobile or 'ascending' households i.e. those who were below the poverty line in 1994 but had risen above it by 2001
- downwardly mobile or 'descending' households i.e. who were above the poverty line in 1994 but had fallen below it in 2001;
- never poor households who were above the poverty line in both 1994 and 2001.

This classification is the same as that used by Sen (2003) in his recent attempt to explore movements in and out of poverty in rural Bangladesh. However, his data covers a longer period (1987 and 2000), fewer households (379) and many more villages (21). We, therefore, expect that some of our findings may be similar to his, but not all. We will refer to his findings in relation to our own at a later stage in the paper.

Estimates of numbers and percentages of households in each of these four categories is provided for the two locations in Table 2. These categories help us to formulate more precisely the key questions that will be explored in this paper. We are interested in two sets of questions:

- First, what factors explain why some of the households which were classified as poor at the start of our study period remained in poverty at the end (the chronically poor) while others rose above the poverty line (the upwardly mobile)?
- Second, what were the factors which explained why some households which were classified as above the poverty line in 1994 remained above it in 2001 (the never poor) while others declined into poverty (the downwardly mobile)?

One point of caution has to be noted at this stage. While our mobility criteria provide us with easy-to-understand categories for comparison over time, they do not fully capture actual variability in income over the study period (Sen, 2003). They ignore any rise in the income of those below the poverty line in 1994 that was not sufficient to take the household in question above the poverty line by 2001 and they ignore any decline in the income of those above the poverty line in 1994 which was not large enough to take the household in question below the

Table 2. Mobility categories in Chandina and Modhupur

Chandina				Modhupur			
	Poor in 2001	Not poor in 2001	Total households		Poor in 2001	Not poor in 2001	Total households
Poor in 1994	99 40%	148 60%	247 100%	Poor in 1994	39 45%	73 65%	112 100%
Not poor in 1994	89 19%	375 81%	464 100%	Not poor in 1994	52 14%	309 86%	361 100%
Total households	188 26%	523 74%	711 100%	Total households	91 19%	382 81%	473 100%

Chandina			Modhupur		
Chronically poor	99/711	14%	Chronically poor	39/473	8%
Downwardly mobile	89/711	13%	Downwardly mobile	52/711	11%
Upwardly mobile	148/711	21%	Upwardly mobile	73/473	15%
Never Poor	375/711	53%	Never Poor	309/473	65%

Table 3. Changes in income (taka) per capita adult equivalent in Chandina and Modhupur: 1994-2001

	Chandina			Modhupur		
	1994	2001	% change	1994	2001	% change
Chronically poor	2811	4286	+52%	3161	4536	+43%
Upwardly mobile	3079	9196	+198%	3102	8204	+164%
Downwardly mobile	6880	4354	-36%	7406	4172	-44%
Never poor	9185	13147	+43%	10152	11562	+13%

poverty line. Income variations within our four mobility categories are explored in Table 3. The table shows, first of all, that incomes were not static among the chronically poor. In both locations, they experienced a rise in their mean per capita income (adjusted for number of adult equivalents in the household), but clearly not to the extent that it rose among the ascending groups. In other words, upwardly mobile households did not succeed in crossing the poverty line merely because they were closer to the poverty line than the chronically poor but also because as a group, they reported the largest percentage increase in income levels of all four categories, including the never poor. This was true for both locations. Income levels declined among the

downwardly mobile in both locations, not only to the extent that they fell below the poverty line in 2001 but also to the extent that they were worse off than the chronically poor in Modhupur and barely better off in Chandina.

These results are reassuring in that they suggest that while our mobility categories do not fully capture income variability in our population during the study period, they do distinguish between important sub-groups in the population: those who experienced moderate growth in their incomes but were located at different ends of the economic spectrum, those who experienced higher than average growth and those who experienced a decline in their income over the study period. In the next section, we will examine some of the differences in the human resources, material assets and livelihood activities between these four categories of households which might help to explain their differing trajectories over the course of our study period.

3. Changes in human resources, material assets and livelihood activities in Chandina and Modhupur: 1994- 2001

We begin this stage of the analysis by examining some of the differences in the human resource base of different categories of households at the beginning and end of the study period. Information on household size and composition together provide a preliminary idea of the ratio between 'mouths' (dependents) and 'hands' (workers) in the household. Age is one aspect of composition: older and younger members generally tend to be less productive than those in the prime years of life. Gender is another: in a society like Bangladesh in which women face considerable constraints on their ability to take up productive work outside the household domain, the presence or absence of male adult members within the household membership is likely to play an important role in determining its economic trajectory.

Table 4 tells us that households in Chandina began out, and remained, on average larger than those in Modhupur, as we would expect, given the demographic differences noted earlier. Within each location, it appears that, by and large, 'ascending' households and the never poor had somewhat fewer children, and somewhat more adults, than did the chronically poor and downwardly mobile, particularly towards the end of our study period. The incidence of female headship increased over time and was highest among the chronically poor and the downwardly

**Table 4. Human resources by mobility category:
size, age and gender composition of households**

	Chronically poor		Upwardly mobile		Downwardly mobile		Never poor	
CHANDINA	1994	2001	1994	2001	1994	2001	1994	2001
Household size	6.2	6.2	6.0	6.0	5.8	6.0	6.0	6.5
# children (0-14)	3.2	3.1	3.0	2.6	2.8	2.9	2.5	2.5
# adults (15-54)	2.5	2.8	2.6	3.0	2.5	2.7	3.0	3.5
# elderly (55+)	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.5
Proportion with female household head	8%	12%	2%	6%	1%	11%	2%	6%
Proportion with no adult male	6%	6%	2%	2%	3%	7%	2%	2%
# ill/disabled household members	0.86	0.24	0.79	.12	0.53	.22	0.62	.15
Education (# of years):								
Of household head	2.3	1.0	2.0	2.1	2.9	1.8	2.2	4.0
Of spouse	0.7	0.5	1.1	1.1	1.1	1.0	1.0	2.1
Of 5-9 year olds	0.39	0.96	0.52	1.06	0.61	1.03	0.50	1.12
Of 10-14 year olds	1.53	3.76	1.46	4.15	2.19	4.10	1.75	4.51
Proportion with no educated adult	36%	36%	38%	26%	28%	37%	32%	20%
MODHUPUR	1994	2001	1994	2001	1994	2001	1994	2001
Household size	5.0	4.7	5.0	4.5	4.4	4.4	4.5	4.8
# children (0-14)	2.3	2.1	2.4	1.8	1.8	1.9	1.7	1.8
# adults (15-54)	2.1	2.0	2.3	2.4	2.1	2.0	2.4	2.6
# elderly (55+)	.53	.54	.23	.36	.46	.50	.32	.36
Proportion with female household head	0	10%	8%	14%	10%	25%	3%	7%
Proportion with no adult male	3%	5%	3%	6%	2%	21%	1%	3%
# ill/disabled household members	.38	.26	.26	.10	.10	.25	.14	.10
Education (years):								
Of household head	3.3	0.6	2.5	1.9	2.6	1.1	2.5	2.1
Of spouse	.89	.18	1.0	.95	1.0	1.1	1.2	1.3
Of 5-9 year olds	0.64	0.85	0.71	0.79	1.0	0.77	0.89	0.75
Of 10-14 year olds	2.48	2.85	1.85	2.61	2.59	3.13	2.87	3.82
Proportion with no educated adult	21%	67%	25%	51%	17%	62%	18%	44%

mobile. There was a particularly high incidence of one sub-set of female-headed households, viz. households with no adult male members, within the downwardly mobile category in both locations by 2001. While reported incidence of illness and disability has declined in both locations over time and for all categories of households, the chronically poor and downwardly mobile in each location reported a higher incidence than the ascending and the never poor. The decline in the education levels of household heads in certain categories appears to correspond to the rise of female headship in these categories since women are generally less educated than men. Finally, the table suggests a rise in children's education over time in most categories in both locations.

Table 5 reports on differences in the material resource base of the different mobility categories of households. A comparison of the chronically poor with the ascending in the two locations suggests that while the latter group did not start out with a clear advantage in terms of land

Table 5. Material resources by mobility category: land, irrigation, cattle and loans

	Chronically poor		Upwardly mobile		Downwardly mobile		Never poor	
	1994	2001	1994	2001	1994	2001	1994	2001
CHANDINA								
Cultivable land owned (acres)	0.26	0.15	0.27	0.22	0.50	0.33	0.90	0.86
Land operated (acres)	0.77	0.58	0.71	0.71	1.29	0.90	1.86	1.60
Land irrigated (acres)	0.18	0.16	0.17	0.20	0.35	0.24	0.45	0.39
# of cattle owned	0.45	0.37	0.55	0.64	0.74	0.74	1.09	1.10
Proportion member of NGO	15%	12%	16%	24%	16%	12%	14%	22%
# of loans	0.37	0.56	0.40	1.16	0.40	0.55	0.29	1.00
MODHUPUR								
Cultivable land owned (acres)	0.20	0.10	0.18	0.23	0.35	0.18	0.55	0.46
Land operated (acres)	0.28	0.14	0.40	0.49	0.77	0.21	0.98	0.80
Land irrigated (acres)	0.16	.07	0.32	0.28	0.54	0.13	0.73	0.48
# of cattle owned	0.26	0.21	0.52	0.48	0.73	0.23	0.92	0.87
Proportion member of NGO	56%	56%	58%	67%	56%	62%	60%	58%
# of loans	3.28	3.46	2.37	3.38	1.69	2.79	2.74	3.40

owned, they either suffered less of a decline in their holdings than the chronically poor (Chandina) or had managed to expand the size of their holdings (Modhupur). The size of operated holdings, which gives some idea of the importance of farming as a livelihood activity, remained constant for the ascending in both areas while those of the chronically poor declined. There was also a noticeable decline in irrigated land holding among the chronically poor in Modhupur. The mechanization of ploughing has led to a decline in demand for draft cattle in most categories, but households continue to raise livestock for meat and milk and it may have been a factor in the upward mobility of households in Chandina.

Turning to the never poor and the downwardly mobile in the two areas, it appears that the never poor started the period with more favourable conditions as far as land owned, operated and irrigated were concerned than those who subsequently declined into poverty and, as might be expected, also ended up in a stronger position relative to the latter. However, for both categories, there has been a decline over time in size of land owned, cultivated and irrigated.

NGO membership increased in Chandina during the period under study although it is still much lower than Modhupur. Ascending households and the never poor reported higher levels of membership in 2001 than the chronically poor and downwardly mobile. The picture was less clear in Modhupur. There was also no clear-cut pattern in the mean number of loans reported by each category, except that all categories report an increase.

