Pathways from poverty: A multi-country study

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Abstract

Pathways from poverty are the combination of specific policies or interventions that affect asset endowments, the setting where assets are used, and the choice of livelihood strategies, and that result in eradicating poverty for the households affected by the policy or intervention. This proposed study will undertake policy-relevant research on pathways from poverty using newly collected longitudinal data on individuals, households and communities in Ethiopia, Mexico, the Philippines and South Africa together with findings from qualitative fieldwork and well defined identification strategies to understand the policies, interventions and other factors that lead to sustainable rural poverty reduction. It will address three questions: 1) How do poverty and other dimensions of well-being change over time; 2) What are the causal factors underlying these changes; and 3) What role do policy, program and project interventions play in these pathways from poverty? The study will be undertaken jointly by researchers from the United States, Ethiopia, Mexico, the Philippines and South Africa and will incorporate joint research, in-country training and capacity building activities and dissemination to policy-makers, other civil society actors as well as USAID.

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Research Narrative

1. Introduction

Poverty reduction is the central objective of international development. Attaining this objective requires many conditions including good governance, a genuine political commitment to poverty reduction and increased resources. But for these resources to be used effectively, there must be a clear understanding of the mechanisms by which poverty can be reduced and the roles that can be played by individuals, markets, states and other civil society actors. The purpose of this study is to provide such policy-relevant research on mechanisms and interventions that can create pathways from poverty. It will use newly collected longitudinal data on individuals, households and communities in Ethiopia, Mexico, the Philippines and South Africa together with findings from qualitative fieldwork and well defined identification strategies to understand the policies, interventions and other factors that lead to sustainable rural poverty reduction. These activities will be undertaken by researchers at the University of California at Berkeley, the University of Wisconsin at Madison and the International Food Policy Research Institute together with developing country collaborators from Addis Ababa University (Ethiopia), staff from *Oportunidades* (Mexico), the Research Institute for Mindanao Culture (RIMCU), Xavier University and the University of the Philippines School of Economics (Philippines) and the University of KwaZulu-Natal (South Africa).

2. Research and policy questions

Our study will address three questions: 1) How do poverty and other dimensions of well-being change over time; 2) What are the causal factors underlying pathways from poverty; and 3) What role do policy, program and project interventions play in these pathways from poverty?

The starting point will be descriptive and analytical work. We need to understand what are the factors that predict whether an individual or household will become less poor/more poor over time. Why are some getting ahead and why are others falling behind? To what extent can we predict an individual's or household's welfare trajectory based on (a) initial asset holdings and context where these assets are used, and (b) specific interventions or policy changes that affected the household and its context. This understanding is necessary given that an important policy question is the extent to which interventions and policies should focus on increasing or redistributing existing stocks of assets (through, for example, land redistribution or investments in schooling) and/or via interventions and policies that increase the returns to assets (such as market liberalization or the development and dissemination of new technologies).

Such issues loom large in many anti-poverty initiatives being undertaken by USAID. Depending on country context, USAID policies may focus on improving access to assets, increasing returns to assets, or a combination of both. For example, as part of its long-term goal of reducing chronic food insecurity in Ethiopia, a key Strategic Objective is to improve rural household production and productivity by addressing problems in agricultural technology, microenterprise development, trade, and policy reform (USAID, 2003). In Mindanao, the Philippines' poorest region, policymakers have recognized the need both to reduce poverty and to improve financial services (Medium Term Philippine Development Plan 2002-2004); one of USAID's programs in Mindanao involves working with rural banks and credit cooperatives to assist them to profitably serve the microenterprise market (USAID 2002). In Mexico, despite extensive trade and close US partnership, poverty is still widespread. In 2002, although GDP per capita was about $6,400, about 53% of all Mexicans—over 50 million people—had an annual income of less than $1440. Reducing poverty, especially in rural areas, remains an important development challenge for Mexico. USAID's program in South Africa supports the government's objectives to achieve economic and democratic transformation in ways that reduce disparities between historically privileged and disadvantaged groups.

