

## Preface

This study is part of a global research effort entitled *Moving out of Poverty: Understanding Freedom, Democracy and Growth from the Bottom-Up*. The research involved 20 studies in 16 countries around the world. Deepa Narayan, Senior Adviser in the World Bank's Poverty Group, initiated and led the research effort.

The global *Moving out of Poverty* study is unique in several respects. It is one of the few large scale comparative research efforts using mixed methods to focus on mobility rather than static poverty. The study attempts to learn first hand from poor women and men who have managed to move out of poverty over time, about the factors, processes and local level institutions that came together to support or hinder their asset accumulation. It is also the first time that a World Bank report draws on people's own understanding of freedom, power, democracy, inequality, empowerment and aspirations – and how these concepts link to creating wealth for the poor across different growth, social and political contexts.

We want to congratulate the country research teams for undertaking this work. We also want to thank Gobind Nankani, Former Vice President, World Bank and John Page, Former Director, Poverty Group, World Bank under whose able leadership and guidance, the study was formulated and launched. Deepa Narayan led the overall study design, content and methodology development and management. She was supported by a small core team based both in Washington D.C. and New Delhi: Patti Petesch, Study Coordinator, helped in overall study coordination and methodological guidance; Soumya Kapoor served as the coordinator for the South Asia country studies and provided extensive research support. Mohini Datt, Kyla Hayford, Divya Nambiar, Denis Nikitin, Saumik Paul, Sarah Sullivan, and Sunita Varada provided additional research assistance at various phases of the study; and Oykiao Koo Tze Mew and Sunila Andrews provided administrative assistance. More than a hundred colleagues within the World Bank also contributed greatly in many ways, including identifying and supporting the local research teams.

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This research effort would not have been possible without the participation of hundreds and thousands of women, men and youth who took the time to share their lives with the study teams. We must now ensure that the findings lead to follow-up action to make a difference in their lives and in creating wealth for them.



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# Moving out of Poverty in Tanzania's Kagera Region

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## 1. Introduction

The Kagera Region of Tanzania is characteristic of many parts of Africa. Being landlocked and largely dependent on agriculture it poses a puzzle to those concerned with development: how can people living in poor, remote regions of the continent with little integration in the global economy be provided with the freedom to make life-improving choices that allow them to grow out of poverty? This paper attempts to tell the story of a sample of people from this region who have managed to grow out of poverty and contrasts it to those who have not. Being based on both a quantitative 10-year panel data set of 47 rural villages in the region and an extensive qualitative data set on a subset of 8 villages, it hopes to tell this story without compromising on statistical rigor and therefore relevance of the results for formulating policies.

The paper argues that there is a dual path out of poverty in Kagera. For those with sufficient endowments of land and human capital there is agriculture. Agriculture lies at the heart of everything in most villages. The most successful people were those that diversified their farming activities, growing a combination of food crops for own consumption, cash crops for sale and keeping livestock. The most successful agricultural activities were growing cabbages, green peppers, tomatoes, pineapples and, more recently, vanilla. People who fell were those who stuck solely to the more traditional agricultural farming system of bananas and coffee.

The only alternative to agriculture is business and trade. It is found that trade is not necessarily reserved for the wealthy. Rather, the degree of connectedness of the place in which one is born, in conjunction with ones initial conditions (in terms of physical capital, like the amount of land and other wealth someone starts off with), are important. People with unfavourable initial conditions in remote clusters have little prospect of moving out of poverty; their lack of physical capital closes off both pathways out of poverty. People with similarly bad start-off positions, but living in well-connected clusters have more freedom to make life-improving choices. Business and trade in their village opens up income generating opportunities that can be tapped independent of initial conditions. A continued good health and extensive trust networks are more important forms of capital here. Illness and agricultural shocks have important negative

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<sup>1</sup> Work done for the 'Moving out of Poverty' study at PREM, World Bank. I am greatly indebted to a whole team of people who worked with me on the field. This includes Adalbertus Kamanzi, Respichius Mitti and Khamaldin Mutabazi, as well as Hanneke Honer, Adela Katunzi, Josien de Klerk, Leonard Kyaruzi, James Mitchener, George Musikula and Thaddeus Rweyemamu. I appreciate comments on an earlier draft by Stefan Dercon, Deepa Narayan, Patti Petesch and participant at the Moving out of Poverty Global Synthesis Workshop in St. Petersburg in January 2006. Any errors remain my own. Address: Joachim De Weerd, Research Director EDI (Economic Development Initiatives), Box 393, Bukoba, Tanzania. E-mail: j.deweerd@edi-africa.com. Web: www.edi-africa.com

effects on everyone, except the very richest. The degree to which one can protect oneself from these shocks is highly correlated to a person's growth path.

The next section describes the setting and data sets used. The paper then moves on to a 3-step analysis of the forces that make people move out of poverty. Section 3 presents the first step: an econometric analysis of poverty dynamics in the Kagera Region. It assesses which baseline characteristics, measured in 1993, are indicative of higher or lower 2004 wealth positions. We find that age, sex, education, disability, networks and initial welfare position play a key role in welfare changes over time. Section 4 and 5 take these regression back to the original villages and respondents they made inferences about. Through a combination of life histories and focus group discussions we see whether the quantitative results are confirmed and whether any other patterns emerge. Section 4 does this by triangulating the quantitative and qualitative work and finds that, by and large, the regression results hold up to qualitative scrutiny. Section 5 looks at the variation left *unexplained* by the regression. The method we use is closely related to the idea of Propensity Score Matching, whereby treatment (grew out of poverty) and comparison groups (remained in poverty) are constructed through econometric modelling. We have data on individuals' 2004 outcomes and on their 1993 characteristics. Through econometric modelling we can then assess what the likely growth path would have been of each individual based purely on information available in 1993. Some people will have grown as we predicted, others will not. By comparing people with similar predictions, but different outcomes we aim to fix attention to what happened in those 10 years that can explain the difference. Sections 4 and 5 attempt to build a narrative on the core question: what gives some people the freedom to move out of poverty, while others remain in poverty? Section 6 looks at the same question from a policy perspective.

## 2. Data and Setting

Kagera is located on the western shore of Lake Victoria, bordering Uganda to the north and Rwanda and Burundi to the west. The region consists of about 30,000 square kilometres of land surface and about 10,000 square kilometres of water surface. At the time of the survey Kagera consisted of 6 districts: Biharamulo, Bukoba Rural, Bukoba Urban, Karagwe, Muleba and Ngara.<sup>2</sup> It is of diverse ethnic make-up with Haya and Nyambo tribes dominating in the North and Subi, Sukuma, Zinza and Hangaza in the South. The population (1.3 million in 1988, about 2 million in 2002) is overwhelmingly rural and primarily engaged in producing bananas and coffee in the North and rain-fed annual crops (maize, sorghum and tobacco) in the South. Cash crop markets have oscillated over the years between being oligopsonies and monopsonies, with the latter market structure probably taking the overhand. Food crops, when grown in surplus, are traded locally on more competitive markets and can be exported to urban centres, neighbouring regions, or neighbouring countries. More recently Nile Perch fishing in Lake Victoria and some informal gold mines have created new income opportunities.

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<sup>2</sup> Recently 2 more districts have been added, while the regional boundaries stayed the same. Part of Biharamulo became Chato and part of Bukoba Rural became Mishenyi.

