

UNDERSTANDING POVERTY DYNAMICS IN KENYA

PATTI KRISTJANSON^{1*}, NELSON MANGO¹, ANIRUDH KRISHNA²,
MAREN RADENY¹ and NANCY JOHNSON¹

¹*International Livestock Research Institute, Nairobi, Kenya*

²*Sanford Institute of Public Policy, Duke University, Durham, NC, USA*

Abstract: Combining qualitative–quantitative approaches, we examined the reasons behind household movements into and out of poverty across Kenya, and how they differ by livelihood zones. Among the 4773 households studied, 42 per cent were poor 15 years ago and 50 per cent are poor at the present time. Over the same period, 12 per cent of the households escaped poverty, while another 20 per cent fell into poverty. While some national trends were evident – such as the role of health problems in driving people into poverty and the importance of off-farm income in getting them out – many reasons differ across livelihood zones, thus this paper provides an example of how regionally differentiated anti-poverty policies can be investigated and designed. Copyright © 2009 John Wiley & Sons, Ltd.

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1 INTRODUCTION

A veritable literature from diverse fields, including anthropology, economics and development studies, has examined aspects of household and individual poverty dynamics (Attwood, 1979; Bane and Ellwood, 1986; Barrett *et al.*, 2001; Bird and Shinkeya, 2003; Lawson *et al.*, 2003; Christiaensen and Subbarao, 2005; Davis, 2006; Moser and Felton, 2007; Quisumbing, 2007). A useful overview of this body of work is provided in Addison *et al.* (2009).

Several recent studies use an explicit growth model and consumption or expenditure measures to study rural household-level poverty dynamics (Baulch and Hoddinott, 2000; Deininger and Okidi, 2003; Jayne *et al.*, 2003; Dercon, 2004; Jalan and Ravallion, 2004). Carter and Barrett (2006) argue that asset-based approaches have several advantages over income-based measures, and they do not impose a model of the underlying growth

*Correspondence to: Patti Kristjanson, International Livestock Research Institute, P.O. Box 30709, Nairobi 00100, Kenya. E-mail: p.kristjanson@cgiar.org

mechanism. Barrett *et al.* (2006) provide empirical evidence that household welfare dynamics differ significantly depending on whether an income-based measure is used versus an asset-based welfare measure.

This study takes an asset-based approach to examine reasons for household poverty movements across Kenya over the long-run, and how they differ depending on major livelihood opportunities available. First, a participatory methodology that combines quantitative and qualitative approaches at household and community scale was applied in a large sample of communities selected according to a sampling procedure designed to capture variability at the national scale in terms of agroecological zone, market access and poverty level. Second, the community-level results were analysed statistically to identify the most appropriate level for aggregation, which in this case turned out to be five major 'livelihood zones' found within Kenya (ALRMP, 2006). The household-level data on poverty dynamics and the reasons behind household poverty movements were then analysed by livelihood zone in order to obtain conclusions that take into consideration the key differences in poverty levels, trends and determinants between zones, and result in zone-specific recommendations for poverty reduction interventions.

2 UNDERSTANDING LIVELIHOODS AND POVERTY IN KENYA

Kenya's development efforts since independence have emphasised poverty reduction through economic growth, employment creation and the provision of basic social services (Kimalu *et al.*, 2002). Although the basic commitment to fight poverty has remained strong, these efforts have not, for the most part, yielded the hoped-for results (Kabubo-Mariara, 2007). More than half of the country's population remains mired in poverty, with women and rural dwellers being particularly affected (Government of Kenya, 2007b). A number of technical, historical and implementation problems have been identified to account for the failure of poverty reduction efforts. One such problem has been limited stakeholder participation in the formulation of strategies, programs and plans to reduce poverty and strengthen development. This lack of participation led poor people to feel alienated and marginalised; many were not even aware of any poverty reduction efforts (Nyakundi, 2005) and the resulting strategies did not reflect their concerns (Swallow, 2005).

Initiatives aimed at improving the measurement of poverty in Kenya include the Welfare Monitoring Surveys (WMS) that were done in 1992, 1994, 1997 and 2000, and the Kenya Integrated Household Budget Survey of 2005/06. These surveys have largely been used in analysing poverty in Kenya based on the human consumption index (Government of Kenya, 2007b). Participatory approaches have also been used in Kenya, and they have helped provide more in-depth information about people's situations and about the inadequacies, indignities and sufferings commonly experienced by poor people (Narayan and Nyamwaya, 1996; Government of Kenya, 1997, 2003, 2007a; AMREF, 1998; ActionAid, 2006a, 2006b). These have reinforced the idea that poverty is multifaceted and are viewed differently by different people (IPAR, 2000).

Data from these studies have helped provide a reasonably good account of who the poor are, where they live and how poor they are. This information is very useful to policy makers and donors, but it fails to answer some critical questions: Why do some people succeed in escaping from poverty, even as others are left behind? For what reasons do other people fall

into poverty? Understanding why some households escape and others descend into poverty is essential for formulating suitable policy responses. The poverty dynamics approach used in this study contributes to more targeted pro-poor policies by addressing these questions.