A final set of factors relevant to understanding differences in household trajectories relates to the activities through which they earn their livelihoods. Table 6 reports on mean number of household members involved in different activities reported by the survey households: the same member could be involved in more than one activity. Consistent with the decline in size of farms operated in both locations, we observe a decline in number of family members involved in cultivation, although in both areas, the never poor started out with, and continued to have, higher numbers in cultivation than other groups in both areas. There was an increase in numbers involved in other forms of agricultural self-employment, mainly tenancy cultivation and fishing, in most households in both locations.

There was also a rise in wage labour but no consistent pattern of change by mobility category. The rise in wage labour has been largely agricultural in Chandina: field-based wage labour which is largely, but not entirely, undertaken by men and bari (home)-based wage labour, an

Table 6. Livelihood activity by mobility category: mean numbers of household members per activity

	Chronically poor		Upwardly mobile		Downwardly mobile		Never poor	
CHANDINA	1994	2001	1994	2001	1994	2001	1994	2001
Own cultivation	1.45	0.39	1.55	0.47	1.66	0.67	1.62	0.91
Other agricultural self-employed	0.10	0.43	0.10	0.41	0.10	0.53	0.10	0.49
Field wage labour	0.30	1.05	0.37	0.61	0.36	0.81	0.34	0.29
Bari wage labour	0.06	0.16	0.08	0.08	0.12	0.06	0.07	0.03
Non-agricultural wage labour	0.45	0.45	0.41	0.44	0.34	0.38	0.46	0.24
Business/trade	0.27	0.05	0.34	0.23	0.21	0.11	0.29	0.26
Formal service (government/NGO)	0.11	0.17	0.09	0.14	0.08	0.08	0.06	0.17
Begging/gleaning	0.01	0.10	0.03	0.04	0.06	0.08	0.03	0.01
Other non-agricultural work	0.16	0.21	0.10	0.24	0.11	0.20	0.16	0.25
Rural migrant	0.11	0.25	0.07	0.20	.12	0.34	.05	0.11
Urban migrant	0.11	0.35	0.05	0.39	.13	0.26	.11	0.25
International migrant	0.08	0	0.03	0.16	0.09	0.07	0.05	0.35
# in agricultural work	1.9	2.0	2.1	1.7	1.2	1.7	2.1	1.7
# in non-agricultural work	1.0	1.0	1.0	1.9	2.0	0.9	1.0	0.9
% off-farm income	33%	44%	42%	67%	40%	31%	51%	65%
MODHUPUR	1994	2001	1994	2001	1994	2001	1994	2001
Own cultivation	1.59	0.25	1.81	0.40	1.75	0.31	1.80	0.57
Other agricultural self-employed	0.15	0.08	0.11	0.36	0.08	0.19	0.12	0.31
Field wage labour	0.31	0.56	0.36	0.41	0.44	0.37	0.38	0.20
Bari wage labour	0.03	0.26	0.05	0.08	0.06	0.25	0.02	0.06
Non-agricultural wage labour	0.28	0.54	0.27	0.56	0.31	0.33	0.25	0.43
Business/trade	0.13	0.21	0.14	0.36	0.25	0.13	0.25	0.38
Formal service (government/NGO)	0.05	0.05	0.23	0.14	0.08	0.04	0.02	0.11
Begging/gleaning	0.03	0.15	00	0.11	0.02	0.09	0.03	0.02
Other non-agricultural work	0.10	0.23	0.23	0.22	0.21	0.37	0.21	0.22
Rural migrant	0.13	00	0.21	0.03	0.23	0.02	0.20	0.03
Urban migrant	0.28	0.10	0.33	0.04	0.25	0.19	0.23	0.10
International migrant	0.18	00	0.07	00	0.07	00	0.14	0.01
# in agricultural work	2.1	1.0	1.4	1.3	2.3	1.1	2.3	1.1
# in non-agricultural work	0.6	1.2	0.9	1.4	0.9	1.0	0.8	1.2
% off-farm income	48%	64%	50%	67%	57%	59%	64%	68%

overwhelmingly female activity, which consists of post-harvest processing of grains and vegetables and various forms of domestic work (cooking, cleaning etc). In Modhupur, the rise in wage labour was largely non-agricultural and including transport work, such as rickshaw pulling and tempo drivers, working on construction sites, loading goods and so on.

Involvement in business and trade, which included a variety of activities such as running small grocery shop, trading in fertilizer, rice, wood collection and so on, declined over time in Chandina, but involvement in other forms of off-farm activity increased. This includes 'formal service' i.e. employment in both government and NGO sectors, as well as 'other' activities, which included artisan production, handicrafts and a range of other, non-specified off-farm activities. There was also a rise in the incidence of migration, urban as well rural, for most categories but a particularly large increase in international migration among the ascending and the never poor. In Modhupur, by contrast, migration of all kinds declined over time for all groups while involvement in business and trade increased, particularly for the ascending and never poor.

The final three rows in the table help to summarise this information. They tell us that while patterns of involvement in agriculture and off-farm activities varied over time in the two regions, what the two locations had in common was a discernible movement out of agriculture into the off-farm economy by the upwardly mobile. Indeed, with the exception of the downwardly mobile group in Chandina, all other categories of households reported an increase in the percentage of their total income coming from off-farm activities.

While economic activities have not been disaggregated by gender in Table 6, some comment on this aspect of household livelihoods is necessary before we conclude our discussion. A number of the activities listed in the table were clearly gendered: bari-based wage work is entirely carried out by women while begging was also more often reported by women than men. However, over 80% of women (aged 14+) in our survey households were classified as 'own cultivators' in the 1994 (compared to just 34% of men) while over 80% were classified as 'housewives' in 2001. It is extremely unlikely that so many more women than men would have been engaged in 'own cultivation' in any particularly year. It is also extremely unlikely that this vast majority simply ceased to be economically active by 2001. Instead, the explanation lies in a change in terminology⁴. Women, and their husbands, tend to describe any form of work done by women that is not directly paid an income in extremely general terms as 'work around the house: this response was classified as 'own cultivation' in 1994 and 'housework' in 2001.

We have not included this category in the table.⁵ Not only does it not provide any useful information, but it conceals the changing nature of women's work in the study locations. Most women who describe themselves as doing 'housework' continue to be active in forms of work that can be carried out within or around their homesteads: livestock rearing, growing vegetables, paddy husking, handicrafts, small businesses and so on. The expansion of micro-finance lending targeted to women has increased their economic involvement, whether in their own or their husband's business. In addition, many also now work alongside their husbands in cultivating their own fields, mainly in weeding and transplanting.⁶

The wage labour done by women, mainly women from the poorer households, has also changed over time. The 1980 survey of these villages was carried out at a time when rapid mechanization of the rice husking process was occurring. This posed a major threat to women from landless households for whom processing rice for wealthy cultivators had constituted their main source of paid work (Greeley, 1987). However, increasing yields to agriculture as a result of the spread of new technology continues to generate bari-based employment for landless women. In addition, women have also begun working in the fields in larger numbers in recent years, particularly in the cultivation of vegetables for which they are often paid in kind. It is likely that our survey data underestimated this form of activity – only 9 out of the 2062 female aged 10 and over were classified as agricultural wage labour in the 2001 survey, despite the large numbers observed in the fields of the study villages harvesting potatoes and other vegetables in season. The reluctance to admit to this form of work may have been because it was considered to violate purdah norms or simply because it revealed the poverty of the household. Some of the women interviewed said that such work was done only by social excluded 'others' within their communities: lower caste Hindus or Garos. However, it was obvious from some of the interviews that this was not the case and that many women from poorer Muslim households were also taking up such work. Extract from an interview with women in Modhupur on the changing nature of women's waged work:

Women get wages in the cultivation of vegetables, they weed cucumber, jhinga, potol. But not in the amon crop – this is done by Garo women. But women working in the fields for their families or for wages began increasing around 7 or 8 years ago. Now a female wage labourer can get 50 taka a day while male gets 80. All without food. With food, women get 20 and 3 meals a day. Men may get 50 or 60. You can get weeding work for 40 days or so. The demand for labour is increasing because on the same piece of land, you can grow marrows, then wheat and then vegetables such as potol, jhinga, cucumber. So land is never left fallow. Before you only had aus rice and then left the land fallow.

Extract from an interview with women in Chandina on the changing nature of women's waged work:

Women don't work in the fields all year round but right now they are picking potatoes and weeding; they are mainly Hindu, they are poor but there are also women from some Muslim households, those who are poor. They will get something, they will be able to eat. Many women pick potatoes. Then there will be kesari dal, wheat, peas; they will pick it and bring it home but they don't harvest wheat. Before Hindu women did it, not Muslims. Before my father-in-law used to grow tobacco, Hindu women would pick it. Now Muslim women have to go, there is nothing for them to do at home. Now men and women have equal rights, if men can work, so must women.

The other form of female economic activity that may have been underestimated is migration into towns for work. Although the survey data contained very low estimates of female migration, the qualitative interviews in the Chandina villages threw up frequent references to migration into urban areas by women from poorer households; many were working as domestics in the nearby town of Comilla. Others had gone to work in garment factories in Dhaka. Some of the remittances reported by households are thus likely to have come from these women. However, there were no reports of women undertaking international migration.

4. Human resources, material assets and livelihood activities: multivariate analysis

This statistical description of different categories of households in the two study villages draws attention to some of factors which are likely to explain why they fared so differently over time. They include changes in the human resource base of households associated with changes in its age and gender composition of its membership and the gender of its head as well as the uneven pace of improvements in the health status of its membership. They also include differences in the capacity to adopt irrigation, to access NGO loans and diversify their livelihood strategies.

In the next stage of the analysis, we use multivariate regression analysis to assess the relative contribution made by these different factors in explaining movements in and out of poverty during the period under study. We do this by first of all estimating the determinants of household income in 1994 and 2001 for all households classified as *below* the poverty line in 1994: differences in the sign and significance of the determinants in the two years will allow us to make inferences about which of a range of possible determinants helped to explain upward mobility and which were associated with chronic poverty. We then carry out the same exercise for all households that were classified as *above* the poverty line in 1994 in order to establish what differentiated those who remained above the poverty line in 2001 (the never poor) from those who declined into poverty (the downwardly mobile). The dependent variable in our regression

analysis is the log of income per adult equivalent while the independent variables measure the different resources and activities discussed in the preceding section. Explanations for variables used in the regression are explained in the Appendix. The results for Chandina are reported in Table 7 while those for Modhupur are reported in Table 8. The first two columns in each table report on the determinants of per capita income in 1994 and 2001 for households that were classified as poor in 1994. The second set of columns report on the determinants of per capita income in 1994 and 2001 of all households that were classified as above the poverty line in 1994.