The Kagera Health and Development Survey (KHDS) was originally conducted by the World Bank and Muhimbili University College of Health Sciences (MUCHS), and consisted of about 915 households interviewed up to four times from fall 1991 to January 1994 (at 6-7 month intervals). The objective of the KHDS 2004 survey was to reinterview all individuals who were household members in any round of the KHDS 1991/94 and who were alive at the last interview. The household in which these individuals live would be administered the full household questionnaire. Excluding households in which all previous members are deceased (17 households with 27 people), the field team managed to recontact 93% of the baseline households. This is an excellent rate of recontact compared to panel surveys in low-income countries and high-income countries. The KHDS panel has an attrition rate that is much lower than that of other well-known panel survey summarized in Alderman et al. (2001) in which the rates ranged from 17.5% attrition per year to the lowest rate of 1.5% per year. Most of these surveys covered considerably shorter time periods (two to five years).

In 2005 the researchers visited a sub-sample of the KHDS villages and respondents in order to collect qualitative data on movements in and out of poverty. The villages were purposively sampled to represent different community characteristics. The stratification is summarised in Table 1. In cluster A, B, C, D, E and F land is scarce, while in clusters G and H it is abundant. In the latter 2 clusters one would be able to obtain permission from the village government relatively easily to start a farm on a fertile piece of land. In other clusters fertile pieces of land are more scarce and are generally purchased from private individuals for a higher price. There are 4 villages in the sample that have a higher degree of trade and business than the others. Finally, clusters G and H display a much lower level of social cohesion than the other clusters in the sample. This is partly related to their history, being the product of villagisation campaigns, but also due to the influx of people in search of gold in the mines nearby. In villages A, B, C, D, E and F more traditional structures are in existence and the social fibre is much stronger.

**Table 1: Stratification of Clusters**

Land Availability	Trade and Business Activities	Social Cohesion	MoP Clusters
low	low	high	B, C, D, F
low	high	high	A, E
high	high	low	G, H

Prior to the qualitative fieldwork econometric analysis was conducted to identify the factors leading to movements out of poverty (see next section). The outcome of this work was an important guideline throughout the qualitative work. First, it provided a set of very specific hypotheses that could be tested. Second, because the same individuals were included in both surveys, there were two pieces of information that steered the qualitative interviews: (i) the actual wealth position of each respondent in 1993 and 2004 and (ii) the econometric prediction of each individual's wealth position in 2004, based on their 1993 characteristics. The qualitative work then got a very specific investigative goal: try to identify what made certain people deviate from their econometric destinies, while similar people followed it closely. The word destiny is used here to reflect the idea of the study: to identify the factors that give a person the capacity or freedom to move out of poverty.

The package of qualitative instruments was elaborate and took a team of 5 people several days per village to administer. For the sake of brevity, we will only describe the two instruments that this paper will make use of most (more details can be found in Narayan and Petesh, 2005). The first was an FGD (Focus Group Discussion) called the 'ladder of life'. This FGD was conducted with 8 to 12 KHDS respondents, chosen to represent all age and gender categories. It consisted of an extensive discussion of the forces that lead people to grow out of poverty or keep them locked in it. Respondents were, at various points, confronted with the results from the econometric model and requested to give their opinion. At the end of the FGD, the participants were asked to rank all KHDS respondents, over 15 years of age and still residing in the village on a 'ladder of life', where the richest were on the top rung and the poorest on the bottom rung. This constitutes what we will refer to as the 'peer-assessment', i.e. assessment of the position on the 'ladder of life' both in 1993 and 2004 by other respondents of the same village.

Life histories were conducted with 15 KHDS respondents in each village. The respondent was asked to reflect upon the past 10 years of his or her life and tell its history. Interviews were structured around the topics of migration, education, occupation, economics, socio-cultural and psychological factors, confidence and power. To structure the life history and to focus on explaining deviations (or lack thereof) from econometric destiny, a scoring system was used through which the respondent indicated satisfaction with that aspect of life. The scoring was done using a *bao* game, which is a commonly played board game in these parts, consisting of a thick wooden board with carved out holes in which beads can be placed. The respondents were asked to consider each row of the board as a welfare dimension and each column as a year. Beads were then placed to indicate changes over time. At the end an overall assessment across the past 10 years was made by the respondent in the same fashion. In the text we refer to these scores as 'self-assessments'.

### **3. Regression Analysis**

This section presents regression results, explaining growth between 1991 and 2004 in terms of 1993 characteristics. We limit ourselves to the KHDS sample of respondents who were at least 15 years old at baseline in order to concentrate the analysis on people who have, or could have played a role in shaping their own lives between 10 years ago and now. We also exclude 4 clusters that are in urban areas to concentrate on patterns of rural growth. Further stratification to urban areas would have diluted the available degrees of freedom (especially in the smaller qualitative sample) and extensive qualitative work in urban areas was projected to consist of serious difficulties of respondent availability.

We use assets to measure welfare. Assets include the value of land, livestock, businesses, durable goods, farm equipment, food stocks and so forth. Asset values are expressed in monetary terms and a deflator, based on price observations collected in 1993 and 2004 in the clusters, is applied to make both values comparable. The questionnaire measures assets at household level and thus does not take account of differential entitlements within the household on these assets. Assets are used rather than consumption because

they are less prone to measurement error. Reducing noise was important for this study as individualised regression predictions were taken to the field to compare with the qualitative observations. This made the reduction of even random noise a priority.

While it has often been argued (especially within the livelihoods literature) that assets are better than consumption to describe the experiences of the poor, it needs to be stressed that they could, in principle, be prone to changes related to occupational mobility and investment choice rather than reflecting changes in welfare per se. For example, someone may move from farming to wage-employment, choosing to sell off farm assets, but experiencing a long-run welfare improvement. Because we concentrate on those respondents who remain living in rural areas, we expect most to *supplement* farming with other activities, rather than replace it (as will be seen below, the qualitative work confirms this). It are mainly the respondents who have permanently located outside their original villages that will see large substitutional shifts in their occupation.<sup>3</sup> In this section we further address this problem by repeating the regressions for an alternative definition of assets, which includes only those assets that are indicative of welfare: the value of household's non-productive durable goods. This alternative definition then excludes any form of productive assets as land, livestock, businesses, farm equipment, food stocks and dwellings, which could be reflections of occupational, rather than welfare shifts. Given the concerns on measurement error raised above and the nature of occupational mobility, the regressions using the full asset definition remain our preferred model and its predictions were finally taken to the field to shape the qualitative work.

Table 2 presents the results of a regression explaining 2004 asset positions with 1993 characteristics. These characteristics include individual characteristics (age, sex, education, health), characteristics of the household head, household demographic characteristics, network characteristics and initial assets position. The regressions are OLS with community fixed effects. The regression uses all 1,931 KHDS respondents over 15 years of age, not living in the 4 urban clusters in 1993 and without missing left or right hand side variables. The regression tell us which characteristics, already observable in 1993, are indicative of higher (or lower) future assets positions.

The results of the regressions are quite revealing. To put the numbers in perspective it is useful to note that the sample mean for 2004 total asset value is 2,911,600 (standard deviation 6,555,205) and for 2004 non-productive durable goods value is 96,369 (standard error 388,626). At the time of the survey TZS 1,100 was equivalent to one dollar. Means and standard deviations of all the right hand side variables are given in appendix.