We also adopt a livelihood-based approach (Chambers, 1997; Carney, 1998; Sen, 1999; Narayan *et al.*, 2000) with an added geographic dimension. Ellis (2000) defines livelihoods as 'the activities, the assets and the access that jointly determine the living gained by an individual or household'. Chambers defines livelihood strategies as the 'diverse portfolio of activities' that the poor engage in an attempt to meet their needs and improve their welfare. Examples include formal or informal employment, crop and livestock production, temporary or permanent migration, collecting products from forests or lakes, food processing or trading. The Arid Lands Resource Management Project, World Food Program and Famine Early Warning Systems Network in Kenya further developed this concept to define and map out 12 major 'livelihood zones' (ALRMP, 2006) in Kenya. These livelihood zones are differentiated by physical and agroecological characteristics that shape peoples' choices of whether to fish, plant crops, raise livestock, sell charcoal or engage in other activities in order to make a living (World Resources Institute, 2007).

3 METHODS AND DATA

3.1 Stages of Progress Methodology

A range of methods has been developed to examine specific facets of poverty dynamics. Clearly, no one method is best suited for studying everything we need to know. The *Stages of Progress* methodology (<http://www.pubpol.duke.edu/krishna/methods.htm>) was developed to assess both the dynamics of poverty and the causes behind them. While national-level poverty rates are often slow to change, poverty is not a static situation. It changes as a result of seasonality, climate variability, household-level shocks (such as illness and death), lifecycle changes and public policies. In addition, the group of poor people is itself constantly changing as individuals and households either escape from poverty or descend into it. Looking at the same households over time provides a better understanding of the conditions that keep people in poverty and those that move them out in order to identify general patterns and to assist policy targeting (e.g. Sen, 2003; Barrett *et al.*, 2006). It provides us with better insights into the processes that lead to patterns of disadvantage and inequality, and just as important identifies different ways by which the poor may improve their welfare. In both cases, public policy can be tailored to maximise protection and support for the most vulnerable without pulling back those who are escaping.

Thus Stages of Progress provides a useful diagnostic tool for identifying context-specific threats and opportunities in a participatory setting. It helps identify, relatively quickly, reliably and cost-effectively, the natures of household-level reasons associated in each context with escaping poverty and becoming poor. Microlevel events, affecting particular households, can be mapped and tracked over time. However, more distant processes and events – those occurring at the national or international levels, for instance – cannot be directly identified using this method.

Over the past 6 years, Stages of Progress has been used in different parts of India, Peru, Kenya, Uganda and Colombia (Krishna, 2004; Kristjanson *et al.*, 2004; Humboldt-Universität Zu Berlin, 2005; Krishna *et al.*, 2006a, 2006b; Swallow *et al.*, 2007; Johnson

et al., 2009). This study represents the largest number of communities ever studied using this method, and the first attempt at national representativeness.

Stages of Progress involves facilitated group discussions followed by household-level interviews. It is a participatory methodology that relies on community definition of poverty at a household scale. The poverty level of each household in the community is assessed, and explanations sought for changes in poverty status over time. The method takes its name from the stages or steps that a household passes through as it makes its way from poverty to prosperity. To define the stages, a representative group of community members must first come to agreement on a definition of poverty, based on a shared conception of ‘poorest family in the community’. Once this is done, the group successively answers the question ‘What would this family do with additional resources?’ until they reach the point at which the household would be considered prosperous. Table 1 presents the typical stages as described by rural and urban communities across Kenya.

Once the stages are identified, the group then assigns each family in the community – based on a census which must be obtained or constructed – to the stage where they currently are and the stage where they were at some point in the past. Two reference points – 8 and 15 years before the present study was undertaken – were selected for this study. These reference years were chosen as they correspond to the time of Kenya’s last welfare monitoring survey and roughly one generation. Field investigations for the study were conducted in late 2005 and early 2006, making the relevant historical reference points 1990 and 1997. We discovered that two commonly known ‘signifying’ events across Kenya, which served to fix clearly in everyone’s mind these particular periods, were the El Niño rains and the ‘Mlologo’ (queue) system of voting that most people remember clearly, and which occurred, respectively, 8 and 15 years ago.

After ascertaining the groups’ perception of each household’s current situation relative to the Stages of Progress, as well as for the earlier periods, all households were classified within one of the following four categories:

Table 1. Common stages of progress and poverty cut-off across Kenya

| Stage | Rural districts | Urban districts |
|-------|---------------------------------|--------------------------|
| 1 | Food | Food |
| 2 | Clothing | Clothing |
| 3 | Repairs house | Rent a small house |
| 4 | Primary education | Primary education |
| 5 | Invest in small business | Invest in small business |
| 6 | <u>Purchase small livestock</u> | |

Note: Line under Purchase small livestock, and Invest in Small business, was to show how the communities decided where the ‘cutoff’ or ‘poverty’ line was for their communities; i.e. after they were able to purchase small livestock, households are no longer considered poor, either by themselves or by their neighbours. While the order of the stages varied somewhat across communities, the poverty cut-off remained after Stage 6 for rural households; for urban households there was more variation found both in order of stages and in the cut-off point – see Government of Kenya (2007a) for more details. Stages of progress beyond the poverty cut-off are not reported here – they included purchasing larger animals, particularly cattle, buying some land, starting a small retail business, constructing a new house and acquiring radios and bicycles, for example. These are, however, discretionary expenses, thus there was more variation in the ordering of these later stages in different villages. The first few stages of progress are not so discretionary: they are both physically and socially obligatory. Physical needs – for food, for clothing, for protection from the elements – combine with considerations of social recognition to constitute the definition of poverty that is prevalent within these communities. The discussion here focuses on movements above and below the poverty cut-off, thus the variance in higher-order stages of progress does not come into play.

