POVERTY DYNAMICS AND LIFE TRAJECTORIES IN RURAL BANGLADESH

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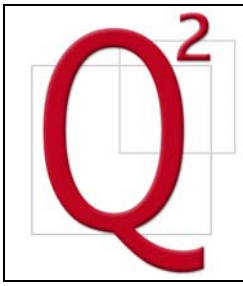

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An Early Example of Q-Squared in Policy?

'For easy comprehension – four classes were adopted, representing varying material conditions between comfort and actual want, to one of which each family was allocated. The classification was not made upon figures of income and expenditure, but always upon an inspection of the family and the family circumstances in its own homestead. Only such families as were well-housed, well-fed, [and] well-clothed according to the evidence of the eye were permitted to be classified as living in comfort. By such a safeguard it was intended that the method of enquiry should be thoroughly practical, avoiding anything academic or mechanical, but ensuring accuracy by concomitant statistical investigation.'

[J.C. Jack, 1916, *The Economic Life of a Bengal District*, cited in Sen and Hulme (2006)]

Introduction

Poverty research in Bangladesh might be described a small industry supported by a range of national and international policy advisors. Successive governments justify their performance in terms of their ability to reduce the widespread poverty in the country, while international donors are concerned with why, and how much, poverty is declining in order to inform funding decisions. However, most poverty studies in Bangladesh are still either exclusively quantitative or qualitative, with the former dominating policy debates on poverty reduction. This has led to a very well developed understanding of monetary poverty, labour markets, land ownership, regional patterns and a host of other variables that indicate changing poverty trends and household characteristics over time. However a nuanced understanding of poverty dynamics at the household level and the complex social realities and drivers that lie behind these changes is less well developed. The thicker qualitative descriptions required to supplement quantitative research are usually left to separate studies, which have very limited samples, are not well integrated with quantitative studies, and tend to have less impact on policy. Policy makers in Bangladesh wanting to use the findings from qualitative research tend to piece together evidence from unrelated studies generated from different vantage points, and without the benefits of iteration between qualitative and quantitative research.

In this paper, we present interim findings from a unique integrated qual-quant study of poverty dynamics and life trajectories of 1787 core households in 15 districts in rural Bangladesh spanning a twelve year period. We discuss lessons learned in the process of integrating qualitative and quantitative components of the study and explore how a q-squared[1] approach can inform policy makers more effectively than studies conducted separately. We believe that the integrated and sequenced nature of qualitative and quantitative phases of this study allows us to provide a deeper and more detailed picture of the drivers of poverty dynamics and economic mobility than is usually possible with either qualitative or quantitative methods alone. Furthermore, by nesting a 'medium N' sub-sample of life-history interviews within a much larger quantitative panel survey, it also allows life trajectories to be studied in a much more nuanced and systematic way than has been previously possible.

[1] Q-squared has become a popular way of referring to the use of a combination of qualitative and quantitative research methods in social research, particularly in the study of poverty associated with the q-squared research programme: see http://www.q-squared.ca

Section 1: Combining Qualitative and Quantitative Methods

Shaffer (2006) distinguishes between two types of Q-squared studies, which he labels 'putting together' and 'methodological integration'. Internationally, 'putting together' studies are much more common than 'methodological integration', which can involve either undertaking qualitative and quantitative fieldwork simultaneously, or planning and sequencing qual and quant field studies with integrated analysis and write-up. Some leading examples of methodologically integrated Q-squared studies include Devereux and Sharp (2003) in Ethiopia, Parker and Kozel (2005) in India, and the four WeD countries (Gough and McGregor 2007).[2] In Bangladesh some examples of 'putting together' Q-squared studies include Greeley (1999), Hallman et al (2007), Kabeer (2004), and Sen and Hulme (2006). However, as far as we are aware, a fully 'methodologically integrated' and sequenced longitudinal study has not been attempted in Bangladesh before.

We consider that the best way of solving problems in combining quantitative and qualitative approaches in poverty research is not through abstract discussion, but by researchers from different disciplinary backgrounds addressing concrete and well defined research problems on the ground together. This does not mean glossing over the real ontological, epistemological and methodological differences between qualitative and quantitative approaches: the differences are not merely due to different types of data collected (Kanbur, 2001). However we believe that the solutions to these differences are best worked out in the process of jointly making on-the-ground decisions over such issues as the clarification of research questions, the sequencing of research, sample selection, and the mixtures of methods and analysis chosen. We found that combining qualitative and quantitative research in the same sites allowed considerable triangulation and cross checking to occur. This turned out to be most fruitful when the findings were not compatible: questions had to be asked of both sets of data and often the most interesting findings are revealed in this way.

In our experience it also seems that qualitative or quantitative poverty research rarely lives up to the caricatured ideal types created by opposing camps. Quantitative research rarely maps on to a pure deductive positivist approach to testing pre-formulated hypotheses. In practice, it is often has iterative and inductive elements (see Henschel, 1999). Similarly, the collection of qualitative data does not preclude exploring and testing existing theory, using representative samples or deriving numerical data from narratives (Parti Numbers Network, 2003)

As we planned this research we felt that the different approaches have more chance of complementing each other if sequencing the research is done with the relative strengths of the various approaches in mind. Thus our initial qualitative work helped inform our questionnaire design, we pre-tested the household questionnaire at the same time as conducting pilot life-history interviews, and our life history respondents were purposively sampled from locations where considerable information was already available from a previous quantitative household survey. Combining work in this way allowed both considerable cross-over in learning and the triangulation of data.

[2] The WeD (Wellbeing in Development) study countries are Bangladesh, Ethiopia, Peru and Thailand.

Section 2: The CPRC-IFPRI Bangladesh Longitudinal Study

The longitudinal study on which this paper is based builds on three surveys conducted by the International Food Policy Research Institute (IFPRI) and associates in Bangladesh to evaluate the short-term impacts of microfinance (1994), the new agricultural technologies (1996-97) and the introduction of educational transfers (2000 and 2003). These are described in Zeller et al. (2001), Hallman, Lewis and Begum (2007) and Ahmed (2005), respectively.

The original evaluations surveyed 1787 households and 102 villages located in 14 of Bangladesh's 64 districts. These districts and villages were selected to span the range of agro-ecological conditions found in rural Bangladesh and, while the sample cannot be described a representative in a statistical sense, it does broadly characterize the variability of livelihoods found in rural Bangladesh (see Annex 1 for a map showing the location of the survey villages by intervention). In designing the original evaluation surveys, careful attention was paid to establishing both intervention and comparison/control groups so that single difference estimates of short-term project impact could be derived.

Since these evaluation surveys were conducted, the sample households have been re-surveyed on one or more occasions. In order to obtain information on micronutrient deficiencies, the agricultural technology households were surveyed on four occasions between 1996 and 1997. In addition, in 2000, IFPRI and DATA[3] conducted a follow-up survey in one of the three agricultural technologies sites (Manikganj) as part of a study on linkages between agriculture, nutrition, and women's status. This quantitative resurvey was followed by qualitative focus group discussions and semi-structured interview with women and men in 2001 in all of the agricultural technology sites (as part of a study on the social impact of agricultural technology).[4] Then in 2003, a follow-up study was conducted in 8 of the 10 educational transfer villages, as a part of a wider evaluation of the shift from food to cash for education. Finally, in 2006, IFPRI, DATA and the Chronic Poverty Research Centre (CPRC) began a major study to resurvey the households surveyed in all three of the evaluations. While the focus of this study was on understanding of the drivers and maintainers of chronic poverty in rural Bangladesh, the intervention-comparison groups were maintained from the previous study. In addition, children who had left the original household and set-up their own households were tracked as long as they had not migrated outside their home district.