Starting with the first set of columns in Table 7, we find that while household size was an important determinant of poverty in both years for those households who began out below the poverty line in 1994, the effect of number of elderly members became less significant over time while the effect of number of children and adults became more significant. Ill health and disability also became increasingly important over time as a determinant of poverty as did the education of household head but female headship was no longer significant in 2001.

In terms of material assets, land ownership appeared to have grown less important over time in determining income mobility but access to irrigation was and remained important. Access to loans is also likely to have played a role in explaining upward mobility. As far as livelihood activities were concerned, upward mobility appears to have been strongly associated with diversification out of agriculture mainly into business, into non-agricultural wage labour and migration of all sorts - rural, urban but particularly international. Chronic poverty, on the other hand, reflected, not only the failure to diversify, but also reliance on low-return activities like agricultural wage labour and begging as the main source of livelihood.

Human resource variables also played a role in explaining differences in the trajectories of households that were classified as above the poverty line in 1994. Once again, the burden of dependency, as measured by number of children and of elderly, economically inactive or incapacitated adult members, was important and became increasingly so in differentiating how households in this category fared. The education of household head also assumed greater importance over time as did access to NGO loans. However, land ownership played a more significant role in explaining variations in income over time in this group than it had for those who

Table 7. Determinants of per capita income for households in 1994 and 2001 by poverty status in 1994: Chandina

CHANDINA	<i>Below poverty line in 1994</i>				<i>Above poverty line in 1994</i>			
	1994		2001		1994		2001	
<i>Intercept</i>	3.524	92.659 (0.000)	3.894	90.947 (0.000)	3.860	128.188 (0.000)	3.895	121.557 (0.000)
Children	-0.007	-1.224 (0.222)	-0.033	-4.463 (0.000)	-0.019	-3.259 (0.001)	-0.033	-5.060 (0.000)
Adults	-0.013	-1.399 (0.163)	-0.020	-1.820 (0.070)	0.000	0.027 (0.979)	-0.014	-1.691 (0.092)
Elderly	-0.028	-1.696 (0.091)	-0.024	-1.205 (0.229)	0.012	0.805 (0.421)	-0.026	-1.497 (0.135)
Female head	-0.125	-2.808 (0.005)	-0.057	-1.3999 (0.163)	-0.030	-0.497 (0.620)	-0.062	-1.544 (0.123)
Ill/disabled	-0.012	-0.996 (0.320)	-0.058	-2.078 (0.039)	-0.033	-2.647 (0.008)	-0.066	-2.413 (0.016)
Head's education	0.001	0.254 (0.800)	0.006	1.593 (0.113)	-0.004	-1.404 (0.161)	0.008	2.752 (0.006)
Land owned	0.044	1.922 (0.056)	0.007	0.168 (0.867)	0.066	6.760 (0.000)	0.053	4.493 (0.000)
Land irrigated	0.086	2.269 (0.024)	0.082	1.899 (0.059)	0.091	4.878 (0.000)	0.031	1.423 (0.156)
Cattle owned	0.006	0.497 (0.620)	0.018	1.433 (0.153)	-0.021	-2.618 (0.009)	0.005	0.506 (0.613)
# of loans	0.007	0.827 (0.409)	0.010	2.289 (0.023)	-0.007	-0.794 (0.428)	0.007	1.714 (0.087)
Agric. self-employed	-0.006	-0.796 (0.427)	-0.001	-0.070 (0.945)	0.002	0.296 (0.767)	0.023	1.938 (0.053)
Agric. wage labour	0.007	0.474 (0.636)	-0.055	-4.033 (0.000)	0.013	0.882 (0.378)	-0.022	-1.218 (0.224)
Business/trade	-0.017	-0.804 (0.422)	0.118	3.973 (0.000)	-0.012	0.565 (0.572)	0.104	4.051 (0.000)
Formal service	-0.016	-0.456 (0.648)	-0.021	-0.679 (0.498)	-0.028	-0.772 (0.441)	0.062	2.002 (0.046)
Non-agric. wage labour	-0.003	-0.163 (0.871)	0.051	1.915 (0.057)	0.032	1.728 (0.085)	0.046	1.597 (0.111)
Begging	0.024	0.470 (0.639)	-0.081	-2.460 (0.015)	-0.033	-0.807 (0.420)	-0.011	-0.266 (0.791)
Other non-agric. work	-0.034	-1.276 (0.203)	0.051	0.704 (0.482)	0.056	2.195 (0.029)	0.074	2.650 (0.008)
Rural migrants	-0.056	-1.852 (0.065)	0.046	1.567 (0.118)	-0.051	-1.501 (0.134)	-0.043	-1.124 (0.262)
Urban migrants	0.011	0.452 (0.651)	0.028	1.621 (0.106)	0.009	0.350 (0.726)	-0.010	-0.444 (0.657)
Intl migrant	0.034	0.935 (0.351)	0.318	8.040 (0.000)	0.058	1.517 (0.130)	0.219	9.753 (0.000)
N	246		246		463		463	
Adjusted R²	0.07		0.44		0.22		0.40	
F	1.894 (0.014)		10.599 (0.000)		7.431 (0.000)		16.930 (0.000)	

started out poor while the significance of access to irrigation diminished over time. Households that remained in cultivation over the study period were less likely to have fallen below the poverty line as were those that succeeded in diversifying out of agriculture into business and trade, into formal service, into non-agricultural wage labour as well as other forms of non-agricultural activities. And while national migration did not play a particularly important role in explaining income variations over time for this group, international migration was strongly associated with upward mobility.

Turning now to those that were classified as poor in Modhupur in 1994, it is worth pointing out first of all that, partly due to the small size of the sample, the equation performs extremely poorly in terms of explanatory power. Bearing this in mind, the results suggest that the presence of children, elderly members and ill/disabled members and female household headship were likely to have curtailed movements out of poverty for this group while education of household head, access to irrigation and the capacity to diversify into business and trade are all likely to have promoted it. While some households in this category had benefited from international migration in 1994, none of this category reported such migration in 2001.

The explanatory power for the equation is greater for the larger sample of households that were classified as above the poverty line in 1994. For this group, illness does not appear to constitute a major burden but other aspects of the household's dependency ratio, including the number of young and old members, do. Female headship appears to be associated with greater poverty in this group and is also likely to have resulted in some downward mobility. On the other hand, households that were most likely to have avoided the decline into poverty were those which had educated household heads, owned land and cattle, were able to access irrigation and, less significantly, NGO loans. Once land ownership and access to irrigation were controlled for, engagement in cultivation had little effect in raising household income. Instead, the capacity to diversify into business and formal service and to send a member abroad for work were associated with higher levels of income over time. Conversely those households that remained in, or resorted to, agricultural labour were likely to have been among those that became poor by 2001.

Table 8. Determinants of per capita income for households in 1994 and 2001 by poverty status in 1994: Modhupur

MODHUPUR	<i>Below poverty line in 1994</i>				<i>Above poverty line in 1994</i>			
	1994		2001		1994		2001	
<i>Intercept</i>	3.598	60.119 (0.000)	3.813	52.787 (0.000)	3.982	110.185 (0.000)	3.970	118.127 (0.000)
Children	-0.011	-1.008 (0.316)	-0.024	-1.696 (0.093)	-0.033	-4.162 (0.000)	-0.038	-4.356 (0.000)
Adults	-0.015	-0.913 (0.363)	0.001	0.050 (0.960)	-0.013	-1.414 (0.158)	-0.010	-1.073 (0.284)
Elderly	-0.008	-0.273 (0.785)	-0.053	-1.487 (0.140)	-0.031	-1.679 (0.094)	-0.096	-5.113 (0.000)
Female head	-0.066	-0.977 (0.331)	-0.081	-1.541 (0.127)	-0.107	-2.038 (0.042)	-0.078	-1.979 (0.049)
Ill/disabled	-0.051	-1.869 (0.065)	-0.089	-1.964 (0.053)	-0.033	-1.115 (0.266)	-0.035	-1.167 (0.244)
Head's education	-0.011	-2.560 (0.012)	0.009	1.448 (0.151)	-0.001	-0.165 (0.869)	0.011	3.467 (0.001)
Land owned	0.031	0.764 (0.447)	-0.024	-0.430 (0.668)	0.073	6.282 (0.000)	0.047	2.846 (0.005)
Land irrigated	0.019	0.619 (0.537)	0.069	1.538 (0.128)	0.014	1.284 (0.200)	0.059	3.173 (0.002)
Cattle owned	-0.006	-0.342 (0.733)	0.027	1.107 (0.271)	0.011	1.311 (0.191)	0.020	2.185 (0.030)
# of loans	-0.002	-0.927 (0.356)	0.002	0.443 (0.659)	0.002	1.042 (0.298)	0.003	1.540 (0.124)
Agric. self-employed	-0.019	-1.790 (0.077)	0.003	0.100 (0.920)	0.006	0.873 (0.383)	-0.004	-0.254 (0.799)
Agric. wage labour	0.026	0.960 (0.339)	-0.023	-1.143 (0.256)	-0.017	-0.794 (0.428)	-0.043	-2.606 (0.010)
Business/trade	0.005	0.101 (0.919)	0.069	1.705 (0.091)	-0.025	-1.027 (0.305)	0.105	4.116 (0.000)
Formal service	0.067	1.173 (0.244)	0.011	0.212 (0.832)	-0.075	-1.131 (0.259)	0.096	2.600 (0.010)
Non-agric. wage labour	-0.040	-1.256 (0.212)	0.041	0.966 (0.336)	-0.007	-0.273 (0.785)	0.035	1.309 (0.191)
Begging	-0.026	-0.169 (0.866)	0.016	0.329 (0.743)	0.030	0.556 (0.579)	-0.037	-0.600 (0.549)
Other non-agric. work	-0.018	0.450 (0.654)	0.058	1.147 (0.254)	0.008	0.318 (0.751)	-0.014	-0.521 (0.603)
Rural migrants	0.010	0.258 (0.797)	0.013	0.108 (0.914)	-0.013	-0.542 (0.588)	-0.080	-1.204 (0.230)
Urban migrants	0.023	0.958 (0.341)	-0.022	-0.355 (0.723)	0.029	1.528 (0.127)	-0.039	-1.262 (0.208)
Intl migrant	0.076	1.703 (0.092)		-----	-0.038	-1.289 (0.198)	0.312	3.094 (0.002)
N	111	111		111	360		360	
Adjusted R²	0.02	0.02		0.17			0.35	
F	1.132 (0.333)	1.132 (0.333)		2.156 (0.008)	5.143 (0.000)		10.686 (0.000)	

Taken together, our regression results provide us with a broad idea of the factors which were associated with upward and downward mobility in the two study locations. They tell us, first of all, that the burden of economic dependency was important in both locations in curtailing upward mobility. Economically dependent household members were primarily children and those incapacitated by illness or disability, but also in some cases older and other economically less active and inactive adults, who were most likely to be women.⁷ Households headed by women were more likely to be poor or to become poor, particularly in Modhupur, while those headed by educated males were more likely to experience upward mobility.