- Category A: Poor 15 years ago and poor now (remained poor);
- Category B: Poor then and not poor now (escaped poverty);
- Category C: Not poor 15 years ago and poor now (became poor); and
- Category D: Not poor 15 years ago and not poor now (remained not poor).

The assembled community groups were then asked about the circumstances associated with each household's trajectory over the past 15 years (e.g. 'How was household X able to move out of poverty in this time? What were the major factors related with its escape from poverty? What was the order of these events?').

Finally, a random sample of households was then drawn from each of the four categories of households. At least 30 per cent of households from each category were included within this sample to be interviewed in more depth at the household level. Household respondents were asked to give a narrative of how their lives had changed and the investigator guided the discussion based on some of the information they had gathered from the community meeting. In addition, a closed-ended questionnaire was also administered, with items related to asset ownership and changes over time.

3.2 Selection of Study Sites

The communities selected for this study were chosen from a stratified sample of the households included in Kenya's Integrated Household Budget Surveys (KIHBS) sample (Government of Kenya, 2007b). Three stratification criteria were used: poverty incidence (districts fell into four categories of equal intervals of poverty incidence: 22–36 per cent, 37–51 per cent, 52–66 per cent and 67–81 per cent (CBS, 2003), agroecological zones (based on long-run precipitation over potential evapo-transpiration (PET), and access to markets (based on the walking time to areas having populations of at least 2500 people per km²) (Government of Kenya, 2007a). The reasoning behind this stratification is that it has been found that livelihood strategies and development opportunities are largely conditioned by these factors (Pender *et al.*, 1999; Place *et al.*, 2006).

The combination of these three factors created 12 possible categories, of which 11 actually existed in Kenya. All the rural districts were categorised according to the 12 combinations of the 3 criteria (e.g. lowest poverty, low agricultural potential and poor market access), then 2–3 districts were randomly chosen from each category. A probability proportional to size (PPS) method was used to randomly select 16 rural districts using the estimated number of households based on the population projections for 2004 as a measure of population size of each district. In each district, four clusters (typically made up of one to three communities/villages), one urban and three rural, were randomly selected, with the exception of Nairobi and Mombasa, which are purely urban districts (see Government of Kenya, 2007a for more details).

This resulted in a total sample size of 71 villages and 4773 households (Figure 1). In-depth inquiries into the reasons for change relating to particular poverty pathways were conducted for a total of 2365 households in the 71 villages.

3.3 Identifying Domains of Analysis

Application of the Stages of Progress methodology yielded 71 community-level definitions of poverty and 'stages of progress' ladders, and 2365 household-level observations of

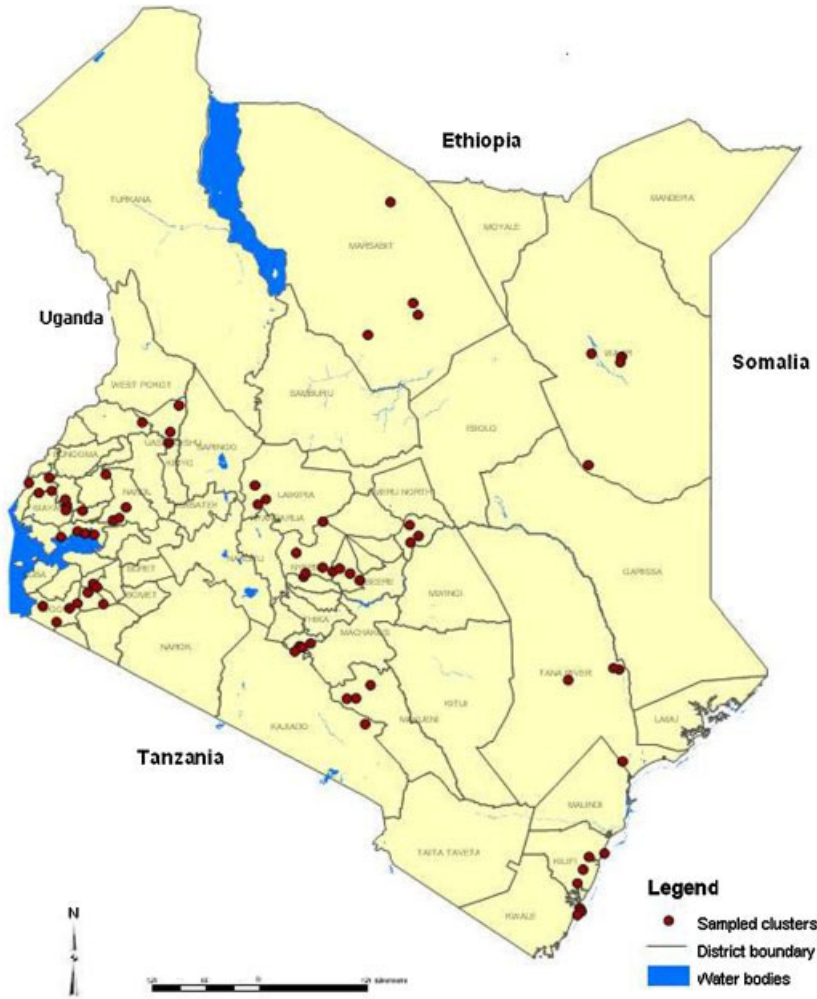


Figure 1. Study villages.

poverty levels and reasons for change. The 11 categories that emerged from the site selection process were too numerous and diverse to be useful in explaining the poverty definitions, levels or dynamics. An analysis of alternative scales of aggregation – including province, agroecological zone and livelihood zone revealed that livelihoods zones offered the best fit in terms of homogeneity of how people understood and defined poverty. This is not surprising given that a livelihood zone is essentially an area in which people share the same patterns of livelihoods, that is they grow the same crops, keep the same types of livestock or engage in similar activities, such as fishing.