The CRPC-DATA-IFPRI resurvey conducted in 2006-07 involves focus group discussions, a follow-up longitudinal survey of households included in the IFPRI studies, plus life history interviews with women and men from a sub-sample of these households. It involves three sequenced and integrated phases:

Phase I was a qualitative phase designed to examine perceptions of changes (and why these have come about) from women and men in a sub-sample of our survey communities. This phase involved single-sex focus group discussions to elicit perceptions of changes, their perceptions of the interventions under study, and the

[3] Data Analysis and Technical Assistance Ltd. (DATA), Dhaka.
[4] See Hallman et al. (2007)

degree to which these interventions affected people's lives (compared to other events in the community). A total of 116 single-sex focus group discussions in 11 districts of Bangladesh, evenly divided between treatment and control villages, were conducted in July and August 2006. The findings from these focus group discussions are described in Davis (2007).

Phase II was a quantitative survey of the original households and new households that have split off from the original households that have been found in the same district. The household survey took place from November 2006-February 2007, the same agricultural season as the original surveys, and covered 2,152 households, of which 1,787 were core households that took part in the original survey, and 365 are "splits" from the original household.[5] The household survey questionnaire used was designed to be comparable across sites and also to facilitate comparability with the original questionnaire from the evaluation studies. A community level questionnaire was also administered to key informants at this stage to obtain basic information on each village, and changes since the last survey round. GPS coordinates for all sample households and village facilities were also collected enabling us to use spatially referenced databases for Bangladesh. The quantitative data from this survey has already been entered and cleaned for the households included in the educational transfer and microfinance interventions (hereafter the ET and MFI households), and forms the basis for the quantitative analysis reported in this paper. The survey data for the agricultural technologies, which included additional modules with 24 hour food recall combined with the collection of blood haemoglobin samples, is still being entered and cleaned, and is therefore not considered in this paper. The overall attrition rate across the three interventions was low at 6.7% of core household across the three interventions.[6] A preliminary investigation of the pattern of attrition, using logistic regressions, suggests it is mostly random (Quisumbing, forthcoming).

Phase III consists of a qualitative study based on life histories of about 300 individuals in 160 selected households in 8 of the districts in the original quantitative study. These districts were selected to represent a wide range of environments in rural Bangladesh. In each district, we selected two villages from the previous study, and in each village we selected 10 households on the basis of poverty transition matrices constructed using the quantitative household survey. Semi-structured interviews are now being conducted by a small team of experienced Bengali-speaking researchers using the life-history methods and visualization techniques described below. The aim is to understand the processes and institutional contexts which influence livelihood trajectories. All interviews are being digitally recorded, written-up by the researchers who conducted the interviews and by Davis, and are being transcribed for subsequent analysis using nVivo7. Fieldwork for this final phase of the study started in March and will be complete by September 2007.

[5] Other panel studies in Bangladesh that have tracked household splits include the Bangladesh Nutrition Survey (Rosenzweig, 2003) and the Bangladesh Institute of Development Studies village panel (Rahman and Hossain, 1995; Sen, 2003).

[6] This level of attrition is comparable to the 6% attrition rate for the first two rounds of the Indonesia Family Life Survey (Thomas et al., 2000). It is significantly better than the 16% attrition between the first and second rounds, and 38% attrition between core households in the first and third rounds, of the Kwazulu-Natal Income Dynamics Study (KIDS) in South Africa (Agero, Carter and May, 2007). See Alderman et al. (2001) for a systematic analysis of patterns of attrition in KIDS and two other developing country panels.

For this paper, 74 life history interviews from 41 households were available for analysis as this last phase of the research was still underway at the time of writing. Once the Phase III field work is completed, we expect about 300 life histories will have been conducted in 160 households in eight districts. The interviews analysed so far were conducted in two villages in Manikganj district and two villages in Nilphamari district. These Manikganj sites were part of the original MFI study, with several other sites in district being among the agricultural technology intervention villages, while the Nilphamari sites were part of the ET study (see map in Appendix 1). The two villages in Manikganj district are fairly close to Dhaka (about 2 hours by car) with fairly good access throughout the year[7]. Many people in the two villages in the study have benefited from this proximity to the capital: some respondents worked in Dhaka returning to their homes on days off; Dhaka was an option for serious medical care for the non-poor; and there was more intense business activity in the Manikganj area than in Nilphamari due to access to Dhaka's markets. In contrast Nilphamari (which is about 8 hours by car from Dhaka) is situated in the far north-eastern corner of Bangladesh: an area historically known for its high incidence of poverty and vulnerability. Although access has improved with the opening of the Jamuna Bridge in 1998, Nilphamari district still gives the visitor the impression of being an area left behind by the social and economic changes that are benefiting most of the rest of Bangladesh. One of the two villages in the district is very poor, with many of its residents regularly going without food due to insufficient income. Job opportunities were more limited, levels of education were lower, and access to medical care is poorer in Nilphamari than Manikganj.

The life history interviews were carried out in selected households with, where possible, one man and one woman being interviewed separately.[8] Each respondent was interviewed by two researchers of the same sex[9]. Respondents were often husband and wife, but in some cases, such as when one partner had died, we interviewed a parent and a son or daughter. In general we tried to interview people who were older than 25. The researcher who had facilitated the interview drew a chart of the life history from the time-line of events that he or she had drafted during the interview with the help of the respondent. On these charts we also indicated the level of wellbeing (on a scale of one to five) at different points in the life trajectory based on life-conditions described by the respondent. These levels were checked during the final village level discussion with people who knew the households well.[10] Examples of these life history charts appear in Appendix 2.

[7] Although one 'pocket of poverty' in one of the Manikganj villages has no bridge over a river and can only be accessed by boat for about 5 months of the year during he wet season.

[8] During our time in the villages we also conducted focus group discussions in order to explore village history and the times of crisis or opportunity that had affected the village as a whole. For each village, a community trajectory chart was drawn showing the drivers of improvement and decline at the community/ village level. We found it was useful to conduct these discussions both at the start of our time in each village – in order to inform the life history interviews of community level phenomena – and also at the end of our time in each village - when the life history interviews helped to inform this final village level discussion. Generally village discussions with women were conducted separately from the men's and were facilitated by female researchers.

[9] Davis also participated in the interviews in nearly all of these 41 households.

[10] This method of ranking well-being resembles Khrishnan's stages of progress methodology (Khrishnan, 2004 and 2006) but reverses the order in which his village level and household level discussions occur. See also Cantril (1965).

Section 3: Poverty Transitions from a Quant and Qual Perspective

In this section we present, discuss and compare monetary poverty transitions with the life trajectories from the sub-sample of 74 life history interviews conducted in Manikganj and Nilphamari described above. We first summarise transitions into and out of monetary poverty using the transition matrices in Tables 1 and 2 and the forward 'tree diagrams' in Figure 1. These diagrams show that: (i) a substantial proportion of households move in and out of poverty over time[11]; (ii) that many more households moved out of poverty than into poverty over the two time periods covered; and, (iii) there still remain a substantial proportion of households who remain poor in all of the survey years.

Table 1: Transition Matrix for the ET Households

	2006		
2000	**Poor**	**Non-Poor**	**Total**
Poor	91	210	301
Non-Poor	25	177	202
Total	116	387	503

Table 2: Transition Matrix for the MFI households

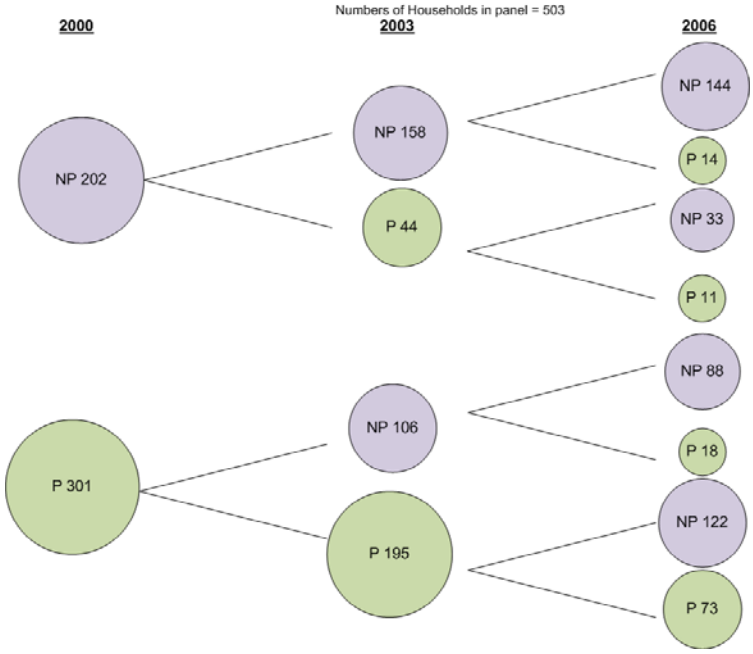
	2006		
1994	**Poor**	**Non-Poor**	**Total**
Poor	59	221	280
Non-Poor	10	114	124
Total	69	335	404

For the ET households in Figure 1, it can also be seen that 14.5% of households remained poor in all three periods and 17% of the households who exited poverty between 2000 and 2003, had fallen back into poverty by 2006. Nonetheless, the largest group of ET households (28.6%) were those who remained non-poor in all three years, while another 24.3% of households who were poor in 2000 and 2003 had exited poverty by 2006.[12] These statistics testify to the strong impact that growth has had on poverty reduction in recent years in Bangladesh (Sen 2003).