Land ownership appeared more important in preventing downward mobility among those who started out above the poverty line than in explaining upward mobility among those who started out poor. The effects of access to irrigation was also positive but appeared to have greater significance in Modhupur. The significance of other material assets also varied somewhat between the two locations, reflecting differences in their local economies. Ownership of livestock declined in significance over time in Chandina, but helped to curtail downward mobility in Modhupur.

The effect of access to NGO loans is also worth comment. It appears to have been of greater significance in Chandina where it helped to explain upward mobility among the poor as well as preventing downward mobility among the non-poor. In Modhupur, on the other hand, where access was more widespread and had been established over a longer period, its significance was much weaker, particularly among those who started out poor. There are a number of reasons why this might be the case. It may reflect the fact that the local economy in Modhupur has reached market saturation as far as the kind of livelihood activities that microfinance promotes among the poor. It may reflect considerable 'leakage' to the non-poor, a finding reported for the area by Matin (1998) and attributed to increasing rates of loan disbursement in the area since the early 1990s Or it may reflect the very small size of the sample households classified as poor in 1994 in this area.

Finally, our findings make the important point that certain categories of livelihoods were more likely to act as 'ladders' to greater prosperity while other appeared to operate as 'snakes' or 'traps'. While own cultivation was most often reported by the never-poor in both locations, our regression results suggest that it was not particularly important in determining *movements* in and out of poverty. Instead, the most important livelihood ladders identified by our findings were

business and trade followed by international migration. Also important were non-agricultural wage labour, ‘other’ non-agricultural activities and formal service. The activities which appeared to act as poverty traps, on the other hand, were agricultural wage labour, both field based and bari based, and begging. Table 9, which reports on the correlations between these livelihood activities and different aspects of the household resource base, provides us with a clearer idea of the kinds of households that were able to take advantage of these activities. It signals the importance of various material assets in allowing this to happen, but it reaffirms once again the importance of the household human resource base in differentiating the capacity of households to avoid or escape livelihood ‘traps’ and to attain livelihood ‘ladders’. We will return to findings reported in Table 9 in the course of the next section.

Table 9. Correlations between livelihood activities and household resources

	Land owned	Cattle owned	Irrigated land	# NGO loans	Female household head	No adult males	Head’s education	Spouse’s education	No educated adults
Own cultivation	0.463**	0.444**	0.488**	-0.039	-0.127**	-0.125**	0.126**	0.057	-0.275**
Business	0.071*	0.111**	0.162**	0.167**	-0.099**	-0.082**	0.102**	0.073*	-0.107**
Formal service	0.186**	0.101**	0.063*	-0.048	-0.004	-0.049	0.350**	0.227**	-0.183**
Other non-ag.	-0.140**	-0.094**	-0.110**	0.075**	0.099**	0.128**	-0.025	-0.092**	-0.050
Non-agric. labour	-0.208**	-0.150**	-0.089**	0.046	-0.108**	-0.142**	-0.217**	-0.159**	0.114**
Intl. migration	0.280**	0.155**	0.059*	-0.136**	-0.010	-0.069*	0.091**	0.099**	-0.170**
Agric. labour	-0.195**	-0.130**	-0.119**	-0.039	-0.040	-0.021	-0.249**	-0.177**	0.125**
Bari-based labour	-0.130**	-0.123**	-0.117**	0.050	0.189**	0.215**	-0.116**	-0.105**	0.130**
Beggar	-0.081**	-0.108**	-0.076**	-0.059*	0.174**	0.175**	-0.098**	-0.092**	0.105**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

5. Interpreting the findings: snakes, ladders and traps

The survey data provide us with some important insights into the factors which are likely to have contributed to the movements in and out of poverty by households in our study villages, the snakes, ladders and traps of our title. This section of the paper discusses these factors in greater detail, drawing on our qualitative interviews for a better understanding of how these operated in the context of people’s lives. In Sen’s analysis of poverty dynamics in rural Bangladesh, referred to in an earlier section, he suggests that improvements and deterioration in

household income levels over time could be traced to three sets of factors: 'structural' (e.g. loss or gain of land, access to, or exclusion from, institutional lending) 'lifecycle' (working age sons, only one earner in the family, abandonment by husband, high dependency ratio) and idiosyncratic (factors particular to the household including 'good luck' or misfortunes of various kinds). I will be discussing the extent to which these categories captured the key factors raised by our analysis. In addition, I will also touch on the question with which Sen concludes his analysis: to what extent do the attributes of individual members, their willingness to save, their aspirations, their entrepreneurship or – alternatively - their lack of these attributes, play a role in determining the upward trajectory of their households?

Ladders

The explanations provided by those who considered themselves to have experienced an improvement in their economic circumstances over time did indeed invoke the image of movement up a ladder, rung by rung, sometimes slipping temporarily in the face of some setback, but managing to climb back on. The ladders described were most often livelihood ladders. In some cases, households had climbed up rung by rung of a single livelihood ladder, starting with small livestock and moving to large livestock; sharecropping in land, later leasing and subsequently purchasing it; driving rented rickshaws, then driving their own and then hiring out rickshaws as a business. More often, they moved between ladders. These movements are illustrated in the two cases of ascending households described below.⁸

Upwardly mobile households:

Case study 1: I remember the first survey (1980). We were very poor then, we had no land, we lived on my father-in-law's homestead land but ate separately and had our own hut made up of straw and sticks. My husband had studied till Class 5, I am illiterate. We have 3 sons and 3 daughters. My husband started out driving a rented rickshaw and later became a daily agricultural labourer. I used to buy paddy, which I boiled and husked at home for him to sell. None of our sons were able to go to school, but started labouring the field from an early age. They have not grown up very healthy as a result.

I took on a goat on a share-raising basis. When it had two kids, I reared them. I returned one to the original owner and sold the other for 1000 taka. With the money, I bought a calf which I reared. Once it began to have calves of its own, we were able to start selling milk in Modhupur bazaar. This gave us the funds to buy more cows. My husband's uncle gave us some homestead land on which we were able to build our own hut. Then I took some loans from Buro Tangail and Proshika. We used the Buro Tangail loan to construct our hut and paid it off with earnings from selling milk, so you could say we built our house with

milk! We used the other loan to mortgage in land on which we first planted rice, but later we switched to vegetables – cucumbers, as the prices were more favourable.

Over time we have been able to add to our holdings with our earnings from the cows and now we own 120 decimals. My husband no longer works as an agricultural labourer. He cuts grass to feed the cows and sells the milk. He also earns a bit of money registering land (amin-giri), because he has some education. He has only Class 5 education but it is as good as the Matric⁹ people get these days. I work in the vegetable field, weeding and tying up the vegetables. Now vegetables have become so profitable, all family members, men as well as women, give labour in the field. I work only on our own field but there are many women in the area who work for wages on other people's fields.

Our sons are now grown up. One works as a fisherman and has borrowed money from his Fishing Society to buy his equipment. We married off a second son and with the dowry set him up in a business in Modhupur town providing lighting, chairs, tables and so on for weddings and other festivities. His wife helps me look after the cows...the grass is free. Our older daughter studied till Class 7. We married her off but did not have to pay any dowry because she is considered very beautiful. The other daughters are in school. According to us, some people have done well in our village, some have not. Seven of my cows in all have died. But we have worked hard. I used to husk one maund of paddy every day. God helps those who work hard. And though we are still unable to save much money, we are better off.

Case study 2. My father had sold off what little land we had before he died. I could not go to school. I had to start earning my living from the age of 15 as a permanent labourer. I was given food, a place to stay and an annual wage. I used what I could save from this annual lump sum to buy some homestead land. When I got married, I was given 3000 in dowry. I used that to mortgage in 15 decimals of land. My wife grew vegetables on the land – just one or two marrows at that time, it was so little. Now we mortgage in 70 decimals.

I do contract labour now. Both daily labour and permanent labour has declined in our area. There are 30 in my gang. We work from 8 in the morning to 8 at night. But I come home for lunch and do a bit of work around our land. Right now we are loading trucks with fruits. On a good day, I earn 100 taka; on a bad, about 20-40. We have formed a samity – 62 of us. We have an office in the town. We give 10 taka monthly as our subscription. If you do not pay for 3 months, you are dropped. We have got a TV there.

The gang I am in is 15 years old. We started one 3 years ago but then merged with this one. Before we worked for others as wage labour, now we work for ourselves. We have more freedom, we rest when we need, come home when there is a problem. For 6 months I do coolie labour, for 4 or 5, I work as contract labour. Around 8 years ago, my wife took a loan from Proshika. We used 2000 to pay for a tin roof for our house and 4000 for a calf. Over time, this has built up to 2 cows and 3 calves. But I object to loans – you have to repay every week, no matter what your situation. I would rather not eat than have to make other sacrifices to pay off the loan.

My children go to school. You need education for everything, even agriculture and household work, to keep track of what you have spent. We got wheat for sending the girl, now they are going to give money. I prefer wheat, you can eat it. Money disappears. My

wife has some education – till Class 5. She looks after the cows and weeds the land. We decide everything together. She keeps the money. Before we went without meals, now we eat our own rice and our own vegetables. We only have to buy oil, salt and dal. However, we mostly sell our vegetables, we eat only those that would fetch half price. Before people like me worked as permanent labour, now we work for ourselves. Before we had one *chon ghor* (thatched house). Now we have 3 ghors and all are tin. We do not hire any labour to help out, we rely on our own. Some people hire in labour so they have the leisure to roam around, but for us, that is a waste of money.

In the first household, the male head had started out as a daily agricultural labourer. Its upward mobility began with sharecropping in a goat which later progressed to one, and then several, kinds of livestock. While the household had diversified its activities, livestock remained the base of its economy. The head of the second household had moved out of permanent agricultural wage labour, with its restricted terms of employment, into contract wage labour outside agriculture. He also worked with his wife in vegetable cultivation on their gradually expanding mortgaged-in holdings and in livestock rearing.

What is striking in both the case studies, as well as in the other interviews we carried out, was not only the extent to which improvements in the households' economy depended on the collective efforts of its members, but also the role played by women in these efforts. In both these case studies, the marriage was relatively harmonious: husband and wife combined their separate and joint activities to promote the joint welfare of the household. As one of our respondents put it, 'the prosperity of the household depends on every one pulling in the same direction'. Pulling in the same direction did not *guarantee* upward mobility, but it certainly helped.