The concept of livelihood zones was developed by the Arid Lands Resource Management Project, World Food Program and Famine Early Warning Systems Network in Kenya (ALRMP, 2006). Data on these livelihood zones are based on questionnaires sent to 6–10 key food security experts in 71 Districts. This group of experts classified each of

Kenya's 6632 sublocations by their predominant livelihood strategy and other livelihood characteristics, leading to 12 livelihood zones, which for our purposes we were able to merge into 5 main livelihood zones (Figure 2), which are elaborated upon in World Food Programme (2008) and we refer to as:

3.3.1 Livelihood zone 1: high potential

Characteristic of the central, eastern, western and Nyanza highlands, this Zone has high population densities, small landholdings (1–5 acres/household) and 1350–1700 mm of reliable rainfall. Crops make up 50 per cent of total income (with the cash crops sugarcane, tea and coffee grown), with livestock contributing 30 per cent and off-farm sources 20 per cent. This Zone includes the districts of Nyeri, Kirinyaga, Kisii Central, Nandi and Butere Mumias.

3.3.2 Livelihood zone 2: marginal

Found in the southeastern, coastal lowlands and lakeshore areas (where fishing is an important livelihood activity). Characterised by low and poorly distributed annual rainfall of 800–1000 mm. Maize is the predominant crop grown. Crops make of 40 per cent of total income, livestock 30 per cent and off-farm sources 30 per cent. This Zone includes three districts – Kisumu, Migori and Busia.

3.3.3 Livelihood zone 3: agropastoral

These areas have 700–900 mm of rainfall annually, but it is highly variable. Over 50 per cent of income comes from livestock activities. Large portions of these districts are characterised with the planting of some food crops and cash crops (palm, coffee and pyrethrum) along with livestock farming. This Zone includes districts of Makueni, Kilifi, Tharaka, Marakwet and Laikipia.

3.3.4 Livelihood zone 4: pastoral

These districts were largely characterised by an overwhelming dependence on livestock as the predominant sole source of food and income. Districts included in this Zone include Tana River, Marsabit and Wajir.

3.3.5 Livelihood zone 5: urban districts

This includes the two largest cities in Kenya (Nairobi and Mombasa).

4 RESULTS AND DISCUSSION

4.1 Poverty Dynamics

Table 2 shows poverty trajectories across the five livelihood zones from 1990 to 2005. Among the 4773 households studied, 42 per cent were poor 15 years ago and 50 per cent are poor at the present time. Overall, we found that the number of households living in poverty in this period rose in these communities. Over the same period, 12 per cent of the households escaped poverty, while another 20 per cent fell into poverty, making for a net increase in poverty of 8 per cent over the 15-year period (Table 2). It is sobering to note that the number of people who escaped poverty over the 15-year period in these communities of Kenya is less than the number of people who became poor over the same period.