The effect of schooling is significant and large. Every year of schooling adds, *ceteris paribus*, TZS 280,000 to total 2004 assets. This means that someone who had completed primary school is predicted to have close to TZS 2,000,000 more assets than someone who did not. This represents 67% of the sample mean and 30% of the sample standard deviation. Measuring only non-productive durable goods these figures are 17% and 4%

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<sup>3</sup> See Beegle e.a. (2006a) for a study, using the same data set as this paper, comparing patterns of growth of people who remained at baseline location to those that had relocated elsewhere.

respectively. In the life histories we will continually see how growers are very often people who have completed at least primary education.

**Table 2: Regression Results explaining 2004 Assets with 1993 Characteristics**

	value of all assets	value of non-productive durables goods
<b>individual characteristics in 1993</b>		
yrs of schooling	280,053 [61,078]***	16,509 [3,928]***
male	-631,795 [294,554]**	-36,020 [18,953]*
has disability	-1,000,944 [468,421]**	1,648 [30,144]
disability data missing	20,115 [366,580]	-3,494 [23,599]
<b>characteristics household head in 1993</b>		
yrs education head	87,525 [61,489]	-5,062 [3,968]
head is male	248,632 [444,567]	-6,379 [28,463]
head age	-33,768 [48,211]	-5,773 [3,076]*
(head age)^2	362 [479]	50 [31]
<b>networks in 1993</b>		
no. of children living outside the household	238,332 [67,120]***	2,723 [4,300]
<b>welfare position in 1993</b>		
household has good floor	2,053,287 [473,319]***	137,801 [30,572]***
value of assets	0.60 [0.07]***	0.41 0.09***
(value of assets)^2	-1.26*10 <sup>-8</sup> [-2.05*10 <sup>-9</sup> ]***	-1.07*10 <sup>-7</sup> [-2.95*10 <sup>-8</sup> ]***
constant	50,074 [1,278,592]	108,400 [80,913]
No. of Obs	1931	1931

OLS, village fixed effects estimates. Regressions include controls for baseline demographic structure of the household captured in 8 variables indicating the number of males and females aged 0-5, 6-15, 16-65 and 65+. Life cycle effects are controlled for by individual level age dummies indicating baseline age in years to be 15-25 (omitted category), 26-35, 36-45, 46-55, 56-65 or above 66. The right hand side 1993 asset variables definitions match those of the left hand side 2004 definitions. Standard errors in square brackets under coefficients, with stars indicating significance at 1% (\*), 5% (\*\*) or 10% (\*\*\*).

Interestingly, men do significantly worse than women having, *ceteris paribus*, 21% less total assets at the mean (about 10% of one standard deviation). In terms of non-productive durable goods they have 37% less assets at the mean, also amounting to 10% of one standard deviation. Individuals living with a disability in 1993 also do much worse, having around TZS 1,000,000 less assets 10 years later (34% of mean, 15% of

standard deviation), although this coefficient does not maintain its significance once the asset definition is changed to include only non-productive durable goods.

Networks seem to matter for growth. In 1993 the question was asked whether any of the household members had any children that did not live in the household. Only children with at least one biological parent living in the household were recorded. Typically these would be older children who have started their own household. The variable 'no. of children living outside the household' measures the number of children, of whom the respondent is the biological parent, that were recorded in this section. The effect on 2004 consumption of having one child living elsewhere is of roughly the same size as that of having one year of education. While this coefficient loses significance once a tighter definition of assets is applied, the life histories confirm that remittances from children are crucial for the building up of assets in a large number of households.

The coefficient on 1993 asset value is 0.6. A square of this variable is also included to allow for a non-linear pattern. It can be seen that the positive effect of initial assets on final assets decreases as initial assets go up, although it only becomes negative at around TZS 48,000,000, a figure outside the common range of the sample. Excluding any productive assets from the definition does not change the general pattern here: people's starting position in 1993 strongly determines where they will end up in 2004.

#### **4. Triangulation**

This section takes the results of the regression analysis back to the original KHDS respondents; back to the data points on which it was based, so to speak. This allows us to determine whether the obtained results hold up under their scrutiny and how they explain them. We attempt to elaborate on how the identified forces take effect, by studying life histories of specific respondents whose lives seem relevant to understanding the 'coefficient' in question.

There are differences between the sample used for the regressions and that used for the qualitative work. The sample for the regression analysis consisted of 1931 KHDS respondents with complete data, above 15 years of age in 1993 and originating from 47 rural baseline village. The qualitative work used a sub-sample of this as it was restricted to 8 villages. The appendix shows how baseline characteristics of these villages compare to the full sample. The main difference to point out is that the initial wealth in these villages seems to be somewhat lower than in the overall sample. If anything we are looking at a subset of 8 somewhat poorer villages, which is reflected in lower baseline assets and education. Differences in other characteristics are small in size. Perhaps with the exception of the number of prime-aged female household members, which is significantly lower among the qualitative sample, likely because of patrilocal marital exogamy and the exclusion of migrant respondents from the qualitative sample.<sup>4</sup>

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<sup>4</sup> Furthermore the processes that underlie growth paths in these 8 villages are similar to that of the whole sample. A pooling test was performed, whereby the regression model of Table 2 was repeated with addition of all right hands side variables interacted with a dummy indicating whether or not the individual's baseline



An important difference between the two samples is that quantitative sample includes people who, by 2004, had moved out of the original cluster, while the qualitative sample does not (due to budget considerations). This reduces the qualitative sample on which we have full peer and self assessment data to 115 observations. Still the regression results and thus econometric predictions that the research team took to the field were based on the full sample of those who stayed and those who moved. This was done to keep true to the idea of the exercise: to predict on the basis of 1993 characteristics where someone would end up in 2004. Migration between 1993 and 2004 was not observed at baseline. Even people living in the village at the time of the survey had, from the viewpoint of the analyst, the potential to move. Beegle e.a. (2006a) discuss the welfare dynamics of people who have relocated away from their 1993 residence and find that their growth paths are much steeper than those who remained.

We will use the peer-assessment data from the FGD ladder of life and the self-assessment data from the life histories to compare the qualitative with the quantitative data. The peer assessments are steps on the ladder of life and interpersonally comparable within the same village, but not necessarily outside the village. The absolute values of the self-assessment scores are not interpersonally comparable. Therefore we opt for purely ordinal comparisons, whereby a person's movement is expressed by a simple binary indicator taking on the value of 0 if the person's score has dropped or stagnated from 1993 to 2004 and a value of 1 if a person's score has risen from 1993 to 2004.

Table 3 shows that a larger percentage of respondents with completed primary at baseline have rising self-assessments and peer-assessments. People with at least primary education performed better both in the economic sphere as in terms of social status and self-esteem. From both the focus group discussions and the life histories it became apparent that people hold very strong hopes for education. There are definitely sceptical respondents who point to educated children being out of a job and people without primary school having work, but the vast majority of respondents recognised education as an important factor of growth. People without education, even if they were successful, were found to say: *"with education I would have been further than where I am today"*. Education is seen as important in many spheres. Respondents talk about the importance of education for farming, for obtaining loans, for understanding democracy and so forth. A typical response after an FGD discussing the topics of freedom, power, inequality and democracy would be *"we need more people like you to come and discuss these matters with us; we are little educated on them"*. Other telling quotes on education are: *"our children who have studied are the ones that now have motorcycles and kiosks"*; *"our children who have studied are the ones doing business in the village. They also transport agricultural produce to nearby markets"* and *"Students from our school in the village are the ones with houses"*. Respondents in some clusters saw their credit constraints explained by lack of education. They said they needed to be taught how to obtain loans. Underlying was the idea that loans are available, but they did not consider themselves educated enough to access them.