However, while certain livelihoods were more likely to act as ladders out of poverty than others, it was the households' capacity to take advantage of emerging opportunities, to gain at least the first rung of a livelihood ladder, that provided the underlying cause of the observed differences in economic trajectories. Table 9 provides some idea of the kind of resources which enabled such a capacity. The ownership of land was clearly important as the basis on which households were able to climb onto one of the livelihood ladders, although 'own cultivation' did not feature as one of these ladders. Those with larger holdings were able to generate the surplus necessary to invest in enhancing the productivity of their efforts: purchasing agricultural technology to increase agricultural yields or educating children for formal sector employment, setting up businesses or funding a family members to go abroad.

However, such advantages were mainly confined to the better off; while landownership served to differentiate the economic trajectories of households above the poverty line, it played very little role in differentiating between those below it. Instead, the human resources at their disposal were a key factor enabling upward mobility among land-poor households. While the earnings of a single member were generally not large enough to generate a surplus, those who had reached a stage in their life course when they drawing on the earnings of more than one member could, by dint of sheer hard work and pooling of resources, accumulate enough to get onto at least the bottom rung of a livelihood ladder. The characteristics which differentiated poor households which had experienced income gains from those with static or declining incomes were precisely the characteristics associated with livelihood ladders in Table 9 and indicated the availability of a healthy, economically active labour force with some degree of education.

An alternative, or additional, route onto a livelihood ladder for households unable to generate a surplus through their earnings was through the external injection of funds. Sources of such funds varied. In some cases, as our case study shows, the dowry that had been brought in at marriage was used as start-up capital for a new business. In others, it came in the form of a 'windfall' gain: being leased land interest-free by a kindly landlord, a relative providing homestead land or advancing money to send a family members abroad.

However, the most frequently cited source of external funds reported in our interviews was NGOs loans. The correlation between NGO loans and different livelihood activities reported in Table 9 suggest that such loans were particularly important in assisting households to set up their own business or to diversify into other non-agricultural activities. Information on use of the main loan taken from an NGO since 1994 was collected from all NGO members included in the 2001 survey and is reported in Table 10. It will be seen that around a third of borrowing households used their loans for purposes that would be regarded as 'non-productive', including dowry, repaying informal loans, medical treatment and family consumption. The remaining 60% or so reported using their loans for productive purposes: around 30% on small business and petty trading, a category of activity that has expanded considerably in the study villages between 1994 and 2001; 11% invested in agriculture and another 8% in the land market and 7% in transport vehicles, mainly rickshaws. Borrowers in Chandina were more likely to invest in agriculture while those in Modhupur were mainly used for business purposes.

Table 10. Use of main loan taken since 1994

Loan use	Chandina (n=143)	Modhupur (n= 300)	All households
Family consumption	4%	7%	6%
Agricultural investment	18%	8%	11%
Repaying informal loans	9%	6%	7%
Purchase of transport vehicle	3%	9%	7%
Investment in land markets	7%	8%	8%
Dowry	3%	2%	2%
Business/trade	40%	23%	30%
Medical treatment	0%	3%	2%
Other non-productive use	11%	12%	12%
Other	1%	4%	3%
Not stated	5%	15%	12%

Figures may not add up to 100% because of rounding.

Snakes....

The 'snakes' in our study location were made up of the circumstances, events and processes which led to declines in the resource base that households were able to draw on, and, as a consequence, in the kind of livelihood portfolios they were able to assemble. Our descriptive statistics on differences between different categories of households suggest that, over time, downwardly mobile came to share a number of characteristics in common with chronically poor households. Both groups had become increasingly female headed by 2001, and, partly as a result, were less likely to have any adult male members; they also reported higher percentages of ill members than the rest of the population, higher percentages of households with no educated adult members and were more likely to be found in poorer paid activities than the rest of the population - traditional forms of cultivation, agricultural wage labour, bari-based wage labour and begging.

Many of these characteristics were products of circumstances that were beyond the control of the individual household. The case studies of households that experienced downward mobility described below provides examples of what these might have been. In the first of the case studies, the ill health of the household head had turned his attempt at international migration from a potential ladder into a financial loss, which was further exacerbated by the disastrous effects of the floods on his subsequent attempts to trade in fish. In the second case study, the

family circumstances began to decline when the household head was cheated out of a large sum of money in the course of doing business. Since his wife had borrowed the money, she found herself saddled with responsibility for paying off the debt in the face of her husband's irregular contributions. Here illness play a role in prolonging rather than precipitating their slide into poverty.

Downwardly mobile households

Case study 3 We have five children - four daughters and one son; he is youngest, he is 4. I have no education although my wife can read and write letters. I have no land of my own. I used to have some but it was all sold off to pay for going abroad. I lost a lot of money. I lost 2 lakhs of money. When I went to Saudi Arabia, I fell ill, it was an allergy. I would swell up in the sun. I was only there for a very short time. I had to come back. My land was all gone. I tried to farm fish, but I lost a lakh and half because of the floods. I got some interest-free loans from people to tide us over. I still owe 30,000. I had mortgaged in the pond. The water came up to here, it washed away my fish. We bought a boat and transported people. That is how we survived. But I am still suffering from the collapse of my fish enterprise.

I work for others, I do what I can. I work in the field. We are always falling short of food. If I don't get work, we go short of food. We have never gone to Grameen. Our problem is that this is a Mollah bari, we have status to maintain. Even if we are hungry, our women will not go out and work in the fields. We are willing to be hungry, but they should not work in the field. My brother works in BDR <Bangladesh Rifles>, he sometimes helps out at Eid. This is always the way it has been. My hardest time is now, after the floods. I am now nearly destitute. I have nothing. If I earn 20, 30 or 40 a day, it is not enough. There are so many mouths to feed. I borrow from neighbours without interest and I return it when I can. I do some fish business. But I won't go to Grameen, I could not tolerate that. I see from people in this area that they have to give 120 weekly. I would not be able to accumulate that much in a week, how could I pay it? I would rather suffer.

I was happiest when I knew I was going to Saudi Arabia. I had suffered all my life but I thought I would have the chance to earn some good income, I would save. I would be paid 5000, I would get by with 2500 and I would save the rest. But that was all ruined. However, I did manage to give my wife enough money to buy a sewing machine. So she earns a bit of money with that. But our situation is very bad, the kind of bad there is no end to.

Case study 4 My husband and I are both illiterate. We have two girls and a boy, none have been to school. They are all married now. My son drives a rented rickshaw in Dhaka. He sends money and comes back regularly. His wife and two children live with us. My husband works as a coolie in a gang. We started out very poor, food was scarce, our hut was made of straw. My husband used to work as a daily agricultural labourer and then he became a permanent labourer. After that he started to work as a contract labourer. I was one of the first in this village to join Grameen Bank. That was around 1981. I started to take loans every year for 13 years. My husband would pay off the instalments. I started out with paddy husking. My husband would sell the processed rice, but I did all the other work, including going to the mill to get it husked. We used the loans to purchase a tubewell, we built a tin roof house and our family prospered.

Our misfortunes started 8 years ago. I had taken out two loans within a space of 3 months: one seasonal and one regular. This amounted to 16,000 taka. My husband used the money to buy jambura (grapefruit) and bananas to sell to a wholesaler in Chittagong, but his cousin-brother owed this man money. So the wholesaler saw his opportunity: he took the goods from my husband but refused to pay for them. Now I had to find a way of repaying the loans. My group members put pressure on me, I sold my door, my bed, my gold nose-ring ...but this was not enough. I was angry with my husband and went off to Dhaka on my own by bus. I worked as a domestic servant. I earned 400 each month plus food. I used some of the money to pay back the loan. Then I came back and started working in a rice mill nearby. I would get broken rice in payment which I sold to feed myself and to continue to repay the loan. But my health began to suffer. I could not keep up the work. I began to work in people's homes. I would get 300 a month. But I was constantly falling ill and having to stay at home and take medicine. Finally they diagnosed I had a tumour. I had to have an operation last year in Mymensingh Medical College. I raised 5000 taka from the samity and 5000 from people in village on 100% interest. I repaid the samity. This year I borrowed another 10,000 from the NGO to repay the neighbours.

We are still in debt. My husband helps with the payment but he gambles a lot. He does not work regularly. He got work for 2 or so days last week; he got 300 taka. He gave 235 for repayment. I can't work any more, I can't stand for long or walk very far. I stay at home and sew quilts. In between my husband married again, but it lasted for six months. He returned to me. We got 3000 taka in dowry when my son got married but my husband used it to pay for the wedding feast and then, when the in-laws came to visit, he used it to feed them. He had to pay 4000 dowry for his older daughter. When she remarried, there was no dowry. The second daughter also required dowry: 4000 taka. All the dowry money came from our Grameen Bank loans.

These case studies help to make a point which is also made by Sen (2003) in his analysis: the 'snakes' which led to declines in the economic position of households and the ladders which helped households climb out of poverty were not simply mirror-images of each other. 'Ladders' tended to be the product of the endowments and agency of individual households. Snakes, on the other hand, were more often the product of factors outside the households' control, critical events which began the households' slide into poverty. Illness and floods featured in our first case study while the decline into poverty by the second household began with being cheated out of their capital.

The household survey collected information on what some of these critical events might have been in the five years prior to the 2001 crisis. As Table 11 shows, the single most frequently reported crisis for the population for all categories of households, but for the chronically poor and downwardly mobile in particular, was illness, accident or death in the family. Other forms were far less frequently reported but of these, dowry and general financial hardship were most frequently reported by the chronically poor, dowry and losses associated with international

Table 11. Percentage of households reporting experience of crisis between 1998-2001

	Chronically poor	Upwardly mobile	Downwardly mobile	Never poor
No crisis	30	26	27	39
International migration	0	7	4	8
Family-related problems	4	5	2	4
Death, illness, accident	48	34	43	29
Disputes	1	4	4	3
Dowry	6	13	7	6
Asset loss	0	2	1	4
Loan repayment	1	1	6	2
Cheated	0	1	2	2
General financial crisis	6	4	3	1
Other	4	2	2	0

migration by the ascending and never poor while the downwardly mobile reported dowry and problems of loan repayment. A number of points can be made on the basis of the table.

First of all, although the never-poor were least likely to experience a crisis, there was little difference in the incidence of crisis in the other three categories, suggesting that it is not exposure to crisis per se, or even the particular form of crisis, that impoverishes, but its severity in relation to the household resource base. The same order of crisis will clearly inflict much greater harm, possibly irreversible decline, on households with few assets to draw on than on those with a strong asset base. Health-related crises, in particular, constitute a double jeopardy for poor families when they affect their earning members since they have to shoulder the loss of income as well as the costs associated with treatment. The effects of health related crisis are evident in both the higher incidence of ill/disabled members among both chronically poor and downwardly mobile households and in the significant role that the presence of ill/disabled members plays in differentiating households that made income gains over the period under study from those that did not.