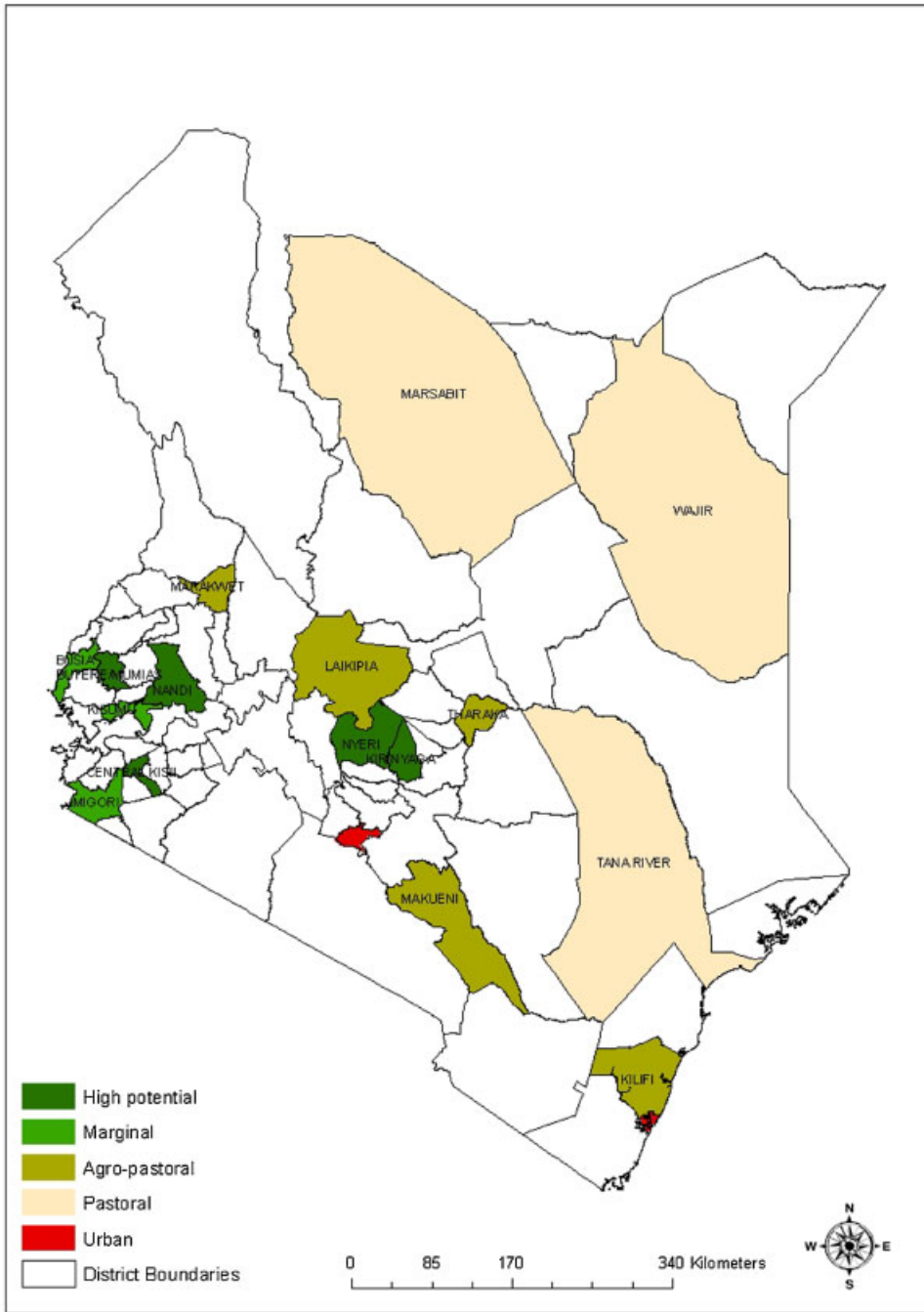


Figure 2. Poverty dynamics map livelihood zone.

Table 2. Trends in household poverty in five livelihood zones in Kenya

| Livelihood zones | Per cent of households 15 years to now (1990–2005) | | | | | | |
|------------------|--|-----------------|-------------|-------------------|-------------------------|-------------------|-------------------------|
| | Remained poor | Escaped poverty | Became poor | Remained non-poor | % Poor at the beginning | % Poor at the end | % Net change in poverty |
| High potential | 27 | 16 | 15 | 42 | 43 | 42 | –1 |
| Marginal | 21 | 9 | 18 | 53 | 30 | 39 | 9 |
| Agropastoral | 38 | 12 | 19 | 31 | 50 | 57 | 7 |
| Pastoral | 28 | 6 | 33 | 32 | 34 | 61 | 27 |
| Urban | 39 | 18 | 17 | 25 | 57 | 56 | –1 |
| National total | 30 | 12 | 20 | 38 | 42 | 50 | 8 |

Note: The negative sign indicates a decrease in the per cent of households living in poverty; overall our data show an 8 per cent increase the per cent of households living in poverty.

These results are consistent with the results of the most recent income-based national poverty survey (Government of Kenya, 2007b), and with a study by Burke *et al.* (2007). They used longitudinal data collected from 1324 households three times over the period 1997–2004 to identify key household- and community-level correlates of asset-based poverty in rural Kenya. They found that the majority of households (57 per cent) were poor in 2004 and had remained poor since 1997. They also found that 22 per cent of households had made some progress in moving out of poverty, while 21 per cent experienced a decline in welfare.

4.2 Differences Across Livelihood Zones

Variations in terms of poverty movements between the five livelihood zones (Tables 1 and 2) can be seen. The pastoral livelihood zone, made up by northern and northeastern Kenya (Wajir, Marsabit and Tana River districts), experienced the highest net poverty increase (27 per cent) over the 15-year period, while the high potential livelihood zone and the urban districts experienced marginal poverty reductions (1 per cent each).

Okwi *et al.* (2007) explored the links between GIS-based environmental data and spatial poverty differences across Kenya. They found evidence of geographic poverty traps and that different spatial determinants of poverty (e.g. rainfall variability, length of growing period, elevation) were significant in different regions, as was also found in another context by Bigman and Srinivasan (2002). Our analysis of the non-spatial factors behind poverty movements highly complements their findings, and supports the logic of using livelihood zones to examine zonal differences in poverty movements and reasons behind them, and their conclusions that pro-poor policies need to be regionally defined.

4.3 Reasons for Escape and Descent

Different sets of reasons are associated, respectively, with escaping poverty and falling into poverty. In this section, we will first discuss the reasons associated with escaping poverty, followed by a discussion of reasons for falling into poverty over the period 1997–2005.