[11] This is consistent with Sen (2003) for Bangladesh, together with a number of studies of poverty dynamics in other developing countries (Baulch and Hoddinott, 2000; Dercon and Shapiro, 2007)

[12] Of course, some of these households will probably fall back in to poverty in subsequent years.

Figure 1: Forward Poverty Transitions for the Educational Transfer Households



For the MFI households, for whom we only have two rounds of panel data but a much longer period (1994 to 2006) between the first and last panel waves (Table 2). Some 55.7% of the MFI households moved out of poverty between 1994 and 2006 while just 2.5% of households moved into poverty over this period. A similar percentage (14.6%) of households remained poor in both years, as were poor in all three years among the ET households (Table 1).

There were marked differences in life history and expenditure based assessments of mobility in the households selected for the life history interviews. Table 3 compares the patterns of poverty dynamics that emerge from taking both a quantitative and qualitative approach to identifying poverty dynamics. The shaded cells show the individuals where the qual and quant assessments of poverty transitions were the same. Interestingly, it is in the transition categories where there was least agreement. This table shows that qual and quant assessments of welfare agreed most when no transition was detected: qualitative and quantitative assessments agree in 18 of each of the PP (twice poor) and NN (twice non-poor) cases. However, when the quant data suggested that a transition had occurred, the qualitative assessments tended not to confirm this.[13] This was particularly marked in PN or 'move up' cases. In qualitative interviews a large number (15) of the quant 'move up' individuals were assessed in the life histories as remaining chronically poor, while a smaller number of the quant 'move up' individuals were described as 'move down' (2) or never poor (5) in the life histories.

[13] Another simple way to compare these patterns of mobility is to compare the percentage of households and individuals on the diagonal of the qualitative and quantitative transition matrices. Our interim results are that 94.7% of individual from the 74 life-history sub-sample were immobile, compared to 48.6% of the 907 households from the panels survey. Immobility is higher among the ET households than the MFI households in the quant data, but similar in the qual data.

Table 3: Agreements and Disagreements between Qual and Quant Poverty Dynamics

quantitative matrix categories	qualitative matrix categories (numbers of people)				
	PP	**PN**	**NP**	**NN**	**Total**
PP (n=150)	18	0	2	2	22
PN (n=431)	15	0	2	5	22
NP (n=35)	6	0	0	0	6
NN (n=291)	6	0	0	18	24
Total (n=907)	45	0	4	25	74

The life history interviews analysed so far do not find much mobility across the poverty line: 4 move-downs and no move-ups even though there were 22 move-ups in the quant data. It is possible that some of these move-ups are misclassifications, due the inclusions of lumpy expenditure which do not translate into improvements in well-being, or other types of measurement error.[14] It also may be due to life cycle effects associated with the overall sample aging as the study progressed. As respondents age, it is possible for welfare to decline without reductions in per capita expenditure being recorded due to the higher medical expenses, dowries and reduced household size characteristic of households with older heads. This is possible when a daughter was married in the year before the last round of the survey. Dowry and wedding expenses for one daughter can exceed a year's income for many rural households and, as the daughter usually leaves the household, this further increases the per capita expenses because the number of household members has declined by one.

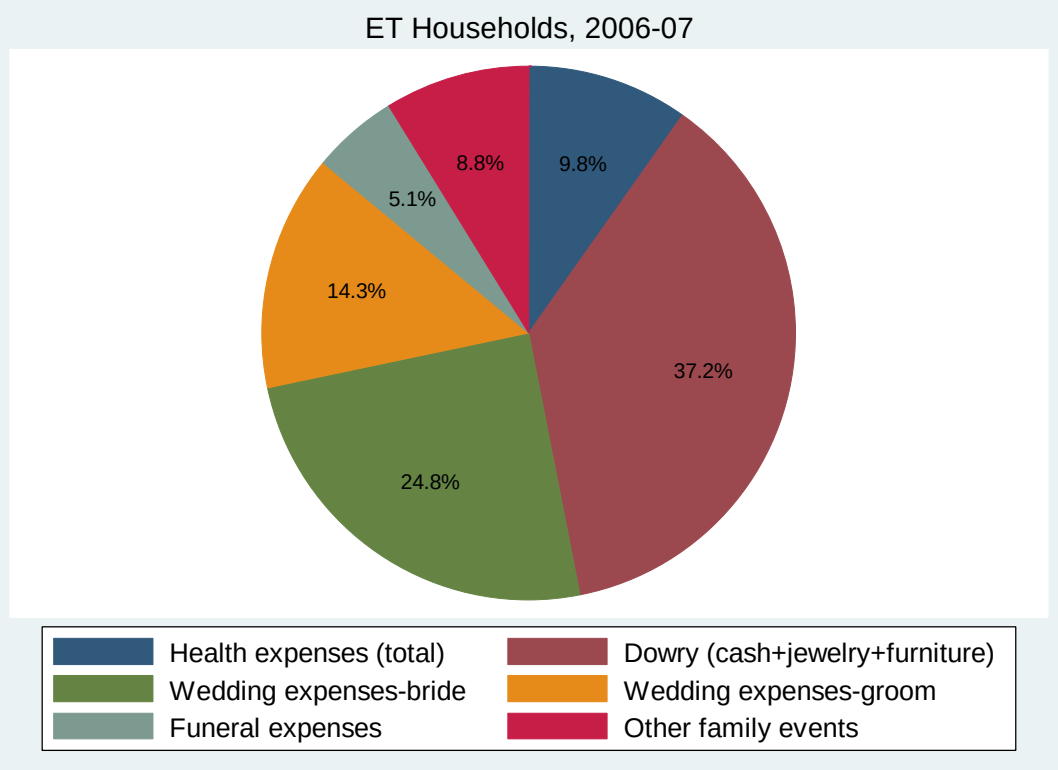
About 10 to 15% of these misclassifications seem to be due to non-welfare enhancing 'lumpy' expenditures (such as dowries and other wedding costs, medical expenses associated with accidents and severe illnesses) having been included in our initial consumption aggregate. In the 2006 survey data for the MFI households, such 'lumpy' expenditures make-up 16.3% of household expenditures on average. However, for households with a least one lumpy expenditure in the last 12 months, this figure rises to 27.9% of household expenditures—with a few households spending 4 or 5 times their annual expenditures on dowries and wedding costs. Figure 2 gives a breakdown of such 'lumpy' expenditures for the ET and MFI households.[15] This shows that dowries and other wedding expenses paid by the bride's family constitute between 54% and 62% of all 'lumpy' expenditures, while wedding expenses paid by the groom's family constitute another 14% to 30% of this total. Health and funeral expenses comprise another 13 to 15% of 'lumpy' expenditure total. At the time of writing, we were recalculating the consumption aggregates and transition matrices to remove a number of these 'lumpy' non-welfare enhancing expenditures to try to eliminate such misclassifications from the transition matrices[16]. It is possible that misclassifications could also be generated if similar lumpy expenditures has been included in our the first round data, which would give an exaggerated impression of