Second, I would argue that what Sen classifies as 'life cycle factors' in his analysis of poverty dynamics tends to conflate structurally-differentiated events and processes and hence conceal their significance. For instance, the implications of birth, death, illness and marriage within the family all differ profoundly by gender. While the illness or death of an earning member has

economic implications for all households, particularly poor households, the illness or death of the male breadwinner is most likely to be associated with a slide into much greater poverty than that of a female, particularly if it leaves the household without an alternative adult male earner. And while high ratios of children to adults within the family in the early phase of the household life cycle may pose similar burdens in the short run, the longer run prospects of the households will be strongly influenced by the gender of these dependents. If the dependents are mainly sons, the period of hardship is likely to be limited, both by his capacity to earn as well as by the dowry he receives on marriage which (as case studies 3 and 4 illustrated) can be used to set the couple up in a new enterprise. If, on the other hand, they are mainly daughters, the household faces a future of extended impoverishment as dowry has to be paid for each daughter in turn.

Thirdly, although snakes and ladders were not generally reverse images of each other, the table does suggest instances where 'ladders' for some represented 'snakes' for others. Thus, while international migration had proved to be a major route to greater prosperity for successful households, for others, it was a route to greater impoverishment. Many had sold their land, used up all their savings, borrowed from others in order to finance at least one member's migration abroad. Where the gamble failed to pay off - because the agent disappeared with their money or the job that was promised was not there - such households found themselves far worse off than they had started. Dowry was another example, impoverishing parents with daughters and benefiting those with sons. Similarly, NGO loans used prudently acted as ladders for many of the households, but plunged others who were less prudent or less fortunate into greater poverty as they found themselves struggling to repay their loans, often having to sell of their assets, in order to do so

However, a fourth point to make, and one which emerges from our case studies rather than from our quantitative data, is the role of 'idiosyncratic' factors which reflected individual agency rather than misfortune. It may have been bad luck that the husband in Case study 4 was cheated in his attempts at business by an unscrupulous trader but there were purposive aspects to his behaviour which also contributed to his family's slide into poverty: his gambling, his failure to allow the dowry they received at their son's wedding to be used productively, his refusal to work on a regular basis. A different kind of agency was exercised by the male household head in Case Study 3 whose reluctance to let his wife go out to work reflected his concerns about their social status. While this was not the reason for the collapse of their livelihoods, it may have been one other barrier to their ability to recover.

....and traps

We turn finally to the factors which led to chronic poverty, preventing around 38% of all households classified as poor in 1994 from escaping out of poverty by 2001. Our findings suggest that certain kinds of livelihoods – agricultural wage labour and begging – constituted poverty traps because they did not provide sufficient income to cover basic needs, let alone generate investible surpluses. However, such activities are ‘proximate’ causes, as much a symptom of chronic poverty as a factor in its perpetuation. Instead, underlying the concentration of poor in these activities, were particular kinds of resource deficits which blocked off the possibility of escape.

In his analysis of the causes of chronic poverty, Sen found that unfavourable starting conditions played an important role in perpetuating poverty. He suggested that the imagery of ‘the vicious cycle of poverty’ was an appropriate one for this group in his study: long-standing landlessness, little or no education, the corrosive effects of illness and hard physical labour on health and productivity combined to prevent these households from generating the necessary savings which would have allowed them to take advantage of increased opportunities in the wider economy. However, Sen’s study covers a much longer period of time (13 years) than our own (7 years) so that the chronic poverty he describes had extended over a longer period than that in our study. Our findings for this group have some similarities but also some differences.

While some of the households in our study may indeed have started out with extremely unfavourable conditions and remained trapped in a ‘vicious cycle of poverty’ of the kind he describes, not all can be characterised this way. Indeed, as we noted, many chronically poor households saw their incomes rise during this period, although not to the extent that it took them out of poverty. It is also worth pointing out that the chronically poor as a group did not start out in 1994 at consistently greater disadvantage than other households below the poverty line in all aspects of their resource base. In both study locations, they began out with similar amounts of land ownership as the ascending and had similar percentages of NGO membership. They also had higher percentages of female headed households in one location but lower percentages in the other. By contrast, the chronically poor in Sen’s study started out more clearly disadvantaged in both material and human terms than other households classified as poor.

It was therefore changes that occurred during the study period which appeared to differentiate those households below the poverty line that escaped poverty and those that remained poor. The findings on households that were classified as poor in 1994 reported in Tables 8 and 9, together, with those reported in Table 9, suggest that households with the following characteristics at the end of our study period were most likely to remain trapped in poverty: poor levels of education of adult members of household, female-head, particularly those with no adult males in their membership; households with large numbers of children; and households with a high incidence of illness and disability. This suggests that, to some extent, the 'snakes' which led to the decline into poverty among those who started above the poverty line also served to trap those who were already poor in their poverty. As a result, the two categories of households had far more characteristic in common at the end of our study period than they had at the start. However, the chronically poor generally ended up poorer by most criteria: they had higher percentage of adults without any education, they owned and operated less land, had less access to irrigation, owned fewer cattle and were less likely to be members of an NGO than other category.

It was thus the factors which weakened their human resource base which explained why poor household remained poor during the course of our study period. It is worth noting that human resource deficits also feature in Sen's analysis of chronic poverty. However, inasmuch as certain kinds of human resource deficits are likely to be temporary phenomenon, we would not expect all of these households to remain in poverty in the foreseeable future. For instance, our findings show that the child dependency burden was a common factor in both locations in keeping poor people poor (and curtailing upward mobility in other groups). Although the spread of education means that children are likely to remain burdens for longer period than before, we would expect the households' fortunes to begin to improve once they become economically active, especially if they are boys. And while returns to the less educated children of the poor are likely to be less, they are also likely to start work earlier. Similarly, the poverty of some of the households in our survey may be of a limited duration if the episode of illness which brought it about is not prolonged, and if the household is able to deal with it ways that do not inflict irreversible consequences.

However, chronic poverty is likely to take on a more intractable character in the case of households whose deficits reflect structural forms of disadvantage. The case studies of chronically poor households described below provide some insights into how resource deficits in

such households translate into longer term chronic poverty. Both are examples of households that not only began out from unfavourable conditions at the start of our study period but whose situation had been unfavourable some time prior to that. The households in these case studies fit better with the image of the vicious cycle of poverty.

Case studies of chronically poor households

Case study 5 My husband died about 14 years ago. He used to have a lot of land - about 4 acres. He had no education. He married twice. Both of us had daughters. I had three; the other wife had just one. My husband ended up selling off all his land because he felt he had no son to leave it to. He used to gamble at cards. He just left us some homestead land. He used to be a farmer but he ended up working as a labourer. He was *ailsha* (lazy). I worked in people's houses. Women did not work in fields then. That only began about 15 or 20 years ago.

My co-wife and I both live on this homestead land in separate huts. One of my daughters also lives on this land but in another ghor with her husband and children. He is a rickshaw puller. Another daughter has returned because her husband has died after illness. Her baby is too young for her to go out to work so I have to feed her.

No one in this bari is educated. But one grandson has married a girl with Class 5 education and would like to educate his son so he can do 'mental accounts'. His wife is teaching them.

At present I am selling cheap snacks (*boot*) within the neighbourhood. I earn 10 or 15 taka a day. Sometimes I work in people's homes for food: I get 2 meals for a day's work: plain fermented rice in the morning, a full meal in the afternoon and then half a kg of uncooked rice in the evening in lieu of rice and vegetables, which I bring home. I start at 6 and finish at 6.

When I have urgent need for money, I cut down a bamboo tree and sell it for around 50 taka. But now I have cut down all the valuable older bamboos and the younger ones do not fetch a price. So I am going through a very difficult time right now. I have very little to eat, I have to beg for food from the neighbours, and my son-in-law. I cannot earn regularly now, I am too old. My daughter helps out when she can. If I am sick, my son-in-law may buy me some medicine. I share a pension allowance with my co-wife. You only get one card per household. We get 600 taka for 6 months. So I get 300 taka for six months. But for a single month you need around 300 or 400 at least to survive. And then we have to spend around 10 taka to get the card plus 4 taka for the stamp. Sometimes they keep some of the money back. We don't get any other help from the government. I tried to raise poultry - my grandson's wife advised me to, she could see my difficulties - but they just died. But no one in this bari has ever taken NGO loans, we don't understand loans.

Case study 6. I live with my wife and granddaughter. I am 60, my wife is about 50. Neither of us is literate. We have no cultivable land, only 5 decimals of homestead land. I used to have some land but we had to sell it in 1986 when I had a severe illness. We live in a small mud hut. I used to work on a BADC farm, but I was sacked. I then became a rickshaw driver, then later a day labourer. But I have not been able to do any work for the past 2 years because I have been sick. My body simply cannot take any more. My wife works as

a domestic in Modhupur. She earns Tk 300 every month and gets food three times a day. We can only eat two meals a day with this money but sometimes we have only enough for one meal a day. I see no way to improve our financial condition as we have no son, only daughters. The daughters live on their own, earning their own living.

2 years ago I had some illness, I sold 3 trees for 3000 taka and my daughters helped by giving Tk 2000 as they saw my suffering. We do not get any help from the government. I did go to the commissioner for help, but he told me that there was not adequate assistance for everyone. Although there were cards for helping the vulnerable, they had all been given to widows. I cannot tell when the government help comes and when it finishes. Only those with whom the commissioner has good relationships will get government help.

There are many reasons why I have been poor for so long. My father died when I was still a child and did not leave enough land behind for his children. He had sold what little land he had to pay for medical expenses for himself and other family members. But our greatest misfortune is that we did not have a son who could earn on our behalf today. Instead we had only daughters for whom we had to spend dowries of Tk 20,000 to Tk 22,000 each. Some years ago in Ershad's era both my wife and I became members of the Grameen Bank. After taking loans 3 or 4 times, we left as it was very difficult to pay the instalments. We bought a rickshaw with the loaned money. Then we bought a cow. We thought we could take the loan, utilise it and improve our financial condition. But we could not do it. It was our misfortune.

Both case studies serve to illustrate the vulnerabilities associated with old age for the poor in societies in which there is very little institutional provision for pension or insurance and where children continue to provide the main, but not always the most reliable, form of support they can expect. There are government safety nets for some vulnerable groups, of course, but they do not always reach those they are intended for. The case studies also reinforce what has emerged elsewhere in this paper as well as in the wider literature: illness as a factor in generating downward mobility and chronic poverty. Illness need not, in and of itself, lead to such an outcome. Instead, what the observed association between ill-health and chronic poverty in our findings reveals are the structural biases of a public health system which systematically and routinely excludes those without the necessary financial resources, leaving them to the mercies of various unregulated private practitioners who may both exacerbate their health condition as well as bleed them of whatever savings or assets they might have (Hulme, 2003).