4.3.1 Reasons for escaping poverty

We explored in considerable depth the reasons households gave for their ascent out of poverty. As can be expected, no one reason suffices to explain such a complex phenomena. The facilitators and enumerators of this method were trained to re-construct events in the sequence that these had occurred. 'Did they sell their cattle first, or did the father fall ill first? What happened in the beginning that put this household on a downward path? What happened next? What did they do or what befell them that led over time to their particular trajectory? What else occurred that helped improve their situation?' The sequence of events, including the timing of the descent into (or escape from) poverty, was carefully reconstructed, so that events preceding descent or escape could be distinguished from other events that took place afterward.¹ Based upon the verified and triangulated information obtained for a random sample of 388 of the 582 households that managed to escape poverty in the villages where this study was carried out, some interesting lessons and trends arise.

Table 3 shows the major reasons associated with escaping poverty (in order of importance across the entire sample) as described by the households that escaped poverty in the sampled villages. The factors associated with escaping poverty in Kenya fall into five groups.

4.3.1.1. Diversification of income sources Two different pathways are involved in diversification: first, business progress in small community-based enterprises; and second, through obtaining a job, most often in the informal sector. A vast majority of households that escaped poverty countrywide over the past 15 years did so by obtaining additional income from rural- or community-based informal sector enterprises. This was the case for 51 per cent of the households overall in all livelihood zones, with this percentage significantly higher for the marginal zone (72 per cent) and somewhat lower for the high potential zone (44 per cent). Such village-based enterprises included *kiosk* business (small roadside stands) and petty trading (such as selling of vegetables, cereals and pulses), livestock trade, running hotels and bars and operating *matatus* (taxis). Urban households that diversified their sources of income and managed to escape poverty did so by engaging in a variety of business activities, such as operating *matatus* (taxis), owning rental houses in these cities or operating hardware and wholesale shops. Small informal businesses in small cities are particularly important for households from pastoral communities (Tana River, Wajir and Marsabit), but also in big cities such as Mombasa and Nairobi.

4.3.1.2. Formal sector employment Getting a job in the formal sector (either private or public sector) was also mentioned as an important reason for escape by a significant number of households (28 per cent overall). It was particularly important in urban centres. Compared to informal sector occupations, however, this factor accounted for many fewer escapes from poverty. Education was almost invariably associated with getting a formal sector job, but relatively few educated people were lucky enough to get jobs, so education alone served in very few cases as a pathway out of poverty. Formal employment accounted for 47 per cent of escapes in pastoral areas, although these jobs are not found in this zone

¹This approach involves a considerable amount of training, and facilitators are trained and tested in dealing with issues that can arise with this type of method – e.g. one person dominating, groupthink, unreasonable expectations, etc. For lack of space, we cannot reproduce here all of the precautions that have been incorporated within the methodology for dealing with these and other potential sources of error. These are captured in the SOP training manual, www.pubpol.duke.edu/Krishna/methods.htm.

Table 3. Major reasons for escaping poverty (per cent of households^a)

| Major reasons for escaping poverty | High potential (n = 142) | Marginal (n = 46) | Agropastoral (n = 121) | Pastoral (n = 42) | Urban (n = 37) | Overall (n = 388) |
|--|-----------------------------|----------------------|---------------------------|----------------------|-------------------|----------------------|
| Business progress: rural/community based enterprises | 44 | 72 | 47 | 50 | 62 | 51 |
| Regular employment in private/public sector | 18 | 26 | 22 | 47 | 62 | 28 |
| Crop diversification | 30 | 50 | 20 | 12 | 19 | 26 |
| Help from friends and relatives in country | 20 | 30 | 25 | 31 | 24 | 25 |
| Crop commercialisation | 26 | 24 | 27 | 17 | 0 | 23 |
| Increased land under cultivation | 29 | 0 | 36 | 0 | 0 | 23 |
| Inherited property | 20 | 0 | 33 | 10 | 8 | 20 |
| Few dependants | 22 | 13 | 20 | 0 | 14 | 18 |
| Livestock diversification | 18 | 13 | 12 | 29 | 0 | 15 |
| Livestock commercialisation | 0 | 9 | 20 | 21 | 21 | 12 |
| Increased herd size | 0 | 24 | 0 | 0 | 0 | 10 |
| Business progress: small city-based enterprises | 6 | 0 | 8 | 14 | 14 | 8 |
| Crop intensification | 11 | 0 | 0 | 0 | 0 | 6 |

^aThese numbers do not add up to 100 per cent because more than one reason could be given.

with limited livelihood options but are largely accounted for by migration to cities by a household member.

4.3.1.3. Crop-related factors Twenty-six per cent of the households that escaped poverty countrywide over the last 15 years did so through crop diversification (including beans, potatoes, vegetables, bananas, tomatoes, coffee, sugarcane and tea alongside or instead of maize). This factor was present across livelihood zones, but particularly key in the marginal zone, where crop diversification was associated with 1/2 of all observed escapes. Crop commercialisation, that is shifting from producing crops solely for home consumption to more commercial/market-oriented crop enterprises, was also linked to many ascents (23 per cent). It is interesting that diversification is relatively important in urban areas but commercialisation is not, suggesting that urban households were already market oriented.

Increasing land under cultivation (owned or rented) was another important poverty reduction factor (also found by Burke *et al.* 2007). However, this pathway is particularly important in the high potential zone as well the agropastoral zone, where crop farming is considered quite important but is fairly risky. Crop intensification, through improved management practices such as increased fertiliser use and/or the introduction of new crop varieties, is associated with another 6 per cent of household escapes from poverty in the high-potential zone.