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location was in one of the 8 villages from the qualitative sample. A joint significance  $F$ -test of all interaction terms had a value of 0.99, with a  $p$ -value of 0.47.

A perhaps surprising result from the regressions is that men do significantly worse than women. Table 3 shows that the same finding does not carry through to the qualitative results. The focus group discussions suggested at least one reason for this. For women the respondents commented that they “*have climbed from poverty because they have been married in richer families*”. Respondents suggested that women look for men who are richer than them and climb out of poverty in this way.<sup>5</sup> The figure from Table 3 then suggest that such ‘marrying out of poverty’ does not necessarily translate into higher peer or self-assessments in different spheres of life.

**Table 3: Qualitative assessments of welfare growth over 10 years**

	% whose peer- assessment rose	% whose economic self- assessment rose	% whose social self- assessment rose	% whose overall self- assessment rose	No. of obs.
not completed primary at baseline	44	36	18	39	70
completed primary at baseline	50	59	41	59	45
female	44	41	25	43	61
male	50	54	33	56	54
no disability at baseline	47	49	29	52	89
disability at baseline	39	28	22	33	18
had no children residing outside the HH at baseline	48	58	37	58	62
had at least one child living outside the HH at baseline	45	34	19	38	53

Peer-assessments were obtained through a focus group discussion as steps on a 6-step ‘ladder of life’ and self-assessments during a life history as satisfaction with aspects of life with values between 0 and 10. This analysis is purely ordinal and looks at the percentages of people whose 2004 score/step is higher than their 1993 score/step. Social self-assessments includes self-confidence and respect in the family and in society.

Table 3 further shows that more people living with a disability at baseline saw their peer and self-assessments go down compared to people without such disabilities. Disability is self-defined and can range from minor chronic ailments like poor eyesight and a limp to more serious disabilities like blindness and missing limbs. It also includes chronically ill people who report feeling weak and unable to work. Both the life histories and the focus group discussions show how disabilities and chronic illnesses are important deterrents to growth. People speak of high recurrent hospital bills and lack of power to work on the

<sup>5</sup> So we are left with the question: who marries the poor men in the village? The answer we got from the focus group discussions was clear: no one. In all villages one of the most prominent characteristics of those on the lowest step on the ladder of life was that these were all were men without wives. Most women, however, were married. This kind of marriage selection, whereby the poorest men fall out of the boat could explain why polygamy does not lead to a shortage of brides in these villages (a growing population could be an alternative explanation).

farm. In the FGD on freedom, inequality, power and democracy, people would invariably think of power first in a physical sense and only then in a social sense. Many of the disabilities in the life histories hit elderly people. They noted how their decreased strength made them their “*children’s children*”.

The life histories confirm that remittances from children are crucial for the building up of assets in a large number of households. The majority of respondents who have older children report being very dependent on them to maintain their current lifestyles. Many people will see their lives take a sudden, drastic turn for the better when a child gets employment and starts sending in remittances. Children living outside the village send the highest remittances. A handful of respondents have children who do not assist them and they claim this hurts them: they are left with a feeling of failure, it undermines their respect and self-confidence. In the ladder of life not having children was a recurrent characteristic of the very lowest step. Just up from the poorest step, people were often reported to be able to grow out of poverty through their children. Rich people were reported to be able to maintain their wealth through transfers from their (well-educated) children.

Children are particularly crucial for widows. After the father dies a son will usually inherit the land and the house on it. The widow can then only stay on in so far as her own son allows her to. Children living outside the village send the highest remittances, but also have the highest likelihood of cutting off all contact with home. Children who live within the village often give assistance in the form of labour, but this is frequently seen by the parents as less important. A handful of respondents have children who do not assist them and they claim this hurts them: they are left with a feeling of failure, it undermines their respect and self-confidence. Other respondents have had children in whom they had put much hope, or on whom they were very dependent, die. This is reported as a determining shock in these households. One woman said: “*I do not have confidence because my husband is no longer here. My husband left me a child who is also gone. My own children live far from here!* [i.e. they broke off contact] *Who can look after me now? If I am too sick to take myself to hospital I will die*”. Compare this to another woman from the same village who has 6 children living and working in Uganda who regularly visit and send remittances: “*With all my spells of illness my husband would have had to sell most of our assets if we didn’t have our children supporting us*”.

The regressions showed that 2004 outcomes were to a large extent dependent on where a person started of in 1993. The qualitative work identified at least two important mechanisms to explain this dependence. First there is some evidence of the ex-ante costs of risk keeping people in poverty. The richer traders engage in highly risky activities. The kind of shocks they experience are enormous. It is not unusual to read about shocks of around 1000 dollars on business investments gone wrong. The most important fact is that they are able to cope with these shocks and therefore potential exposure to them does not deter them from entering into high-risk, high profit enterprises. As one of our most successful respondents, who has a farm, a plot of timber trees, real estate and a profitable trading business, exclaimed: “*There is nothing that can hit trade, stock, the farm and the trees!*”. These forces have been studied in Tanzanian context by Dercon (1998). Second,

the forces of informal network formation seem to fail the poor. It was frequently mentioned how the poor aspire to befriend the rich, but not each other. The focus group discussions included an example comparing idiosyncratic shocks hitting a rich person versus a poor person. For a rich person the participants would say: “*Every morning and every evening you go to check on him. If you can think of a way to help him you will be happy to do so. You never know: when he gets better he may remember you*”. A poor person who fell sick was said to be lucky if anyone at all came to visit. This pattern of network formation, unfavourable for the poor, has been studied in Kagera by De Weerd (2004).

Finally, in contrast to younger people, elderly people who have moved up according to their peers and their formal questionnaire will still report moving down according to their life histories. Out of all *growers* (in terms of assets and peer-assessment scores) over 60 years old in 1993 about 70% reported a *decline* in their self-assessment of overall welfare, compared to only 30% growers under 60 who do the same. The respondents noted a combination of declining health, declining respect and a general feeling of loss as the reason for their lower welfare. Interestingly, while the focus group discussions and quantitative data concentrated on picking up the more objective economic changes, the life histories picked up more subjective psychological states. Even for old people who have gone up economically, the decline in their health status and their feelings of loss and deterioration seem to outweigh their economic improvement.

## 5. Matching Analysis

The previous section, by and large, confirmed the results from the quantitative analysis. Still the regression results are not able to fully explain patterns of growth. A ‘perfect’ model would give an exact prediction of everyone’s 2004 asset status. The model we used does not do this. Table 4 assesses the accuracy of the predictions derived from the regression (using all assets). It is seen that 78% of the people whose assets were predicted to drop did in fact see their assets drop. In other words, for nearly four fifths of the individuals whose assets went down, this drop was predictable in 1993 (based purely on the observed characteristics used in the regression). Upwardly mobile individuals, by contrast, were much harder to pinpoint. Only about half of the people that were predicted to rise did in fact do so. This suggests that the processes that keep people locked in poverty are relatively well captured in the regressions, while those that make them move out of poverty are more elusive. Furthermore if for nearly four fifths of the fallers in the sample their economic decline was predictable 10 years ago, then that points to their lack of freedom to move out of poverty. In the analysis below we will identify these people and contrast them to people with similar baseline characteristics and econometric predictions, but who were able to defy their dire econometric destinies and grow out of poverty. Through this analysis we attempt to come to the core of whether and how poor people in Kagera are able to shape their own future and move out of poverty.