Reducing poverty must also be accompanied by measures to help the poor insure against shocks. The substantial literature regarding the vulnerability of the poor suggests that poor people have difficulty in insuring against shocks - advantageous or damaging events outside the direct control of the household. These may affect many households within a locality or region – a covariate (or common) shock – or they may be specific to the individual or household , an idiosyncratic shock. Existing evidence suggests that most households can partially insure against idiosyncratic shocks but have considerable difficulty coping with covariant shocks (Dercon, 2002). But because these studies have been based on short panels, however, there is still much we need to know about the long-term impact of shocks. In South Africa, for example, a major adverse shock confronting many households is the impact of HIV/AIDS. One component of our proposed study will look at the long-term impact of HIV/AIDS on rural South African households. Whether temporary shocks have permanent effects has important consequences for households' ability to move out of poverty. Where such events force households into 'poverty traps', there will be a high return to policies and interventions that mitigate these shocks. Further, where irreversibilities are important, uncertain or risky environments may deter profitable investments from occurring and this may have implications for the design, *inter alia*, of interventions designed to increase rural incomes. More generally, such considerations suggest that understanding household vulnerability to shocks, and evolution in this vulnerability over time, may be an important focus of a sustained poverty reduction strategy. These concerns are particularly applicable in contexts such as rural Ethiopia where USAID is attempting to balance efforts to improve agricultural productivity with efforts to mitigate the impact of disasters.

Lastly, while the typical time frame for evaluating interventions is short, such programs may have long-term poverty reduction effects. It is often the case that project designers and implementers of human capital investment programs may not be fully aware of the long-term returns to their projects. For example, existing evaluations of Mexico's anti-poverty program (formerly *PROGRESA*, now named *Oportunidades*) have only begun to discern the longer-term impact of increasing school attendance and improving health status of the poor. Quantifying the long-term returns to nutrition and other human-capital interventions may strengthen the case for such investment programs. A similar argument can be made for evaluating the longer-term effects of asset redistribution policies, such as expansion of the Philippine land reform program beyond rice and corn. What policies, programs or interventions have been effective in reducing poverty in the long-term? To what extent can we identify policies, programs, and interventions that have helped the asset accumulation process, access to institutions, and shock minimization?

3. Pathways from poverty: Conceptual framework[1]

We will define pathways from poverty as the combination of specific policies or interventions that affect asset endowments, the setting where assets are used, and the choice of livelihood strategies, and that result in eradicating poverty for the households affected by the policy or intervention. While in the description below, we focus on poverty as measured by consumption levels relative to some minimum standard of living or poverty line, we stress that our analysis will not be limited to poverty in terms of consumption but will extend, as appropriate, to other

[1] As discussed with BASIS, to conserve space, we do not include all references used in our literature review. These are found in Baulch and Hoddinott (2000), and Hoddinott and Quisumbing (2003a, 2003b).

measures of well-being. We will focus on four pathways induced by policies or interventions that result in (a) changes in settings such as macro policy reform or improvements in natural resource management and the functioning of markets and institutions, (b) improving access to assets (agricultural or business extension; skills training; literacy programs; land resettlement; land improvement; credit); (c) increasing the returns to those assets (infrastructure and new technologies which increase the return to capital and/or labor); and (d) interventions, possibly as responses to shocks, that increase incomes or consumption - – food and cash for work; cash transfers; and humanitarian food assistance being examples.[2] Pathways (a) and (b) can be further divided into physical-asset-related pathways (e.g. land reform) and human-capital-related assets (e.g. expansion of public education, scholarship programs, etc.). With this definition in mind, we now set out a conceptual framework that underpins our analysis of the policy-relevant questions described in section 2.