4.3.1.4. Livestock-related factors Over one-third of households escaped poverty via livestock-related strategies that vary across livelihood zones. Livestock diversification – investing in new and/or different types of animals, or in shifting to production of new animal products – was important in the high potential and pastoral zones. Livestock commercialisation, that is shifting from mostly home consumption to selling a significant share of the product, was relatively more important in the agropastoral zone and in urban areas. Burke *et al.* (2007) also found that livestock commercialisation had helped households that had moved upwards out of poverty, and concluded that policies should be focused on providing an enabling environment for commercial activities that support competitiveness of household producers, lower level of formal and informal taxes; coupled with increased investment in critical public services, such as agricultural research, extension and infrastructure.

4.3.1.5. Social factors Help from friends and relatives within Kenya, small family size and inheritance of property from parents were also important for some households that escaped poverty. One-quarter of study households that climbed out of poverty across Kenya mentioned help from friends and relatives within the country as important. Such assistance can take various forms: help with getting a job, providing education or school fees, assistance with housing, providing capital for opening/operating a business, and direct remittances.

Property inheritance from parents and relatives was responsible for another 20 per cent of household escapes in this category. Such inheritances were in the form of land, houses and businesses. Apart from the marginal zone, property inheritance was related to escapes. Having fewer mouths to feed and children to educate also helps, although not in pastoral areas, where children still play an important role in herding animals.

4.3.2 Reasons for falling into poverty

Table 4 shows the most important reasons associated with becoming poor over the last 15 years, as cited by households who fell into poverty. They fall into three groups.

Table 4. Major reasons for becoming poor (per cent of households^a)

| Major reasons for falling into poverty | High potential (n = 168) | Marginal (n = 80) | Agropastoral (n = 136) | Pastoral (n = 148) | Urban (n = 35) | Overall (n = 567) |
|---|-----------------------------|----------------------|---------------------------|-----------------------|-------------------|-------------------|
| Many dependants needing care | 47 | 44 | 49 | 21 | 51 | 41 |
| Ill health and heavy expenses related to health | 45 | 65 | 42 | 20 | 31 | 40 |
| Death of a major income earner | 30 | 43 | 25 | 16 | 9 | 26 |
| Drought | 0 | 0 | 21 | 67 | 0 | 24 |
| Unexpected loss of property due to theft/insecurity | 0 | 11 | 24 | 57 | 0 | 24 |
| Land subdivision and exhaustion | 37 | 11 | 29 | 0 | 0 | 20 |
| Livestock related losses | 0 | 0 | 19 | 40 | 0 | 17 |
| Loss of regular employment in private/public sector | 12 | 8 | 12 | 0 | 34 | 16 |
| Crop related losses | 12 | 0 | 0 | 21 | 0 | 11 |
| Heavy expenses related to death | 14 | 30 | 0 | 7 | 0 | 11 |
| Alcoholism/drug addiction | 19 | 0 | 14 | 0 | 0 | 11 |
| Marriage expenses | 10 | 0 | 13 | 11 | 0 | 9 |
| Lack of inheritance | 10 | 0 | 0 | 0 | 0 | 6 |

^aThese numbers do not add up to 100 per cent because more than one reason could be cited.

4.3.2.1. Poor health and heavy expenses related to health care These are by far the most important reasons behind poverty descents across Kenya (Table 4). In many cases, poor health of one or several family members led to decreases in productivity or an inability to work. In addition, these households incurred high costs for health treatments, hospitalisation expenses associated with long illnesses, and regular and/or particularly high use of medications. Poor health and debilitating health care expenses were associated with almost 40 per cent of the households that fell into poverty all across Kenya. In the marginal zone, 65 per cent of households that descended into poverty associated their fall with this reason, consistent with the very high levels of HIV/AIDS and malaria that are found in Western and Nyanza Provinces in particular.

Using asset-based welfare measures in Kenya and Madagascar, Barrett *et al.* (2006) found evidence of poverty traps and suggest that asset transfers, insurance against shocks and removal of barriers restricting opportunities of historically disadvantaged groups may be the most effective poverty reduction measures (noting that income-based studies typically recommend productivity-enhancing interventions). Our analysis provides additional empirical support to this observation. They found, similarly to us, that 'health shocks largely unrelated to nutrition – e.g. HIV/AIDS, malaria, tuberculosis – are the most common reason households become and stay poor, underscoring the importance of preventive and curative health care quite apart from support for adequate access to food' (Barrett *et al.*, 2006).

Death of a principle income earner (due mainly to disease) was the major factor described as causing 26 per cent of household poverty descents, again across all livelihood zones, with the exception of urban areas, where it was relatively less important. Heavy funeral expenses were also a factor that helped to explain why some households fell into poverty; as expected these were found in areas with the greatest health problems.

4.3.2.2. Land and livestock-related factors Land and livestock-related factors are also driving Kenyan households into impoverishment, and they vary across livelihood zones. Drought was responsible for 24 per cent of all descents observed across Kenya. However, the death of livestock and loss of crops due to drought was most severe in largely pastoral and agropastoral districts, helping to explain more than two-thirds of all descents into poverty in northern and northeastern Kenya, and 21 per cent of households in the agropastoral zone.