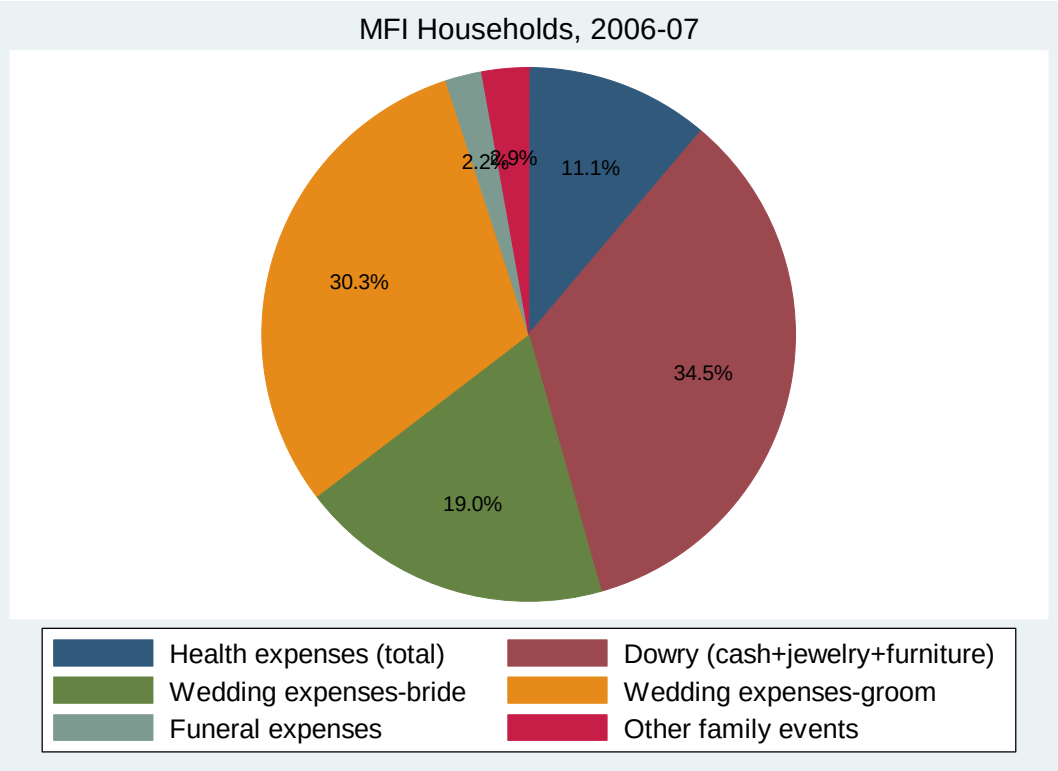
[14] See Baulch and Hoddinott (2000), Deaton (1997) and Luttmer (2001) for discussionsof the pervasive effect that measurement error, in particular measurement error when estimating expenditures and incomes, has on observed poverty dynamics.

[15] Note that the costs of court cases and housing repairs, plus loan repayments, all of which sometimes constitute large expenditures for rural Bangladeshi households, are not included in these pie diagrams.

[16] Current best practice recommends that it is usually advisable to exclude such 'lumpy' expenditures when constructing consumption aggregates (Deaton and Zaidi, 2002). However, some of the earlier rounds of the IFPRI evaluation surveys appear to have included some 'lumpy' expenditures (such as housing repairs and medical expenses) in their consumption aggregates.

Figure 2: Composition of 'Lumpy' Expenditures by Intervention





higher welfare earlier followed by a decline when in fact the household had been poor all along.

The lack of individuals moving up out of poverty in the life history assessments is interesting. In the small sample of life history interviews analysed so far, most of the households which were categorised as moving out of poverty based on expenditure data were seen as remaining poverty based on the life history interviews. Some of these 15 individuals, or 8 households, were suffering the long term impacts of dowry expenses, illnesses and other crises which had adversely affected their wellbeing but had not reduced, and in some cases increased, their per capita household expenditure. In some cases they had depleted assets and become indebted as ways of coping. Some of these lumpy expenditures appeared in the household survey and can be excluded, however in other cases they were not picked up. Per capita expenditure figures in very small households (such as an elderly husband and wife living together) are very sensitive to small changes in expenditure which may sometimes be due to estimation errors or increased expenditure that is not related to improved welfare. In households where a split had taken place between survey rounds it is also possible for misclassifications to occur because of the differing impact of the household division on the two or more new households. There were also cases of households that had split, rejoining at a later date. This draws attention to the need for more sensitive indicators of well-being than household expenditure in poverty dynamics studies.

It is also possible that qualitative research does not recognizing real improvements in people's lives due to the retrospective nature of the interview. However this could only be true in a small number of out cases: our qualitative assessment of the level of well-being was based on detailed life history interviews, not on the one-off questions on household head's perceptions of past wellbeing that are sometimes incorporated into quantitative household surveys.[17] We also use triangulation: two interviews were conducted separately with different respondents and different researchers, and there assessments were then cross checked with knowledgeable community members. It is, however, be possible that the perceived poverty line/threshold for the villagers and qualitative researchers (i.e., the line which separates poor people and not-poor people in local discourse) has risen faster than the official poverty line, or that poor people have more of a relative rather than absolute conception of poverty. Villager's perception of the poverty threshold may, for example, be heavily influenced by the consumption patterns and well-being of other people in the village.

At this initial stage we have not been able to completely tease out these differences between the qualitative and quantitative findings. We hope that when asset and income data become available from the quantitative household survey, and more life histories have been undertaken, the reasons behind apparent misclassifications will become clearer. In the process, we expect to gain a better understanding the strengths and weaknesses of these two approaches.

[17] See Dercon and Shapiro (2007) for an example of the recall problems associated with the use of retrospective assessments of well-being based on the incorporation of this kind of question into the Ethiopian Rural Household Survey.

Section 4: Combining Life Trajectories and Poverty Dynamics

In this section, we use fuzzy sets to classify the life trajectories of the 74 individuals in Manikganj and Nilphamari from whom transcribed and coded life history interviews are currently available from the Phase III fieldwork. The conceptual approach to classifying the direction and patterns that emerge from these life history interviews builds on Davis (2005 and 2006). With three directions (improving, stable and declining) and four patterns (smooth, saw-tooth, single step and multi-step), twelve categories of life trajectories are theoretically possible. Previous life history research in the Kushtia district of Bangladesh (Davis, 2005) has shown that only six to eight of these trajectories occur regularly in rural Bangladesh─with improving, stable and declining saw tooths together with single and multi-step declines being the most common patterns. These life trajectories demonstrate the importance of shocks, especially repeated and multiple shocks, to household poverty dynamics and individual life trajectories.

Figure 2 shows the predominant life trajectory pattern that the 74 life history diagrams, available to date, most closely resemble.

Figure 2: Life Trajectory Patterns and Poverty Dynamics

trajectory direction	trajectory pattern	depiction	number of cases (out of 74)	qual matrix category (quant category in brackets)			
				pp	pn	np	nn
level	smooth		2	2 (0)	0 (1)	0 (0)	0 (1)
improving	smooth		2	1(0)	0 (0)	0 (1)	1(1)
declining	smooth		1	1 (1)	0 (0)	0 (0)	0 (0)
level	saw-tooth		20	13 (6)	0 (6)	0 (1)	6 (6)
improving	saw-tooth		12	4 (2)	0(4)	0 (3)	8 (3)
declining	saw-tooth		17	14 (8)	0 (6)	0 (0)	3 (3)
declining	single-step		0	0 (0)	0 (0)	0 (0)	0 (0)
declining	multi-step		21	10 (5)	0 (5)	4 (1)	7 (10)

A large number of the 74 life histories show a saw-tooth type pattern where improvements in people's lives are reversed by intermittent shocks such as illness (often accompanied with large medical costs), dowry and wedding expenses and court-cases. The other common pattern was the 'declining multi-step' where a number of crises occur sequentially, but with little recovery possible between crises. For the chronically poor it seems that 'level saw-tooth', 'declining saw-tooth' and 'multi-step decline' patterns are the most common. For people on improving and level trajectories (both the rich and the poor) the improving saw-tooth pattern is most common. It also seems that there were more 'never-poor' individuals (9) on improving trajectories than people who had been poor at some stage (5). This seems to support the idea that upward mobility is enjoyed more by those who were already not poor in the first place.