Our case studies also point to another recognized, but less well documented, factor in the perpetuation of poverty: the asymmetries of gender relations. Both our case studies concern parents who have reached an age when their physical capacity to earn their own living is on the decline but who have no alternative but to continue because they have no *son* to support them. There is, of course, no guarantee that parents who had sons faced a more secure old age.

There were a number of examples in our case studies of ageing parents with sons who were either unable or unwilling to feed them; landless parents in particular had little leverage to ensure that such support would be forthcoming. However, elder parents with no sons were systematically more vulnerable for a number of reasons, some of which we observe in our case studies.

The husband of the female head in case study 5 had married twice. By the time he died, he had sold off most of his land to finance his gambling habits but also because both his wives had produced only daughters and he saw no reason to leave any land behind. In the second case, the couple had to spend a great deal of money on dowries for their daughters, one of routes associated with downward mobility for many households. Although the daughters now earned their own living, they did not earn enough to support their parents nor was it socially acceptable that they should do so¹⁰. The lower value assigned to daughters, the practice of paying out dowry to marry them off, the lower returns to female labour and the strictures against married daughters helping their parents were some of the reasons why ageing parents with only daughters were likely to be more vulnerable than those with only sons.

Gender asymmetries thus intersected with the vulnerabilities associated with old age in explaining some cases of chronic poverty. However, gender was relevant to the perpetuation of poverty through other routes as well. The processes which lead to female headship offer important insights into this. The high incidence of female headed households among the chronically poor and the downwardly mobile are evidence of its association with poverty. The case study by Hulme (2003) of a household located in Modhupur thana provides a detailed account of how the illness and subsequent death of the male breadwinner began the gradual descent of his family into an extended period of poverty. It documents the vulnerability of a widow on her own with a young son to the predations of greedy family members, their exclusion from the political faction which would have enabled access to government assistance for the poor, their inability to participate in NGO microfinance activities and their reliance on a patchwork of activities which provided barely enough to survive: 'casual work, gleaning, borrowing, begging and receiving charity' (p. 8).

However, widowhood is not the only factor behind the emergence of female-headed households. Although 88% of the female heads in our 2001 survey were classified as 'widows', the considerable rise in the incidence of female-headed households between 1994 and 2001 is

unlikely to reflect some sudden rise in mortality rates of husbands. While we would expect to find more widowed women than men in the population, given that men generally marry women younger than them, the actual proportions are unrealistically high: out of 327 women aged 50+ in our 2001 survey, 54% were classified as currently married while 45% were classified as widowed, while of the 426 men in this age group, 96% were classified as married while just 4% were widowed.

Given the reluctance to reveal deserted or divorced status to strangers (only 1.5% of women aged 15+ and 0.3% of men described themselves as divorced or deserted), it is likely that many older women without a husband on the premises described themselves as widowed. In other words, women, particularly older women, are far less likely to remarry when marriages break down than men, including older men. Evidence from our survey that 2% of women in the 50+ age group reported more than one marriage compared to 15% of men bear this out, but both figures are likely to be under-estimates.

Male marital irresponsibility can thus be said to be one factor in the generation and perpetuation of chronic poverty through the creation of female-headed households. In addition, it was apparent from our interviews that other forms of male 'misbehaviour' also played a role in explaining poverty dynamics. Such misbehaviour included gambling, taking drugs, working only intermittently, refusing to support the family and so on. While the irregularity with which men worked in some of the poorer households in our study reflected the toll taken on their energy reserves by the hard physical labour they had to do, in others, it was attributed by wives and neighbours to their laziness (*olosh*) and lack of responsibility.¹¹ What is striking is that none of the men interviewed cited misbehaviour on the part of women as the reason for a household's decline into poverty.

While these various examples of male misbehaviour taken in isolation would be classified as 'idiosyncratic' factors in the perpetuation of poverty, taken together, they assume a more systemic character, manifestations of the asymmetries which characterize relations between women and men in Bangladesh. Forms of irresponsible behaviour which would not be tolerated on the part of women – or even contemplated by most women – are not subject to the same social sanctions when displayed by men nor do they carry the same costs for the individual concerned. A man who abandons his wife will not suffer the economic hardship that a woman who leaves her husband to fend for herself would have to suffer. In other words, it is not that

men are naturally more prone to irresponsible behaviour than women but that they can be irresponsible with greater impunity. The costs of individual male irresponsibility in a society are likely to vary in direct proportion to the social privileging of men as primary breadwinners for their families.

6. Macro-micro linkages: the imprint of past policies

The main focus of this paper has been on the means by which rural households in Bangladesh have sought to take advantage of the changing structure of risks, resources and opportunities which make up their local context. The 'ladders' out of poverty in our study locations were the various economic opportunities available in the local, the urban and the global economy. People were able to climb onto these ladders, partly because of favourable initial endowments, partly because of the actions they took. The decision to have smaller families, to adopt HYV seeds, to send family members abroad, to educate children, to pool resources, to take risks, are examples of such actions on their part which contributed to upward mobility. Those who started out with unfavourable initial conditions put particular stress on the hard work it had taken and the sacrifices they had made. Rarely did anyone describe improvements in their circumstances as a matter of luck or chance.

'Snakes', on the other hand, generally took the form of some misfortune: an illness which plunged the family into a vicious spiral into poverty, a business failure, a natural disaster and so on. While those who had not prospered tended, usually rightly, to blame factors outside their control, we also came across explanations which suggested that a household's slide into poverty, or failure to get out of it, could be attributed in some cases to forms of action taken by a key member: the consumption, rather than investment, of dowry, men's desertion of their wives and children, gambling and other wasteful activities.

However, the ability of households to move into, and out of, poverty cannot be attributed to individual endowments and actions alone. It also reflected changes in the broader environment, of the kind discussed at the start of the paper, changes which altered the scope for purposive action on the part of these households. The analysis in the paper has helped to 'unpack' how these changes at the macro level translated into changing behaviour at the micro-level. In this concluding section, I would like to draw out these macro-micro linkages in greater detail and examine what they tell us about the role of policy in bringing them about.

We observed some of the implications of Bangladesh's demographic transition in our study findings. There was evidence of a decline in fertility even in the relatively short period of time covered by the study. The desire for fewer children which led to this decline reflects a variety of factors, including the perceived cost of raising and educating them (Kabeer, 2001a) while the capacity to act on this desire was expedited by a highly effective family planning program which used female family planning workers to offer door-step delivery of contraceptives to women who were restricted by purdah norms to the home (Simmons et al., 1988). At the same time it is evident from our study that fertility decline has not occurred evenly across the different social groups and that high dependency ratios continue to play a role in curtailing the capacity of poorer households to escape from poverty.

Our findings also confirm the expansion in access to education observed at the national level and that this expansion has occurred in all social classes, although clearly it has gone furthest among the better off. While direct income payoffs to education tend to be concentrated among better-off households in our survey population, the correlation coefficients between different livelihood activities and household characteristics suggest that some basic level of education was necessary to attain livelihood ladders and escape livelihood traps.

The expansion of education in Bangladesh reflects both government and NGO efforts (Hossain et al. 2002). Government expenditure on education has expanded steadily in the 1990s. This has been used to finance a variety of programs directed to the poor and to girl children, including cash for education and scholarships. In addition, a number of NGOs, but GSS and BRAC in particular, have pioneered new forms of informal education which have further helped to close the gender gap in education.

The role of NGOs is also clearly evident in the growing availability of micro-financial services in the study villages. Most of the NGOs in our study were concentrated in the more dynamic of the two locations, a pattern that is repeated in the national context and suggests that NGOs have tended to reproduce, rather than counter, the geographical distribution of poverty. We found that while access to NGO loans played an important role in helping poor people out of poverty and preventing moderately poor people from declining into poverty, there may be a danger of market saturation when too many NGOs are working in an area, competing for the same group of clients: it may be the less well-served areas, like the Chandina villages in our study, where the poor are most likely to benefit from access to NGO loans.

The agricultural economy in our study locations has been transformed by the spread of Green Revolution technology. Here it has been the liberalization of markets in agricultural inputs, rather than state or NGO provision, which explains the rapidity with which the new technology was disseminated over the past decade. Agricultural intensification was in evidence earlier in the Modhupur villages whose favourable agro-ecological situation allowed farmers to respond more rapidly to the opportunities it presented, but it has also spread to Chandina.

The changes in cropping patterns in our study locations – the increase in multiple cropping, expanded acreage under winter rice and the growing importance of potatoes and other vegetables – have been dealt with in some detail by Toufique (2001) and have not been touched on in the analysis here. However, our findings show that that, while ownership of land remains an important determinant of household income, own cultivation as a primary occupation is most likely to be profitable when it is combined with use of new agricultural technologies. In addition, while women remain largely excluded from wage labour in rice fields, the emergence of vegetables as important crops appear to have made it more possible for women to work in the fields.

However, while the study highlighted the continuing economic significance of land, it also suggests that landlessness need not imply poverty. It supports findings from other studies that ‘hands, not land’ may be a key route out of poverty for the poor (Toufique and Turton, 2002), but adds that health, education and gender are other aspects of household human resources that also matter. Livelihoods diversification out of agriculture explains the increasing importance of the households’ human resource base, with business and trade acting as the key engine for growth in the local economy: NGOs have played an important role in this diversification since, as we saw, they were the main source of the loans which helped many households to set up new or to expand older businesses. Also important have been the improvements in transport and communications undertaken by the government since the late 1980s. These have brought villagers closer to markets – both those that have grown up along the roadside as well as those in urban centres.

In addition, the opening up of global markets as part of a world wide process of economic liberalization has generated various opportunities, which many of the households in our study villages have been able to take advantage of. International migration featured very visibly in the

survey data, but interview data suggested the importance of migration, particularly by women, from the Chandina villages to Dhaka to work in the export oriented garment industry there.

Looking at these more positive aspects of socio-economic change in Bangladesh, it is clear that state, markets and civil society organizations have all had a role to play in bringing them about. It is also clear that all three have a continuing to play a role in strengthening what has worked in the past and is likely to go on working in the future: integrating markets, expanding access to social services, promoting new forms of livelihood opportunities locally and globally.