Consider a household residing in a rural locality. The characteristics of this locality can be disaggregated into five broad categories or "settings", physical, social, political and legal, and economic. The physical setting refers to natural phenomena such as the level and variability of rainfall, the natural fertility of soils, and quality of infrastructure. The social setting captures such factors as the existence of certain norms of behavior, of social cohesion and strife. The legal setting can be thought of as the general 'rules of the game' in which exchange takes place which, in turn, is a partly a function of the political setting which captures the mechanisms by which these rules are set. Finally, there is an economic setting that captures policies that affect the level, returns and variability of returns on assets.

[2] Such programs may also alter the level of or return on assets. Public employment schemes may not only result in asset creation, but may also explicitly change the ex post return on assets by putting a floor beneath marginal returns to labor.

Within these settings, the household has endowments of capital and labor. Capital includes physical capital (agricultural tools, livestock), natural capital (owned land, access to common property resources), human capital (knowledge, skills and health), financial capital (cash-in-hand, bank accounts, net loans outstanding), and social capital (networks, norms and social trust that facilitates coordination and cooperation). Labor endowments reflect the household's ability to work either for itself or for others and reflects prior investments in health and nutrition, the intergenerational transmission of knowledge and experience.

The household allocates these endowments across a number of activities as part of its livelihood strategies. These allocations are based on the household's perception of the level of returns to these activities as well as the variability of returns and their covariance. For example, the household may decide to grow a mix of crops that embody differing levels of susceptibility to climatic shocks and returns. It may shift from producing staple foods to high value crops, seeking markets that reward quality and traceability, including post-harvest value added. The household might diversify into off-farm activities (such as handicrafts of processing) or casual wage labor. The income that households receive from these allocations will also be affected by covariant and/or idiosyncratic shocks that will affect the stock of assets, the returns to these assets in different activities and the relationship between income generated and consumption or other measures of well-being.

The allocation of endowments to activities, together with returns to endowments in these activities, generates income which is used to fund consumption and investment, including investments made in the health and schooling of children. However, there is not a one to one relationship between income realized from these sources and consumption. Households may attempt to gain access to resources from the state, such as cash transfers or employment on public works programs. They may draw on private sources, such as remittances or gifts, or attempt to access credit markets. While households may also choose to draw down savings held in financial form, livestock, jewelry or other durables, their ability to do so is circumscribed by the possibility that such sales may lead to irreversible losses of income such that a temporary shock carries permanent consequences. Alternatively, they may enter the credit market and borrow. They may also alter investment in human capital such as withdrawing children from school. These aspects of household behavior generate feedback from decisions regarding consumption to changes in asset holdings.[3]

Now consider the next agricultural cycle. The household's stock of physical, financial and social capital will have been altered by its responses to the income shocks described above. With the experience gained from the previous year, the household's expectations of the returns and variability to different activities will have been altered. It may have accumulated human capital in the form of 'learning by doing' or acquired new information on how effectively it can cope with adverse shocks. Alternatively, it may have lost assets or gone into debt given the realization of adverse shocks. The process described above is repeated continuously over the life cycle of the household: endowments are allocated to different activities, they experience shocks and may engage in various income and consumption smoothing behaviors. This leads to further changes in stocks of capital and a further updating of expectations.[4]

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[3] We have presented mechanisms for consumption smoothing as *ex post* responses to shocks. In practice, decisions regarding consumption are interlinked to decisions regarding income generation, labor allocation and perceptions of risk (Fafchamps, 1993; Morduch, 1995). Also, our framework treats the external environment as exogenous. Although appropriate as a short-run assumption, one could argue that over the longer-term the external environment can be altered by actions by the household (for example, where households lobby governments for resources).