At this early stage of analysis the qualitative findings suggest that intermittent crises are responsible for long term decline in people's lives and it is possible for these to be missed in quantitative household surveys. It is also possible for expenditures that have contributed to decline to contribute to a perceived improvement in peoples' lives if lumpy expenditures are not removed from poverty assessments based on expenditure data.

Section 5: Drivers of Change: Opportunities and Crises

The sources of opportunity and the serious long term impact of intermittent crises on life trajectories were explored in individual life history interviews which included open discussions about the causes of improvement or decline in people's lives. In Tables 4 and 5 below we list the important sources of opportunity and crisis identified in the 74 life history interviews analysed to date.

For people who are poor, livestock was an important source of opportunity: just below 30 percent of the chronically poor (PP) life histories had opportunity associated with livestock. Livestock provide a ready source of investment and often featured in stories of accumulation with progressions from shared ownership to full ownership, from poultry to goats to cattle, and in a few cases respondents selling cattle and buying land. As with other forms of opportunity there are risks, with about 5 percent of life stories so far including livestock loss as a serious source of crisis. Some poor households were subsisting almost entirely on one or two cows with milk sales providing a ready source of income. Cows were particularly important for elderly people, as they can be cared for easily around the homestead and there is not much heavy labour involved in keeping them. They also featured more in the two Manikganj villages (near Dhaka) than in the two Nilphamari villages (far from Dhaka) analysed to date.

What we refer to as educational transfers (food for education, cash for education and scholarships) were also important sources of opportunity particularly for poorer households.[18] For many, these educational transfers provided an incentive to keep

[18] The Food for Education (FFE) programme, which ran from 1993 to 2002 on a large scale, was replaced by replaced by a cash transfer program (the Primary Education Stipend Program, of PESP)

children at school for longer and to delay the marriage of girls. These programmes have been effective in increasing school enrolment rates, especially for girls (Ahmed and Arends-Kuenning, 2006). Various forms of business, receipt of dowry, 'marrying up', and social protection programmes such as the vulnerable group development programme (VGD), widow's benefit and old people's benefit, and the Rural Maintenance Programme (RMP) were also important forms of opportunity and featured in more than ten percent of the life histories to date.

The sources of crisis that featured in the life histories are similar to those found in life histories conducted by Davis in Kushtia district (Davis, 2006) and in the 116 focus groups carried out in Phase I of this research (Davis, 2007). Illness, sometimes linked to the death of a family member, was a very common form of serious life crisis that can have long term consequences. Dowry and wedding expenses also feature very strongly, as it has done in the other studies (Davis 2006, 2007). In many discussions we explored the dowry problem in Bangladesh.[19] Because of their periodic 'one off' nature, the serious impact that dowries have on poor people's lives tends to be missed in many household surveys. Crises associated with the division of households and other family disputes were also very important sources of decline. Court cases as well, usually over land or marriage and dowry, were also a heavy burden among rich and poor alike. Specific instances of flooding and various storms were also important events which had a long term impact. The floods of 1988 featured most strongly in both districts. In Manikganj a serious tornado in early 1989, which destroyed crops and buildings and killed and injured many, added to this impact.[20] In Nilphamari there was also extensive crop damage due to serious hailstorms.

Some forms of crisis are localised but are still common across the country as a whole. River erosion is a common calamity and featured strongly in particular areas in both districts. It was sometimes a cause of migration and some 'pockets of poverty' were places where displaced people had resettled, after losing their land many years before.

Many trajectories of the poor people resemble the teeth of a saw. Periods of slow improvement are commonly interspersed with sudden declines. When declines outweigh improvements an overall downward trajectory pattern results. This 'declining saw-tooth' pattern has some resonance with Chambers' idea of a downward ratchet (Chambers 1983). It is useful to distinguish between trajectories where there is scope for improvement between downward steps and where no scope for recovery occurs. For the respondents who were extremely poor, a low but 'level saw-tooth' type trajectory often reflected the way that people were surviving, avoiding a declining trajectory largely because there was little scope for further declines in their life condition without total destitution and death. While in their highly vulnerable states these people were often beset by regular crises, for example; illness, the demand for dowry, and disputes.

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which continues today. Note that FFE predates all the conditional transfer schemes that are now popular in Latin America (e.g., *Progresa*/*Oportunidades* in Mexico, *Bolsa Familia* in Brazil).

[19] Note that dowry is a fairly recent phenomenon in rural Bangladesh. Before 1971, dowries were rare (Davis, forthcoming).

[20] Tornadoes in Bangladesh can be devastating, with injuries and deaths often associated with flying corrugated iron from houses.

Table 4: Sources of Opportunity

Source of opportunity	% of 74 life histories	qualitative				quantitative			
		% of 45 PP	%of 0 PN	% of 4 NP	% of 25 NN	%of 22 PP	% of 22 PN	% of 6 NP	% of 24 NN
livestock	15.4	28.9	0	25	4	13.6	31.8	66.7	4.2
educational transfers	13.4	24.4	0	25	4	18.2	22.7	33.3	4.2
business	13.4	13.3	0	50	16	4.5	18.2	16.7	20.8
dowry and marriage	13.4	13.3	0	50	16	22.7	9.1	0.0	20.8
social protection programmes	10.0	17.8	0	50	0	18.2	27.3	0.0	4.2
sons working	9.7	13.3	0	25	8	18.2	9.1	0.0	12.5
land	9.1	8.9	0	25	12	4.5	22.7	0.0	8.3
day labour	8.4	11.1	0	50	4	4.5	9.1	16.7	12.5
irrigation	8.4	2.2	0	50	16	4.5	9.1	0.0	20.8
loans	7.4	13.3	0	0	4	13.6	9.1	16.7	4.2
inheritance and household separation	6.7	8.9	0	0	8	13.6	4.5	0.0	8.3
labour migration	6.0	13.3	0	0	0	4.5	9.1	50.0	0.0
salaried work	5.4	8.9	0	0	4	13.6	4.5	16.7	0.0
garments work	3.0	4.4	0	25	0	0.0	9.1	0.0	0.0
education and training	3.0	4.4	0	25	0	0.0	4.5	16.7	0.0
daughters working	2.0	2.2	0	25	0	0.0	4.5	0.0	0.0
improved agriculture	2.0	4.4	0	0	0	0.0	9.1	0.0	0.0
gifts and help	2.0	2.2	0	25	0	4.5	9.1	0.0	0.0
family united	2.0	4.4	0	0	0	4.5	0.0	0.0	4.2
house	2	4.4	0	0	0	4.5	4.5	0.0	0.0
women's employment	1	2.2	0	0	0	4.5	0	0	0