The KHDS data set allows us to identify individuals who were similar 10 years ago, but have since followed different growth paths. Through regression analysis done prior to the qualitative work it was predicted by how much an individual would have grown (in terms

of total assets), given what we knew about him/her 10 years ago. This includes a range of individual and household characteristics and controls for fixed village effects, but excludes shocks that happened between 1993-2004 and excludes, of course, any unobservable information, like zeal or natural resistance to disease. Each individual was then assigned a predicted movement and an actual movement, which guided the selection of individuals and the subsequent interviews with them. By comparing life histories between individuals with similar predictions, but different long-term outcomes we can identify what the regressions left out and investigate what made them deviate from the econometric model.<sup>6</sup>

**Table 4: Accuracy of the Predictions (No. of individuals and row percentages)**

	assets went down	assets went up	total
assets predicted to go down	698 (78%)	192 (22%)	881 (100%)
assets predicted to go up	517 (49%)	530 (51%)	1,047 (100%)
Total	1,206 (63%)	722 (37%)	1,928 (100%)

The first two columns of Table 5 show how the characteristics of the surprise growers (those who were predicted to fall, but in fact rose) compare to their ‘comparison group’, namely those who were also predicted to fall and actually fell. The last two columns of the table show how the surprise fallers (predicted to grow, but fell) compare to their ‘comparison group’ (people predicted to grow and grew). It can be seen that while 90% of the surprise growers diversified their farm activities, only 20% of their comparison group did the same. Similarly 38% of the surprise fallers diversified their activities, while 97% of their comparison group did the same (in other words 62% of the surprise fallers did not diversify their farm activities, compared to 3% who did not diversify in the comparison group). Other factors that explain the ‘surprise’ predictions are related to expanding and losing land, good intra-marital relationships, experiencing major illness or death, widowhood, divorce, separation, exposure to life outside the village and diversification into off-farm activities.

The next section will start from these summary results and complement them with more contextual data from the life histories and information from the focus group discussions. More specifically the ‘failure’ of the econometric model can be broken down into the following reasons:

- (i) occupational choices made between 1993-2004
- (ii) shocks that occurred between 1993-2004
- (iii) characteristics unobserved by the econometrician
- (iv) specification errors of the model

<sup>6</sup> In effect what we are doing is constructing treatment and comparison groups in a manner close in spirit to Propensity Score Matching (Heckman e.a., 1997; Jalan and Ravallion, 2003).

**Table 5: Variables explaining deviations from the predicted growth path**

	surprise growers	predestined fallers		surprise fallers	predestined growers	
<b>predicted movement</b>	fall	fall	chi-square	grow	grow	chi-square
<b>actual movement</b>	grew	fell	value	fell	grew	value
<b>Number of individuals</b>	20	35		32	33	
Have diversified farm activities	90%	20%	25.15***	38%	97%	26.27***
Have expanded land	75%	46%	4.44**	22%	85%	25.92***
Have lost land	0%	17%	3.85***	28%	9%	3.91***
Mention good intra-marital co-operation	65%	46%	1.90	44%	70%	4.46**
Experienced major illness or death	35%	83%	12.89***	91%	52%	12.01***
Widowhood, divorce & separation	10%	46%	7.37***	28%	18%	0.90
Have higher level of exposure	70%	54%	1.31	63%	67%	0.12
Have diversified into off-farm activities	70%	43%	3.76*	34%	67%	6.78***

stars indicate significance of chi-square values at 10% (\*), 5% (\*\*\*) and 1% (\*\*\*).

### **5.1. Occupational Choice after 1993**

Agriculture lies at the heart of everything in most villages. During FGDs discussing determinants of growth, the largest share of points raised would be related to agriculture. The potential to engage successfully in agriculture is strongly determined by ones start-off position. One needs, at least, to have established a fertile plot of land and have access to sufficient labour. It is clear that it are especially people who do not fulfil these conditions that have little prospect of moving out of poverty. Examples that can be taken from the life histories are those who did not inherit land, those who got too old to work and those who own infertile pieces of land. As will be discussed below the likelihood of growing out of poverty for people who do not fulfil these minimal conditions is determined by the remoteness of the village in which they live.

Even people who do have sufficient land and labour identified several problems related to agriculture. First there were the unequal relations with buyers, especially in the more remote areas. People felt powerless towards them. They did not understand their grading mechanisms, nor their weights and measures. Lack of competition and information in these markets seems the most likely cause of this. Second there was infrastructure. Prices of local transport are usually extremely high. People reported huge costs of living even short distances from the road. Farm gate and market prices are very different in remote areas. Equally important is that this difference is felt to be random, depending on happenstance rather than directly related to the cost of transport. By contrast, prices in villages with close ties to the bigger regional markets are pinned to the regional price. In the more remote clusters (B, C, D and F) the most important hindrance to growth was reported to be the poor transport network causing bananas, beans and maize to rot in the

field because they cannot be marketed. Third are human capital constraints. Good health means everything to the farmer. A recurrent theme in the life histories was ill-health, usually mentioned in the context of a loss of strength and productivity on the farm. As will be seen in the next section on shocks, a large share of people who had performed below expectation had suffered from ill-health, while their econometric matches had been in good health over the same period.

Most flourishing households had diversified their farming activities, growing a combination of food crops for own consumption, cash crops for sale and keeping livestock. Growers typically grew cabbages, green peppers, tomatoes, pineapples and vanilla. Farmers who fell below their econometric expectation were those who stuck to the more traditional agricultural farming system of bananas and coffee. One may rightly wonder about cause and effect here. Respondents in the FGDs pointed to the fact that diversification caused movement out of poverty, but that lack of knowledge and credit were important entry deterrents.

Successful diversification into off-farm activities explained the biggest success stories. These consisted of people who are involved in trading Kagera's food crops across the country and across the borders. Typically they have a farm at home, on which their family will stay, and which will provide them with food. They may also own a small shop in a nearby centre. "*There is nothing that can hit trade, stock, the farm and the trees!*", claimed one of our most successful respondents living in Cluster A. These are people with exposure, who speak several languages (Kihaya, Kiswahili, Luganda, Kinyankore and English are common), they have contacts with border officials and tax revenue collectors, but also have a set of local people whom they can trust. These local people are often young ambitious apprentices who act as couriers, or go-betweens between the trader and the farmers. These apprentices are the future movers out of poverty. Moreover they do not depend on capital: the continued trust of their "*tajiri*" (rich guy), as well as a reliable health are more important. Over the years they do not only build up assets and financial capitals, but also a network of people outside the village, experience in the trade and are exposed to new ideas from outside. As will be explained below, this path out of poverty, which is less dependent on ones start-off position, is closed for those with unfavourable initial conditions living in more remote villages.

## **5.2. Shocks after 1993**

One of the most striking observations from the life histories is that poor people's shocks are not more severe than those of others. We see that the most entrepreneurial people, who are often those that grew most over the past 10 years, have suffered the largest shocks, at least in absolute terms. These shocks include big investments gone wrong, theft of the entire contents of a shop, loss of a truck of goods and so forth. Poor people seem to suffer disproportionately from the relatively smaller shocks they receive. Consistently in the life histories and ladder of life it is shown how the poor are vulnerable to these shocks. Mortality, illness, divorce and domestic violence interfere directly with the land and labour supply of a household. The life histories show how these shocks cause periods of great psychological suffering. Harvest failure, drops in prices of

agricultural products and so forth further affect the profitability of farming activities. There are also positive ‘shocks’ like children who become employed, bumper harvests and increases in prices of agricultural produce. Shocks in Kagera and Tanzania have been studied by Kessy (2004), Christiaensen e.a. (2005) and Hoogeveen (2005).