However, it is not a uniformly positive story. For one thing, the movements out of poverty described should not be taken to imply movements into wealth and prosperity but simply the increased capacity to meet minimum basic needs. For another, the inequalities in the growth process noted at the start of the paper have meant that many households have failed to achieve even this minimum capacity while others failed to sustain it over time. Both the poor, and not so poor, need measures which could enable them to cope with the various forms of crisis which are endemic to life in Bangladesh. While there are various efforts on the part of government to provide safety nets for the poor through the Food-for-Work program, pensions for the elderly, Vulnerable Group feeding and so on, inadequacies of provision and failures of distribution have clearly rendered them less effective than they might have been.

In any case, the traps that kept poor households poor over an extended period of time, reflected structural, rather than, transitional forms of disadvantage, manifestations of the various forms of power relations that make up Bangladesh society and serve to distort the distribution of resources and opportunities. Certain sections of the population, many of them characterized by extreme forms of poverty or chronic forms of exclusion, are unlikely to benefit from the 'normal' processes of economic growth, however broad-based these might be, because their disadvantages cannot be reduced to purely economic deficits (Kabeer, 2000). Two examples of disadvantage which have featured prominently in our analysis serve to illustrate this. Both have particularly severe implications for the poor, but both also affect the population at large.

The first, which is revealed in times of health-related crisis, stems from the inequities and inadequacies of the provision of health care in Bangladesh. The existing public health system clearly fails all sections of the population, impoverishing many who began out above the poverty line and serving to keep poor people poor. The factors behind these failures have been testified

to by those who seek to use it: the absence of doctors, often engaging in private practice for their own advancement, poor quality of service, lack of medicines, rudeness on the part of staff, demands for bribes and so on (World Bank, 2000, Nabi et al. 1994, Transparency International, 1999). Behind these individualized experiences are systemic failures which reflect a highly centralized public health care system which has not been adequately resourced, the concentration of medical expertise and health facilities in urban centres and the unregulated, and frequently unqualified, continuum of private practitioners to whom most of the population resorts, which range from qualified but unregulated doctors to increasing less qualified and increasingly more unscrupulous quacks of various kinds.

The second form of vulnerability related to what has been termed 'patriarchal risk' (Cain et al.1979), which refers to the material consequences of female dependency on male provision and protection in a society where women's economic options are severely limited. The concept was originally formulated to capture the likelihood of abrupt declines into poverty that women and their dependents faced should they find themselves bereft through widowhood, desertion or divorce of male provision and protection. However, our analysis suggests that patriarchal risk also inheres a wider class of misbehaviour on the part of men, including alcoholism, drugs, gambling, irresponsibility and so on. Female misbehaviour, where it occurs, does not have the capacity to inflict the same degree of damage on the family economy.

Both these forms of vulnerability reveal underlying inequalities of power and require systemic solutions that go beyond conventional safety net measures. Market forces on their own are unlikely to dissolve these inequalities since they are often part of the problem: by their very nature, they tend to either exclude or exploit those with little power. For instance, while the specific set of complaints levelled against government health system were not repeated in relation to private health care, the single most important complaint against private care was its unaffordability: the poor have little or access to formal private health care (World Bank, 1998).

However, although the state could in principle act to counter and dissolve entrenched inequalities, the complaints against public health officials are merely part of a wider body of evidence suggesting that it has failed to do so, a failure which reflects problems with the governance structure of the bodies responsible for delivering on policy even more than it reflects problems with the policies themselves.

7. Conclusion: the challenge for the future

Bangladesh would appear to have the key ingredients of a successfully 'emerging economy': functioning markets, democratic rule and an active civil society. Neo-liberal policies have succeeded in free up markets from excessive state regulation while investment in infrastructure, transport and communications have helped to integrate markets at local and national level. Some of the growth it has experienced can be attributed to these policies. Yet, as our study and others have shown, those at the greatest disadvantage within the society are least likely to have benefited from the freeing up of market forces which continue to exclude or exploit the vulnerable, reproducing rather than challenging social inequality.

In a democratic society, vulnerable groups would be provided with some form of protection against such exploitation and exclusion. Bangladesh is fortunate to have moved to democratic forms of governance since 1990 after more than a decade of military rule. It may not be entirely co-incidence that poverty began to decline more systematically since the transition: democratic processes require those seeking political power to gain legitimacy with the electorate. Successive governments in Bangladesh have sought to gain this legitimacy through a variety of measures to improve human development, with the result that Bangladesh's human development performance has begun to outpace its economic growth.

Unfortunately, the same successive governments have systematically failed to deliver on good governance. The disruptive zero-sum politics of the leading political parties, the 'unruly practices' that they engage in to advance their own personal and political interests permeate all aspects of society (Sobhan, 2001). As a result, extortion, corruption, bribery and intimidation by those in power at different levels have served to undermine gains on the economic and social fronts. They have served particularly to ensure that those on the margins of society either fail to participate in the domain of politics and policy or participate on highly asymmetrical terms (Wood, 2000).

The challenge for the future of Bangladesh lies therefore in the field of politics as much as in domain of policy (Sobhan, 2001). Above all, it lies in creating the capacity of poorer and more vulnerable sections of society to exercise some degree of influence over those who make policies in the country and to hold them to some degree of accountability. The transition to democracy has at least opened up new spaces for building this capacity for influence and accountability. Rahman et al (1998) point to what they call the 'rise of the electorate' as one

manifestation of this. They suggest that the increasing trend towards high vote turn-out in both local and national elections reflects less a high level of high expectations on the part of the electorate, but as an act of assertion of its ability to impose sanctions against negative behaviour by those who govern the country.

In addition, there is evidence of increasing participation by the poor in various movements, campaigns and protests, forms of collective action to redress instances of injustice in their lives, the rise of civil society. Many of these are spontaneous actions to put pressure on local administrators or protest particular episodes and hence short-lived (Rahman et al). However, with the growing significance of the NGO sector in Bangladesh, a more sustained process of change may be taking place. The NGOs are clearly not the only example of organized civil society, but in the Bangladesh context, they have the greatest outreach to the poor, and to poor women.

The NGO sector has not been exempt from criticism. There are concerns about its reliance on its external donor funding, its increasing involvement in service provision, thereby undermining state responsibility of a variety of functions, their failure to reach the more marginalized sections of the poor and their lack of internal democracy. However, it also remains the case that higher levels of trust are generally expressed by poor groups in NGOs and NGO services are consistently rated more highly than either state or private provision (Nabi et al 1999; World Bank, 1998).

Moreover, the significance of the NGO sector lies not only in its capacity to provide services to the poor, but also in the new kinds of social relationships that it has been promoting in the countryside (Kabeer, 2003). NGOs in Bangladesh generally work with a 'group' approach, many with women's groups. While there have been varying rationales for this, it has had the effect of helping to organize those whose lack of voice in the past reflected their lack of organization. While those NGOs who engage in social mobilization may report higher levels of political action than those who concerned with service provision, NGO membership more generally does appear to lead to higher levels of political awareness and participation (Kabeer, 2003; Hashemi et al, 1996; Kabeer and Matin, 2004; Rahman et al, 1998).

To sum up therefore there are grounds for cautious optimism about the future of Bangladesh, but none for complacency. The country has made some important gains on the economic and

social fronts but these have not been matched by gains on the political front. Inequalities of various kinds curtail the extent to which all sections of the population have participated in these gains while the dysfunctional workings of the state undermine trust in its capacity to redress these inequities. However, the capacity of various sections of civil society to mobilize, whether it is through political parties, through NGOs or through spontaneous action, provides new routes through which marginal groups may be able to bring some influence to bear on the processes of change. We conclude with the sobering thought that if Bangladesh has been able to make this limited but real progress from the depths of poverty it had reached in the 1970s, *in spite of* its political leadership, what might it have achieved if its leadership had been on the side of its people?

Appendix

Dependent variable

Log of per household income capita adult equivalent

Independent variables

Children	All household members aged 0 to 14
Adults	All household members aged 15 to 54
Elderly	All household members aged 55+
Female head	Female household head
Ill/disabled	Number of ill and disabled members in household
Head's education	No. of years of education of household head
Land owned	Size of land owned in acres
Land irrigated	Size of operated land under irrigation
Cattle owned	No. of cattle
# of loans	Total number of loans ever taken
Agric. self-employed	Total number of members in cultivation and fishing
Agric. wage labour	Total number of members in field or bari wage labour
Business/trade	Total number of members in business or trade
Formal service	Total number of members working for government/NGO
Non-agric. wage labour	Total number of members working for wages outside agriculture
Other non-agric. work	Total number of members in other forms of non-agricultural work
Rural migrants	Total number of members migrated to other rural areas
Urban migrants	Total number of members migrated to other urban areas
Intl migrants	Total number of members migrated abroad

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Endnotes

¹ As measured by household income or expenditure.

² Cropping intensity is the gross cropped area (*viz.* land cropped at least once with multiple cropped land counted more than once) divided by net cropped area.

³ Estimates of poverty were carried out by Toufique (2002). The 1994 estimates were based the caloric needs and local level price of rice with 20% top up to allow for non-food consumption needs. The 2001 line was based on deflating the poverty line by constant US dollars. While, as Toufique points out, the resulting estimates may not be an accurate reflection of poverty levels, this is not too serious a problem from the point of view of the present study which is mainly interested in change over time.

⁴ This differences in report may reflect the fact that, not only did different teams of investigators undertook to administer the questionnaire in the two survey years, as might be expected, but while the team in 1994 was made up of both male and female investigators and was supervised by a female sociologist, the team in 2001 was entirely male!

⁵ I.e. all women who reported 'own cultivation' in 1994 and 'housework' in 2001 are excluded.

⁶ The possibility that many of the women classified as either not working or engaged in 'housework' may have been economically active is supported by linear regression analysis using the log of per capita income as the dependent variable and total number of children, adult males and adult females in the household as independent variables. The regression coefficients are statistically significant for all three independent variables, but negative for children and positive for both adult women and men, with the coefficient for men twice that of women. The inclusion of cultivable land owned as an independent variable reduces size of the male income co-efficient to similar level to that of women. Interesting, however, if men and women in paid work are used as independent variables, the coefficient associated with women in paid work becomes negative and insignificant, supporting the general finding that it is poorer households who send women into waged labour.

⁷ 'Economically dependent household members' includes those who do not work, but may also include those who work but do not earn enough to fully sustain themselves.

⁸ Both ascending households improved their economic situation to such an extent that they moved out of poverty.

⁹ Matric = matriculation, now called Secondary School Certificate (SSC), achieved after Class 10.

¹⁰ Although Hulme's case study of a chronically poor family from this area does document occasional help provided by a married daughter to her mother.

¹¹ Alcoholism, frequently identified as a cause of chronic poverty in some other parts of the world, did not feature in descriptions of male irresponsibility but there was some reference to drugs.