Land subdivision, resulting in small and uneconomic landholdings (<1 ha., and in many cases, down to 1 acre or less), and reduced soil fertility were important causes of poverty in the high potential and agropastoral zones. The shrinking size of landholdings has resulted from high population densities and the widespread practice of subdivision for sons as an inheritance. Because these households own such small parcels of land, many tend to no longer leave land to fallow and over-cultivate the soil, resulting in the mining of nutrients (and many of these areas are also prone to serious soil erosion).

Crop-related losses, due to crop diseases, pests and long-term (not seasonal) declines in world prices of tea and coffee, have also been implicated in descents suffered in such high-potential districts as Nyeri, Kirinyaga, Kisii Central and Nandi. Livestock-related losses, due to diseases and predators, were associated with another 17 per cent of all descents, with a much higher proportion of descents here found in the pastoral and agropastoral zones. Diseases mentioned for being responsible for many livestock-related losses included foot rot, East Coast Fever, anthrax and pneumonia.

4.3.2.3. Social factors High dependency ratios have arisen as relatively young men and women have succumbed to illnesses (many treatable, if not curable) in large numbers.

Having numerous dependants strains households' limited resources, and has become a key reason for descents into poverty, associated with 41 per cent of all observed descents.

Another important reason cited by households as contributing to their descent into poverty was insecurity and theft of property. This factor was particularly serious in the pastoral zone and it has also caused significant numbers of descents in the marginal and agropastoral zones. We heard frequent mention of cattle rustling and tribal clashes in these areas, leading to large livestock losses, followed by descent into poverty. While theft is often assumed to be targeted at the relatively wealthy, our results show that it seriously affects poorer households as well.

Other social factors often assumed to largely explain poverty descents were discovered to be relatively less significant across the country, including alcoholism/drug addiction, marriage expenses and lack of inheritance, as shown in Table 4.

5 CONCLUSIONS

Aggregate national-level data are most often used for policy formulation, yet aggregated data often obscure critical differences. We used a livelihood zones approach to try to get at some of those differences, particularly related to understanding the underlying causes of poverty movements as they relate to livelihood opportunities. Since different reasons are related to escaping poverty and falling into poverty, different policy responses will be needed to deal separately with each of these trends. While some nation wide trends were visible – such as the role of health problems in driving people into poverty and the importance of off-farm income in getting them out – many reasons differ across livelihood zones, and will therefore require targeted policy responses.

5.1 High Potential Zone

Here, overall poverty levels have remained relatively stable over the past 15 years. Consistent with its conducive environment for agriculture, cropping activities, particularly diversification into higher value food and cash crops, have the potential to alleviate poverty. Land access is an issue, with some people benefiting from increased cultivation while others are slipping into poverty due to subdivision and soil exhaustion. Health problems and the resulting expenses and high dependency ratios are also taking a toll on household welfare in this zone.

5.2 Marginal Zone

Increases in poverty, due mainly to health problems and their related human and financial costs, have been serious here. These need to be addressed by 'safety net' health policies and actions that prevent even more households from falling into poverty. Given the importance of non-farm income sources here, policies aimed at encouraging small business creation and expansion are options for aiding households to climb out of poverty (sometimes referred to as 'cargo net' policies (Barrett *et al.*, 2006), as would, to a lesser extent, policies favouring agricultural diversification (e.g. improved access to seeds, inputs and information on non-traditional crops). This is the only zone in which increasing access to livestock was associated with significant poverty reduction, suggesting livestock-related

investments (e.g. livestock markets, improved access to animal health information and treatments) would be other cargo-net policy strategies worth pursuing.

5.3 Agropastoral Zone

This zone also experienced increases in poverty over the past 15 years and is among the poorest zones in the country. Expansion of crop agriculture and an increase in market orientation have been promising strategies in the past, and activities that facilitate these activities – such as improving roads and access to inputs, information and services, and lowering communication costs could have a high poverty impact here. As in the high potential agricultural areas, land access is an issue that will need to be addressed. In a mixed crop-livestock area such as this one, and to a lesser extent in the high potential zone, the importance of property inheritance is a sign that land markets are not proving to be an effective re-allocation mechanism. Livestock diversification and commercialisation have potential, but livestock losses were high which suggests that interventions that reduce losses due to disease or drought might mitigate poverty.

5.4 Pastoral Zone

This is the poorest zone and the one that has experienced the highest increase in poverty. The data collection for this study occurred in a drought year which explains these extreme results, however it highlights the high levels of vulnerability of households in this zone and suggests that policies that mitigate vulnerability will be as important as those that seek to promote growth. Climate is a major source of vulnerability, but it is not the only one. Theft is also a major issue in these areas and addressing it could have important poverty impacts. Small businesses are important to households in this zone, but unlike in other rural zones, these businesses are less likely to be located within their own communities, and are instead found in cities. An implication of this is that policies that make it easier for people to earn money and to move safely between rural and urban areas will help mitigate poverty. Because of few livelihood opportunities in this zone, people tend to move to towns in search of formal employment in the government and private sector.

5.5 Urban Zone

Poverty is high in the urban areas, though it has not increased according to our analysis. As expected, non-farm activities are responsible for the majority of ascents out of poverty. Loss of employment is a major reason for descending into poverty, however agriculture – crop diversification and livestock commercialisation – is a successful poverty alleviation strategy for a significant number of urban households. Curiously, neither crime nor alcoholism, often considered urban vices, was identified as an important cause of poverty in urban households in this sample.

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