### *Agricultural Shocks*

Those who underperformed according to their econometric prediction typically had lost land, had lost labour and had bad intra-household co-ordination of their agricultural activities (because of bad intra-marital relationships). The most commonly mentioned agricultural shocks were the collapse of coffee prices between 2000 and 2003 and the excessive el-Niño rains in 1997/98. Some of the villages in this survey had suffered from wide-spread hunger in certain years over the past 10 years. The last spell of hunger was in 2003 in cluster F. The hungers have made a very sharp contrast between the powerful and the weak in this village: *“those with their money made us work for them, for it was better that way than dying of hunger”*, commented a man. Illness and hunger are arguably the most important problems in this village, affecting a person in every aspect of his/her life: *“When you are sick and hungry you want to work and earn food. But you cannot; you are powerless”*. Diversifying farm activities or taking on additional non-farm activities was the single most important way in which the most successful respondents managed agricultural risk.

### *Mortality*

Mortality changes the production factors of a household’s economy through reduced labour supply. Especially the poor are vulnerable to this as credit constraints prevent them from hiring labour. Deaths are not easily predicted econometrically, at least not in the model used here. That is why mortality consistently shows up as a factor determining why people deviated downwards from their expected growth path.<sup>7</sup> The life histories demonstrate how premature mortality causes great grief in the household. A large number of the dips in the social self-assessments scores were explained by the loss of spouses, siblings, children and parents. Losing children prematurely is especially devastating. A woman in her seventies from Cluster C who has lost seven of her ten children says: *“Losing adult children is very painful. It is like a pot breaking when you have already washed your hands to eat.”* Although Dercon e.a. (2006) discuss the prevalence and importance funeral associations in Kagera, their assistance remains limited to covering the funeral costs and providing some labour assistance during the mourning period.

### *Illness*

There are huge costs to illness. De Weerdt and Dercon (2006) find that idiosyncratic health risks are not insured in their study area in Kagera. They find that serious illness negatively affects consumption, especially non-food consumption. This suggests that the current risk mitigating and avoiding strategies are not sufficient to insure people against illness shocks. This research shows that an illness shock will often resonate for some time and have a persistent spiral effect on poverty. Ill-health is a very important theme throughout all life histories. It was usually mentioned in the context of a loss of strength

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<sup>7</sup> See Beegle e.a. (2006b) for an econometric model that specifically looks at the impact of adult mortality on the same sample.



and productivity on the farm. Table 5 shows how a large share of people who had deviated downwards from their econometrically determined growth paths had experienced episodes of serious illness they did not manage to cope with. It is not, however, illness as such that caused their downfall, indeed even better off people have stories about long periods of illness. Rather the poor lack the ability to pay for treatment costs. The life histories repeatedly tell stories of how poor people trade off the two most important endowments they have – physical and human capital. In case of a serious disease they either have to sell land, livestock or other assets or else compromise on their human capital by undergoing the consequences of the illness. The life histories show how painful it is to have to make such a trade-off, in either of the two directions.

### *Widowhood*

Women are more vulnerable than men. If they did not acquire land of their own in the course of their life, then they remain very dependent on their husband and his clan. If he dies without making sure she has sufficient entitlement to the land (either because death came suddenly or because he has another wife that he prefers to give the inheritance to), or they separate or divorce, she will be left with nothing. There are a number of life histories of this nature. A widow in her seventies from cluster C laments, *“after my husband’s death, his will stated that the house and farm go to my co-wife. I lost a good house. At my age I’m forced to feed my hands to the snakes while cutting grass for thatching. As if I’ve never lived under an iron roof before!”*

Women are often entitled to use clan land without owning it. The chance of getting clan permission for this is higher for women with male children. In such cases the clan is assured long-run ownership of the land. Even if the woman takes full control during her life, the land will ultimately be inherited by her son and thus return to the clan. This also implies that it will be at the discretion of the widow’s son to decide to let his mother use the farm or not.

Many women get involved in disputes with the in-laws and lose any inheritance rights. Often this happens during divorce or when a polygamist dies with several wives fighting over the land. The life histories show that these are stories of extreme economic, social and psychological downfall. Women often feel cheated out of their inheritance. They lack the links to the clan and to the village government to stand up for their rights. Although they are invariably left with the feeling that injustice has been done upon them, many prefer to keep things quiet, not complain and try to move on with life in their village with whatever endowments they have.<sup>8</sup>

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<sup>8</sup> Many development organisations are concerned by anecdotal evidence of widows leaving their home village and moving to the fishing islands. In these anonymous environments they can hide their past marriage and husband’s death. This allows them to remarry and/or seek employment as supposedly uninfected and therefore safe prostitutes. While there is no doubt that this phenomenon exists, KHDS finds no evidence of a mass exodus of widows out of the village as it is sometimes portrayed. Starting from the KHDS 1993 sample of 534 married women we see that 122 lost their husbands in between 1993 and the resurvey in 2004. Out of these 122 widows, 100 were found residing in the same village as they were living in 1993 and 9 were found in nearby villages. Out of the remaining 13 women, only a couple were found living on the islands. In total 10% of them were remarried by 2004, while 90% were recorded as widows (hence not lying about their husband’s death). These figures concern women who were already married in

The daughters of the deceased may also suffer in case they have problems in their own marriage. Although Tanzanian law stipulates otherwise, traditional law excludes girls from inheriting land, houses and livestock after their fathers' death. A daughter finds herself at the mercy of her male siblings and their male children. She will typically live and work on land she does not own, liable to eviction at any time. A 42 year old woman from Cluster D fell victim to this system. She left her husband and went back to her parental home. When her father died in 1994 she inherited nothing. *“All land was given to the male children. I moved onto the plot that my little brother [who was only a child then] inherited. I took care of him until he reached adulthood. I worked on the farm, but knew that I could be kicked out any time.”* When her brother became an adult and got married, she did not get along well with her sister-in-law and was forced to move out.

### **5.3. Unobserved Characteristics**

Unobserved Characteristics include intra-marital relations, alcoholism, zeal and so forth. Repeatedly it were these unobserved characteristics that people stressed most in focus group discussions as reasons why people did not move out of poverty. Laziness and alcoholism were most frequently mentioned.

#### *Exposure*

Growth was for a large part explained by diversification of livelihood sources. Diversification in itself was for a large part explained by exposure. Respondents who reported to have travelled little and have never lived or worked outside their own village seemed less likely to diversify their incomes, even in terms of diversifying into different farming activities. Of course one can wonder whether there may not be some individual trait that explains both ones entrepreneurial skills and aptitude to travel or migrate. Respondents do seem to suggest a causal relationship, with many claiming that seeing and learning different ways of doing things and learning ‘to live with different kinds of people’ were important skills that they got by exposure outside the village. In short it broadened their perspective and helped them think about their income earning activities in more innovative, less traditional ways. Exposure, having the right friends, travelling and getting ideas assist people to move up. Lack of these factors make people stay down: *“we need friends who can give us good ideas. If you are a farmer and you invest your friendship in other farmers like yourself, there is no way you will climb”*.