Table 5: Sources of Crisis

Source of crisis	% of 74 life histories	Qualitative				Quantitative			
		% of 45 PP	% of 0 PN	% of 4 NP	% of 25 NN	% of 22 PP	% of 22 PN	% of 6 NP	% of 24 NN
illness	62.3	82.2	0	125	60	63.6	77.3	100.0	79.2
death of family member	37.9	37.8	0	50	56	22.7	59.1	0.0	58.3
dowry and marriage	35.2	44.4	0	75	36	40.9	59.1	33.3	33.3
household and property division and family disputes	29.5	40.0	0	50	28	31.8	36.4	83.3	29.2
court cases	18.5	8.9	0	25	40	13.6	18.2	16.7	33.3
flood	16.4	20.0	0	50	16	13.6	36.4	33.3	12.5
storms	12.4	20.0	0	50	4	18.2	22.7	33.3	8.3
injury	11.7	17.8	0	25	8	18.2	13.6	0.0	16.7
crop damage	11.1	4.4	0	25	24	4.5	13.6	0.0	20.8
family size and dependency ratio	10.1	11.1	0	25	12	13.6	4.5	0.0	16.7
multiple causes	9.7	13.3	0	25	8	18.2	13.6	0.0	12.5
theft and cheating	8.4	6.7	0	0	16	9.1	9.1	0.0	12.5
war	8.1	8.9	0	0	12	9.1	4.5	0.0	16.7
disability	6.4	8.9	0	25	4	0.0	18.2	0.0	4.2
river erosion	5.7	2.2	0	50	8	9.1	13.6	0.0	4.2
livestock loss	4.7	4.4	0	0	8	9.1	0.0	0.0	8.3
other family problems	4.7	4.4	0	0	8	0.0	0.0	0.0	16.7
debt	4.4	6.7	0	0	4	0.0	4.5	16.7	8.3
business loss	3.7	2.2	0	0	8	4.5	0.0	0.0	8.3
old age	3.4	4.4	0	0	4	0.0	0.0	0.0	12.5
abandonment and divorce	3.0	6.7	0	0	0	4.5	9.1	0.0	0.0
social exclusion	2.7	0.0	0	0	8	0.0	0.0	0.0	8.3
education costs	2.7	0.0	0	0	8	0.0	0.0	0.0	8.3
loans and debts	2.4	2.2	0	0	4	0.0	4.5	0.0	4.2
fire	2.4	2.2	0	0	4	4.5	0.0	0.0	4.2
labour migration	2.4	2.2	0	0	4	0.0	4.5	0.0	4.2
lack of work	2.0	4.4	0	0	0	4.5	0.0	0.0	4.2
lack of education	1.0	2.2	0	0	0	0.0	4.5	0.0	0.0
sale of land	1.0	2.2	0	0	0	0.0	0.0	0.0	4.2

After considering a large number of life histories it seems that improvements in poor people's lives tend to happen gradually, whereas sudden declines are common. Crises are likely to produce serious and sudden declines when the crisis either directly damaged something constitutive of a person's well-being[21], such as their health, or when a person had very few 'buffers' and low resilience (due to previous crises, limited or no ability to 'insure', few assets or savings, and poor network resources). As is well known, most poor people have few buffers and are therefore more likely to translate a crisis into a serious decline in well-being. [22]

[21] See Sen (1997) for a useful discussion on the distinction between 'constitutive' and 'instrumental' determinants of well-being.

[22] See Room (2000) for a useful conceptual framework using ideas of snakes, ladders, passports and buffers to describe a dynamic view of processes of social exclusion. See also Chambers (1989).

Section 6: Learning for Policy: The Potential for Improved Policy Recommendations from Integrated and Sequenced Qual-Quant Research

This paper aims to demonstrate the value added from integrating and sequencing a qual-quant approach to the study of poverty dynamics, with special reference to rural Bangladesh. We have examined poverty dynamics using standard quantitative methods for a sample of 907 households first surveyed in either 1994 or 2000, and surveyed once or twice since then, plus life history interviews conducted with a sub-sample of 74 individuals belonging to these households. While we expected our results to indicate various contrasts between the quantitative analysis of poverty dynamics and the qualitative assessment of life trajectories, we also expected the fuzzy nature of poverty transitions and the importance of shocks and other major life events (e.g., weddings) to be apparent from both the qualitative and quantitative data. This has largely been confirmed by the qualitative and quantitative investigations reported in this paper, and also initial work by others using the same data.[23]

As stated in the introduction to this paper, the findings we have presented are very much of an interim nature. By the end of September we expect all 300 or so life interviews to have been conducted, including further information on the histories of the communities and villages in which respondents live. During this time, we will also be working on refining the consumption aggregates from the quantitative household survey. Once this work is done we will be able to examine the nature of qualitative and quantitative poverty transitions, and the reasons for the mismatch in the patterns of mobility that we have noted in this paper more systematically using a much larger sample. Other things we plan to do with the data include examining patterns of attrition, adjusting for attrition and measurement error, comparing the patterns of mobility revealed by the panel survey and life history data, estimating quantile and nested logit regression models, and examining whether and why asset and spatial poverty traps exist.

Through this combination of quantitative and qualitative methods, we hope to better understand the changing profiles of risk and opportunity facing poor people in Bangladesh, and to clarify how these profiles shape poverty dynamics and life trajectories in greater detail. A number of key patterns and trends with important implications for policy are already emerging. These include: the ability of some people to exploit opportunities when they arise, while others are left behind; the impact of household division on different individuals; the relationship between life-cycle patterns and drivers of improvement or decline among different categories of people; and the relative importance of intermittent large and indivisible expenditure (connected with dowries, illness and injury, medical provision, court cases and other pressures) on people's life trajectories. So far we find that many of the life trajectories resemble either upward or downward 'saw tooth' patterns, and not the smooth process of accumulation or sharp decline that are hypothesised by standard quantitative models.

[23] See Davis (2007) and Quisumbing (forthcoming).

While we find it is sometimes difficult to reconcile qualitative and quantitative findings, a fully integrated and sequenced approach to the study of poverty dynamics helps to compensate for the blind spots of any single approach, and strengthens the overall research process. In attempting to understand the differences emerging from methodological approaches, we found many opportunities for mutual learning, and for cross checking and triangulating our findings. This is helping us gain a deeper understanding of the opportunities and challenges that poor people face as they struggle to improve their lives.