#### *Zeal, laziness, alcoholism and intra-marital relations*

Many of the respondents who grew attributed this to their hard work, their moderate drinking habits and their co-operation with their spouses. Even with qualitative work, it remains hard to get a grip on these factors. It is striking how people who grew substantially over the past 10 years mentioned the importance of their personal traits and, often, the good co-operation they have with their spouse. However, none of the people

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1993 not the younger generation who got married after that. But even zooming in on that generation of women – say girls aged 5-20 in 1993, who would be 16-31 years old by 2004 – we see that only a handful of them moved to the islands. Of course, the small numbers do not reduce the gravity of these women's plight.

who did not grow mentioned this. Some life histories are accounts of people who claim they are converts, having suffered from alcoholism and laziness in the past, but currently leading better lives. Sometimes religion is stated as the impetus for such a change. In the focus group discussions, by contrast, laziness and alcoholism are very prominent for explaining why people remain in poverty.

#### ***5.4. Specification Errors: The role of Remoteness***

A peculiar pattern emerges once we split the statistics of the surprise growers and surprise fallers up into remote and well-connected clusters. Table 6 shows that in well-connected clusters A, E, G and H the initial conditions (i.e. initial wealth in terms of land and other assets) could not add any additional explanatory power *over and above* what the regression explained. In remote clusters B, C, D and F, however, worse initial conditions did explain why people had not performed as well as their econometric predictions: 56% of the surprise fallers had bad initial conditions, while only 36% of their comparison group had bad initial conditions. Likewise having better initial conditions did not help much in explaining the surprise growers in the connected clusters, while it did in remote clusters: 71% of the surprise growers in the remote clusters had better initial conditions compared to 43% of their comparison group of predestined fallers. Thus while unfavourable initial conditions kept people locked in poverty in remote clusters, they did so to a lesser extent in well-connected clusters.<sup>9</sup> The increase in trade and activity provided people with more freedom from their start-off positions in life.<sup>10</sup>

Clusters B, C, D and F are more remote clusters with little trade and business activities. They are far removed from larger markets and see fewer middlemen visiting their village to buy agricultural produce. Here worse initial wealth status has been a bigger constraint than the regressions predicted. In the words of one respondent the poor remain poor “*because they had nowhere to begin moving upwards from*”. In the more remote villages people relate any upward mobility of the poor to assistance. In the FGDs it is typically only from around step 3 on the ladder of life (out of 6) onwards that people are seen as capable of rising through their own efforts.

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<sup>9</sup> The role of location in livelihood choice has been highlighted by, among others, Dercon and Krishnan (1996) and Ellis (2000).

<sup>10</sup> If the regressions *do* control for initial conditions, but their effect remains important in explaining deviations from the model in remote clusters, then this implies that the model had a specification error and should have included an interaction term of remoteness and initial conditions. While the fieldwork strategy was moulded on the predictions that arose from the model presented in Table 2 with total assets as dependent variable, we can, equipped with this new information, estimate an alternative model which does include these interaction effects. Interacting initial schooling and initial capital endowment with remoteness (dummy indicating the cluster is far from markets and roads) confirms the qualitative analysis: initial conditions are more important in remote clusters than they are in connected clusters. Adapting the model taken to the field to include these interaction terms we see that initial assets have a coefficient of 0.55 [0.09], while the interaction term has a value of 0.26 [0.15]. With square brackets indicating standard errors this makes the interaction term significant at 8%. The interaction of remoteness with squared initial assets is significantly negative at 5% suggesting the pull-down effect of initial endowments wears off more quickly as assets go up in these clusters. The interaction of remoteness with initial schooling was not found to be significantly different from zero.

**Table 6: Interplay Between Remoteness and Initial Conditions (% of respondents with bad initial conditions)**

	surprise growers	predestined fallers	surprise fallers	predestined growers
<b>predicted movement</b>	fall	fall	grow	grow
<b>actual movement</b>	rose	fell	fell	grew
Connected Clusters	69%	58%	56%	47%
Remote Clusters	29%	57%	56%	36%

Clusters A, E, G and H, by contrast, are situated in or near trading centres. Cluster A lies on the border with Uganda along the main Uganda-Tanzania trading gateway in Western Tanzania. Trucks are held up at this border to clear through customs and buses and cars stop to take care of immigration formalities. Many traders pass by this village and transport to town is easy. Clusters G and H, similarly, lie at the border with the Kigoma region. They constitute important trading centres with traders from other regions coming to buy Kagera's goods. Additionally there has been an influx of money from the informal gold mining activities that go on close to these two clusters. Cluster E serves as a hub for banana trade from the plateau on which it lies. Traders from all over the country visit frequently. They come to buy bananas, while bringing in goods from Uganda and Mwanza.

The life histories and focus group discussions reveal four important reasons why this increase in trade and business reduces dependence on initial endowments. First, traders from other parts of the country hire casual labourers to assist them with loading trucks and carrying goods.

Second, any trader will forge links with people who have superior knowledge of local markets. This may range from people who go deeper into the villages to buy crops to local 'managers' of the trader's business. Over the years their involvement with the trader will teach them the ins and outs of the business, will build up their networks and many will end up entering into the trade themselves. Trust is the most important asset in this relation; land and other initial endowments are less important. "*You do not need capital to grow, being trustworthy is more important*" commented one respondent in cluster A. While trust is the most important assets, human capital is also essential: a certain degree of sharpness and a continued good health. Similarly endowed individuals living in remote clusters have little chance of taking this route out of poverty.

Third, the influx of money in the cluster increases the level of specialisation people can afford to be engaged in. Some activities, like brewing and distilling, which create added value to local products, may require little capital, but they remain dependent on the total income or production of the village.

Fourth, contact with people from elsewhere provides innovative ideas and builds up networks outside the village which can be tapped for employment opportunities. Once friendship has been forged with people from other regions this opens the door for travel in the future.

Focus group discussions and life histories further revealed that also land availability in a cluster is important in determining dependence on initial conditions. Clusters G and H are least land constraint and independence from initial conditions in these clusters could also result from this fact. Someone who does not inherit land can easily obtain a plot and farm it with fewer resources than in other clusters. Because the crops are seasonal the returns will arise more quickly reducing (but not eliminating) problems related to credit.

The increase in trade and business affects everyone in society, not only those with bad initial conditions. There are at least two more consequences that this research revealed. Firstly it increases the power, confidence and bargaining position of the farmer on the market in food crops. In clusters A, E, G and H traders from all over the country come into the area and there is a definite farm gate price determined by the local market. A farmer will never agree to sell at a lower price. Farmers in clusters B, C, D and F are relatively powerless when it comes to prices for their goods. They complain that when they cut a bunch of bananas they do not know whether they can sell it. If a buyer does appear then the farmer is in a weak position to bargain on price. Beans are bought by middlemen who, so they claim, cheat them with false measures. The middlemen measure the amount of beans by using a bowl (*bakuli*) they bring along. The farmer then hands over his beans and the middleman will scoop the beans out and count how many bowls there are. The farmer has no way of verifying the size of the bowl. Lack of information makes the farmer doubt his own knowledge of the price, something which a middleman will take advantage of.