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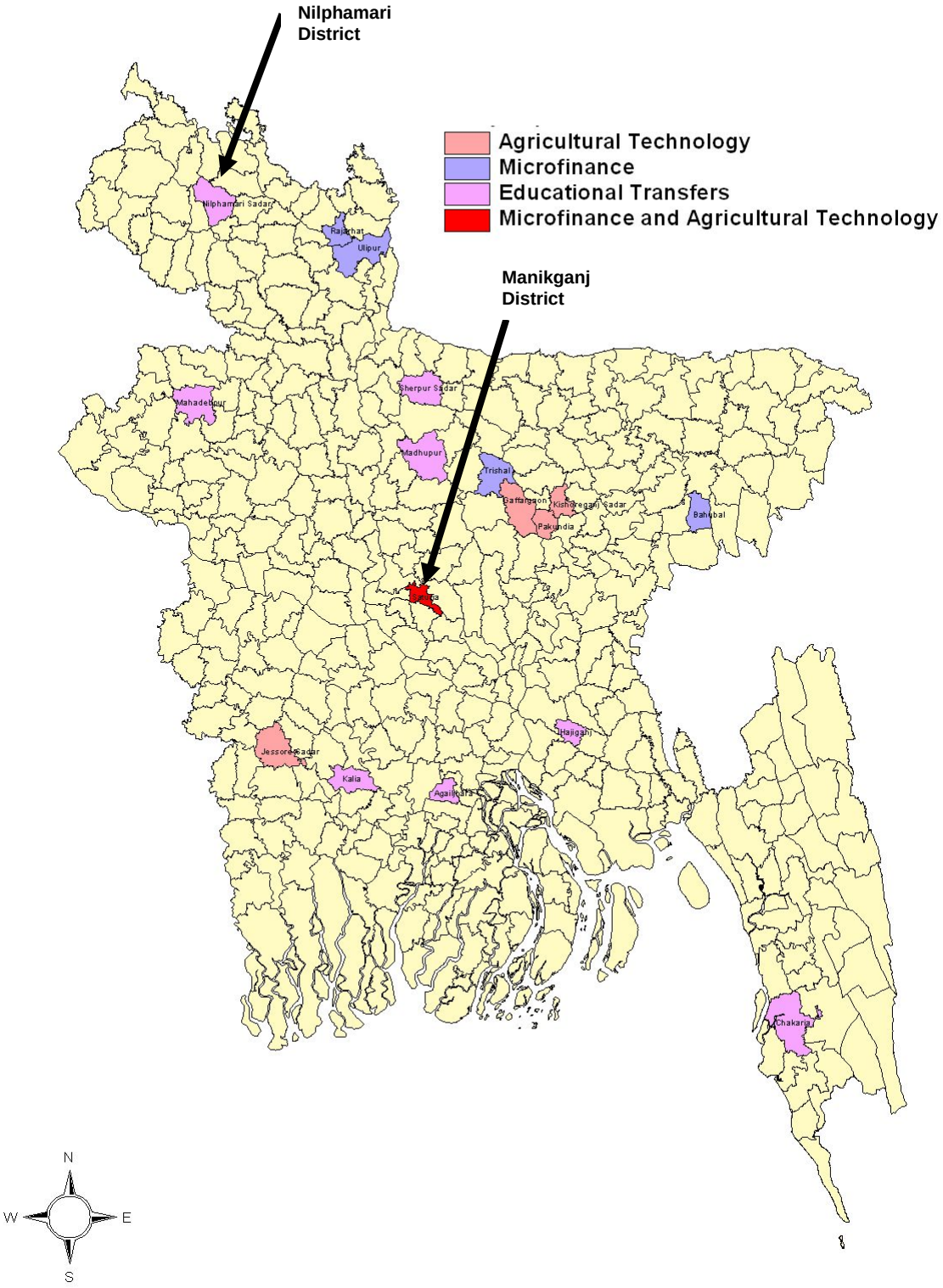
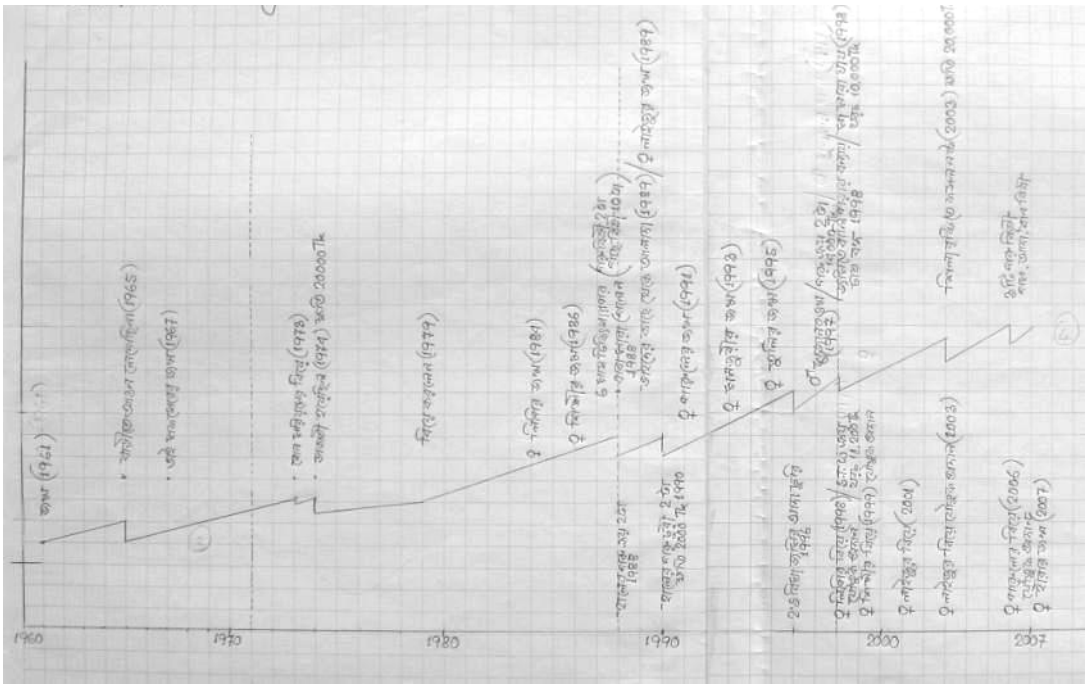
Appendix 1: Map of the Thanas/Upazilas Surveyed by Intervention



Appendix 2: Examples of life history and village history diagrams

Diagram 1: An upward trajectory

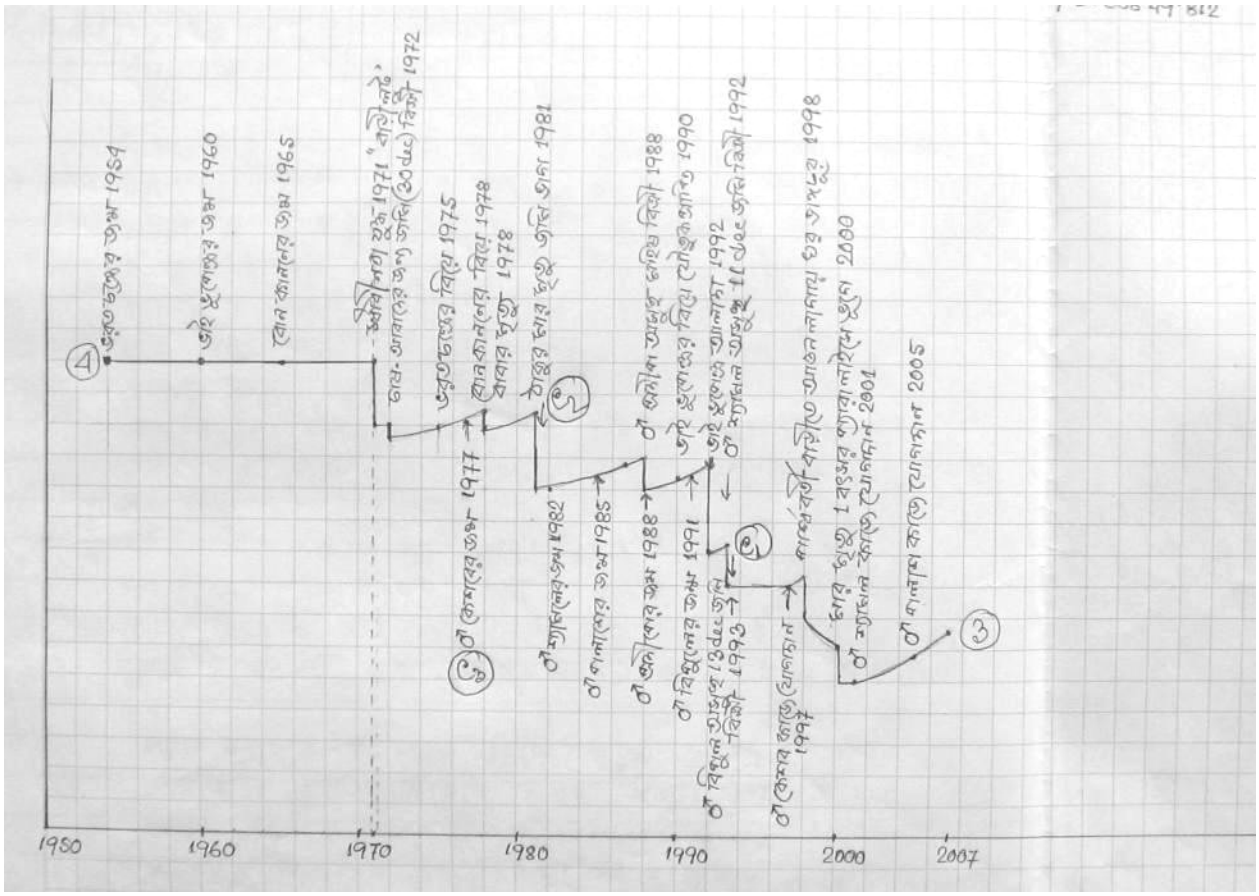


This is diagram shows a slow but long term improvement in the life of a 46 year old Muslim man in one of the study sites. When he was young he was above the level of poverty (level 3) and now we would place him in the rich category (level 4). His entire income is comes from crops and livestock and he lives with his wife and seven children. He has accumulated assets from the time of his own marriage in 1979. He started with goats (received as dowry) and poultry which were sold to buy a cow, then two cows, and eventually land in 1983 and 1986. His father died in 1988 he received a share of land (8 *bighas*). In 1997 he bought a shallow tubewell for irrigation. He now owns 16 *bighas* (about 5 acres) of land.

Even though his trajectory has been an upward one he has suffered a number of setbacks in his life. When he was young his father moved to where he lives today from another village and they didn't have any relatives nearby. As a result they were a fairly socially isolated family and were vulnerable to theft and coercion. In 1965 someone set fire to their house, in 1974 *dakats* (violent robbers) robbed his house by force, in 1990 two cows were stolen, and in 1996 crops were stolen from his fields (worth about Tk. 10,000). When he started arranging weddings for his daughters he made sure that marriages were with people in the nearby area so that his social standing could be strengthened locally.

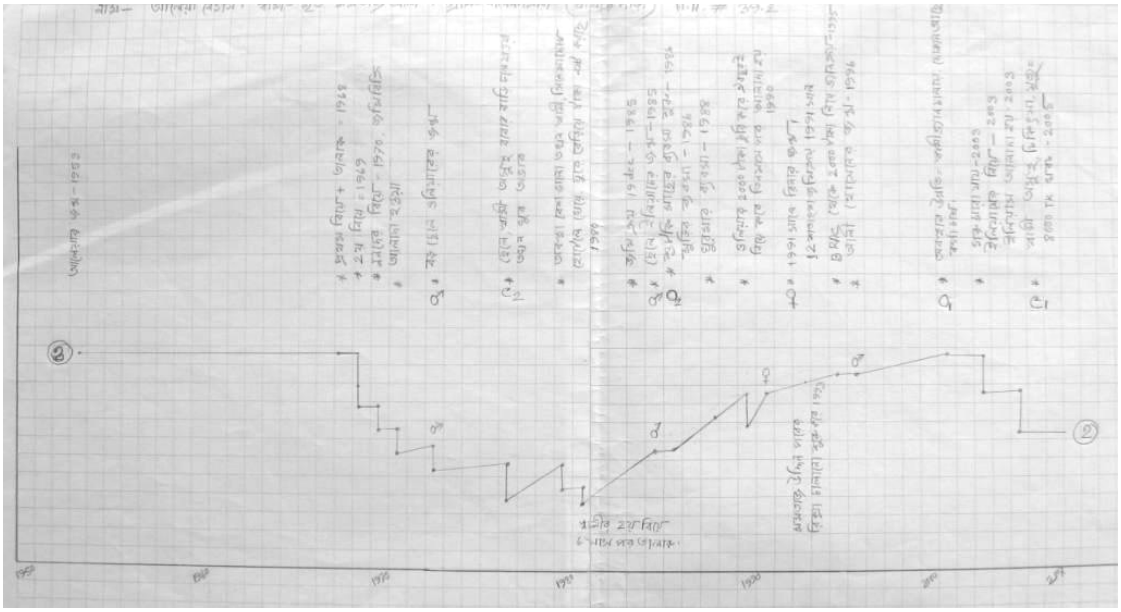
In 1988 crops were damaged in the flood and some of his land became barren due to sand deposited there during the floods. His father died at about the same time. In 1997 a road was constructed near his house with a Food for Work programme and electricity is available from this year (2007). This has allowed him to switch from fuelling his irrigation pump from diesel to electricity which is cheaper.

Diagram 2: A downward trajectory



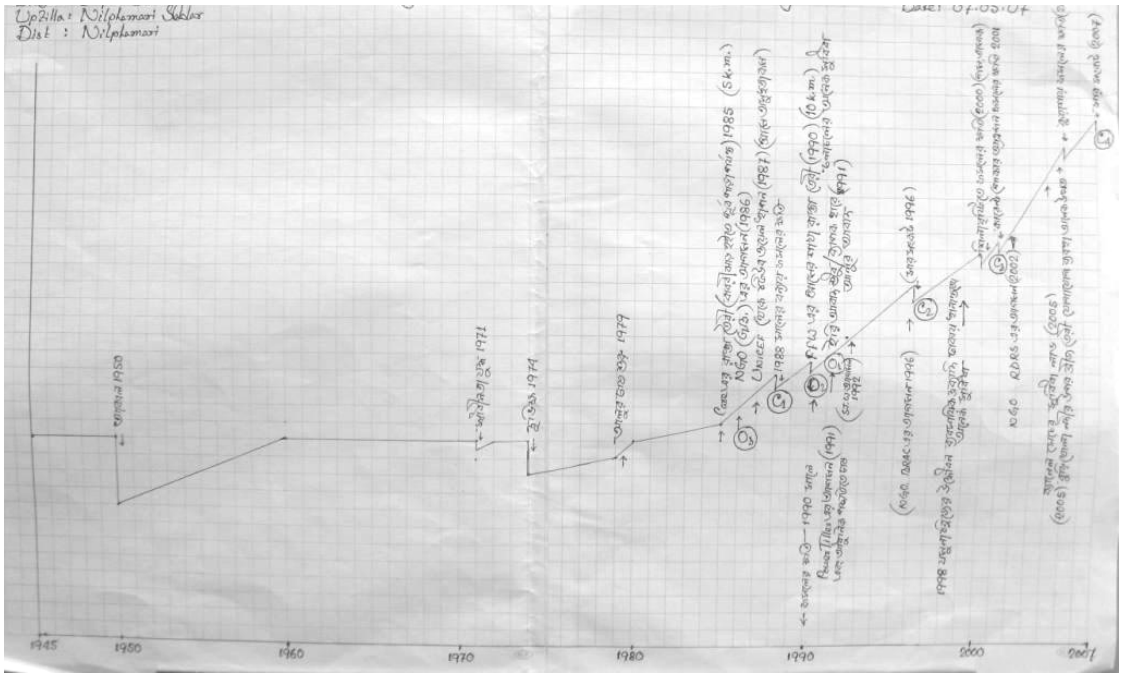
This is the trajectory of a 53 year old Hindu man who has declined from a rich (level 4) position to a medium (level 3) position but still above the poverty line. He was educated to SSC level and left school in 1972. His father owned 10 *bighas* of land. Like most Hindus in the area his family fled to India during the 1971 liberation war and returned to find their house destroyed and crops stolen. He was married in 1975 and bought 15 decimals (0.15 acres) of land from the dowry money. He also had a good government job for many years. His father died in 1978. In 1992 his son became ill and land was sold to pay for treatment. In 1998 his house was destroyed by fire. Recently two sons have started earning, allowing a recent upward turn in his fortunes.

Diagram 3: A fluctuating trajectory



This is an example of a fluctuating life trajectory of a 54 year old Muslim woman. In her childhood her father owned land and was reasonably well off. She was married and divorced at the age of 15 in 1968 and then married again in 1969. In about 1981 her husband took a second wife and then divorced the same woman six months later. She had returned to her father's house but when her husband took her son from her she returned to him. After this time her husband worked as a rickshaw puller and one of her two sons started dealing in dried fish in 1986. By 1990 her other son was also working driving a rickshaw and with the help of loans from several NGOs she had started a small shop beside her house selling simple groceries. However in 2006 this upward trajectory was reversed when her husband died after a small infection in his foot spread out of control before appropriate treatment could be given. A large amount of money was spent on treatment but it was too late.

Diagram 4: A village trajectory



This diagram was based on discussion in a focus group with knowledgeable villagers in one of the Nilphamari village sites. It shows various community level changes: the 1971 independence war, the 1974 famine, changing cropping patterns: potatoes from about 1979 and then from about 1982 irrigation became more widespread and high yielding varieties of rice were introduced. A road was built to the village in 1985 and NGO micro finance programmes started in about 1986, followed later by education programmes. In 1990 more roads were built in Food for Work programmes. In 1998 the opening of the Jamuna Bridge allowed new business opportunities with easier communications with Dhaka. Recent crises include the serious flooding of 1988, fertilizer shortages in 1996, a hail storm in 2000 and insect damage to rice crops in 2001. In all four of the villages studied so far the overall trajectories were similar with an overall improvement interspersed with setbacks usually associated with floods, crop damage, fertiliser shortages, and storms.