Secondly, the increase in the flow of money in clusters A, E, G and H has increased crime rates and the ability of the communities to cope with this depends to a large extent on their social cohesion. In cluster G and H the influx of trade and activity came about through an increase in informal gold mining activities. The gold mines around this area are not managed by the government, nor by private companies. They are a collection of informal settlers who have put up camp near the mines. There is no trace of any traditional village structure. They have a 'chief-commander' who is in charge of security and are known to lynch strangers who wonder into the camp unaccompanied by someone they know (our own interviewing teams had a narrow escape from this). One person told us: "*Here we get gold and we earn millions. Then we are all happy: we eat, drink and marry. Once it is over, we go back to look for more gold*". Another man said: "*When a child goes to the mines, forget about him being your son or daughter. They never come back healthy; they sometimes don't even come back alive. This is a very bad place where everything is possible. They can get money, yes, but the money is useless to them. It will never be seen anywhere else, nor do anything for them except take them straight to the grave.*". Respondents in a focus group conducted in a nearby village expressed a sense of powerlessness when it comes to containing criminal activity: "*We know the thieves. But what can we do to them? If we accuse them, they take note of who we are and then where can you run? They will hunt you down. Sometimes you feel it's better to meet a lion than your fellow human being*". This contrasts sharply with, for example, cluster E where people had set up their own informal militia to patrol the village at night and was being very resourceful in keeping thieves at bay. Perhaps the fact that clusters A and E are older

communities makes their social cohesion stronger. This gives them more power and freedom to decide over the course of the development of their village.

Not surprisingly people who come to these working colonies are those who realised that they had no chance in their home village. Two groups stand out: (i) people from remote areas with insufficient initial endowments to build their lives up from and (ii) people who have experienced major shocks that have depleted the basis of their livelihoods. Rather than remaining in the village living with the certainty of spending the rest of their lives in poverty, they prefer to migrate in search of income earning opportunities. Lacking good networks outside the village, they often end up in informal mining sites or on Nile Perch landing sites (exported internationally from Lake Victoria). These activities lead to informal settlements, outside the traditional villages. They comprise of people from different tribes and backgrounds. Usually these migrants have (at least initially) the intention to earn the necessary cash to return to the village, buy a good plot of land, build a house and start off in life. The mines and fish landing sites are artificial settlements with little social fibre. Compared to traditional villages there is a lot more alcoholism, violence, open prostitution and illegal activity. While this is hardly a mode of development anyone would want to promote it has to be acknowledged that some do manage to build up an asset base and return to settle in the village, with a well established farm and life.

## **6. Policy Conclusions**

Landlocked and agriculture-dependent regions like Kagera should not be expected to have a big-bang development growth. But if given the right conditions its people can, albeit slowly, make their own way out of poverty. Farming will have to remain the foundation of most people's livelihoods for a long time to come and therefore increasing agricultural income should be a priority. Consistently throughout all life histories people with diversified farming activities (for example farming modern crops like tomatoes, green peppers, cabbages, pineapples, vanilla and so forth, alongside more traditional crops) performed better than expected, while those who stuck to traditional farming performed worse. Increased efforts to promote new crops as well as increasing the farmer's capacity to market them should thus remain high on the policy agenda. Providing information and credit is important here. In addition to this, this research shows that movements into more innovative farm and non-farm activities are frequently explained by people's exposure to life outside their village, providing them with crucial ideas and networks. The recent efforts to promote universal primary education are commendable, also seen from this angle. More specific interventions to provide ideas, bring exposure and build networks have been relatively under-explored. Such interventions, if carefully implemented, could be essential stimuli to innovation and growth.

People's economic development is constantly being undermined by the backlashes of shocks, with only the richest being adequately able to defend themselves against them. Especially protecting people from the financial strains associated with idiosyncratic illness shocks seems an area in which interventions are possible and lagging behind. This

and other research has established that the long-term pay-offs of reducing (the effects of) illness shocks would be huge. Local inheritance rights were found to make women very vulnerable when their husband or father dies. Ensuring local compliance to national inheritance laws could make an important contribution to bettering the lives of wives and daughters of deceased men. Protection against agricultural shocks is more problematic, because its occurrence to all members of society at once makes it more difficult to insure. Promoting livelihoods based on a diverse set of activities is important here and could reduce dependence on food aid when rains fail.

People in remote areas who are badly endowed with land and other assets should be the focus of specific interventions. These were clearly identified as having the least freedom from poverty in the sense that their fate in 10 years time can already be (econometrically) predicted today. They are the ones that will either remain in poverty or else move out of their village in search of employment. Lacking good networks away from their village they often end up in newly established working colonies like the Nile perch landing sites or informal gold mines. These are artificial environments, with minimal social cohesion and rampant prostitution and alcoholism. While this is not a development path many people would want to promote, these places do remain an important fall-back strategy. A crucial balancing act for policy makers will be to find ways to promote growth while maintaining the traditional social fibre that makes society in Kagera strong. Interventions in this area can be both in the home village as in the new settlement areas. The latter would involve programmes to increase social cohesion and introduce sound government leadership in these places. The former should focus on transferring human capital (education, but also exposure, ideas and networks) and productive assets to those with little physical capital in remote areas.

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## APPENDIX 1: Summary Statistics of Variables from Regressions Analysis

	characteristics of all 47 rural KHDS villages		characteristics of 8 villages sub-sampled for qualitative work		difference	t
	mean	sd	mean	sd		
<b>welfare positions</b>						
all assets 1993	3,828,120	6,440,451	2,549,065	4,271,813	-1,279,055	-3.47
all assets 2004	2,911,600	6,555,205	2,236,401	6,235,097	-675,199	-1.74
growth all assets 1993-2004	-916,521	7,851,312	-312,664	6,337,834	603,857	1.32
non-productive durable goods 1993	59,696	230,446	28,691	49,114	-31,005	-2.43
non-productive durable goods 2004	96,369	388,626	78,275	383,058	-18,094	-0.78
growth non-prod. durables 1993-2004	36,673	425,858	49,584	382,344	12,911	0.52
household has good floor 1993	0.14	0.35	0.07	0.26	-0.07	-3.47
<b>individual characteristics in 1993</b>						
aged 26-35	0.16	0.36	0.14	0.34	-0.02	-0.94
aged 36-45	0.13	0.34	0.13	0.33	0.00	0.00
aged 46-55	0.1	0.3	0.09	0.28	-0.01	-0.56
aged 56-65	0.08	0.27	0.09	0.28	0.01	0.62
aged 66+	0.03	0.18	0.06	0.24	0.03	2.65
yrs of schooling	4.81	3.06	4.37	2.97	-0.44	-2.42
male	0.44	0.5	0.44	0.5	0.00	0.00
has disability	0.11	0.31	0.14	0.34	0.03	1.60
disability data missing	0.18	0.38	0.13	0.34	-0.05	-2.24
<b>characteristics household head in 1993</b>						
yrs education. head	4.31	3.19	3.81	2.66	-0.50	-2.69
head is male	0.79	0.41	0.78	0.41	-0.01	-0.41
head age	50	17	50	17	0.00	0.00
<b>household demographic characteristics in 1993</b>						
no. of males 0-5	0.6	0.87	0.5	0.71	-0.10	-1.98
no. of males 6-15	1.07	1.11	1.12	1.17	0.05	0.75
no. of males 16-65	1.42	1.12	1.29	1.08	-0.13	-1.96
no. of males 65+	0.22	0.42	0.28	0.47	0.06	2.35
no. of females 0-5	0.56	0.82	0.45	0.8	-0.11	-2.26
no. of females 6-15	1.07	1.21	0.93	1.02	-0.14	-1.98
no. of females 16-65	1.66	1.19	1.38	0.87	-0.28	-4.09
no. of females 65+	0.25	0.47	0.29	0.47	0.04	1.43
<b>networks in 1993</b>						
no. of children living outside the household	1.43	2.82	1.33	2.48	-0.10	-0.60
No. of observations	1931		329			