[4] Although this framework is presented descriptively, placing its key components in a formal model is relatively straightforward. The essential features are a household intertemporal utility function defined over current and future consumption that is maximized subject to an intertemporal budget constraint. Under the assumptions of perfectly functioning markets and no uncertainty, households set consumption levels such that the marginal utility of consumption is equalized over all periods. Households in developing countries live in environments where markets

Two additional features should be noted. First, it is relatively straightforward to make this framework gender sensitive. Rather than assume that the household has an endowment of assets, assume that assets are held individually. Allocations of assets to activities is a function of intrahousehold allocation rules, themselves a function of the settings in which the household is placed. So, for example, changes in the legal environment – such as laws banning wage discrimination against women – will change the allocation of assets to activities within the household. Changes in settings may have gender-differentiated consequences. For example, providing scholarships to girls may affect their level of schooling attainments. Second, a key feature of the above model is that transitory shocks have only transitory consequences. Further, there is no reason why all households – given appropriate opportunities, say for asset accumulation – cannot escape poverty. However, there are good reasons to believe that in some localities, such assumptions are too strong. For example, uninsured shocks can generate poverty traps (Ravallion, 2003). Consider a case where access to credit relies on collateral. A shock occurs, say a flood, which destroys the stock of collateral and thus denies the household further access to credit. The household is plunged into poverty because of the asset loss; the absence of collateral prevents it from climbing out of poverty. In our analysis, we will be cognizant of the potential for at least some proportion of our sample to be caught in poverty traps.

4. Data sources

To explore the pathways enumerated in section 2, we will use longitudinal data – repeated observations of individuals or households over time – from rural localities in four countries, Ethiopia, Mexico, the Philippines and South Africa. Longitudinal data have a number of distinct

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function poorly; Deaton (1992) and Dercon and Krishnan (2000) provide a formal introduction to the complications more realistic assumptions introduce.

ensured that data collected in earlier and later rounds are comparable and that modules have been included to capture the data needed to examine the pathways described above; (5) There has been qualitative fieldwork in all countries. Along with a growing number of researchers on poverty (e.g. Kanbur 2003), we believe that survey-based and qualitative methods should not be considered substitutes for each other, but can be used effectively together to study economic mobility and changes in households and communities over the long run; and (6) In all countries we have collected community level data which provides additional perspectives of causal factors underlying changes at the household and individual level. Below, we describe the data available to us in the four study countries.

Ethiopia. IFPRI, together with the Economics Department, Addis Ababa University and partners in the United Kingdom have been collaborating on a unique longitudinal survey of households living in rural Ethiopia called the ERHS. The study began in 1989 with six villages and expanded to 15 villages and 1500 households in early 1994. Further rounds were fielded in late 1994, 1995, 1997 and 1999 and a new round (funded by the Office of Food-for-Peace, USAID) is currently in the field. Attrition is low, averaging less than two per cent per year. A partial list of data collected includes: dimensions of living standards (consumption, perceptions of poverty, health status); child welfare (schooling, anthropometry, child labor); agriculture; asset accumulation and vulnerability; and access to public services (schools, health clinics, roads, food assistance). Complementary qualitative fieldwork has been undertaken to assess the role played by local institutions, government and donors in providing services and affecting vulnerability and well-being.

Three features of these data should be noted. First, improvements in incentives for agricultural production (the elimination of forced taxation of peasant agricultural production; the liberalization of output markets) in the early-mid 1990s appears to have set the stage for agricultural growth, though growth that appears to have been unequally distributed within the country. Given our large number of repeat observations over the last ten years, we will be able to discern the long-term impact of improved market access on assets accumulation and rural poverty. Second, farmers in rural Ethiopia live in a shock-prone environment. The ERHS has been specially designed to collect detailed information on the nature, extent and severity of these shocks (including the 2002 drought); as such a further focus of the analysis of these data will be possible to examine the extent to which these shocks increase poverty and whether they force households into poverty traps from which they cannot escape. Lastly, access to drought relief is important for rural Ethiopian households; it is also a major component of bilateral assistance provided by USAID to Ethiopia. Not only does the ERHS contain detailed information on access to drought relief, it also contains information on how this assistance is accessed (for example, the presence of household and parental networks) which may serve as exogenous determinants of access to relief. A comparison of the roles played by drought assistance and agricultural growth in protecting and creating assets will be useful in assessing the appropriate balance between relief and development interventions in rural Ethiopia.

Mexico. Rural poverty remains extensive in Mexico, and the share of population dependent on agriculture is unusually large for a country at this level of per capita income. An important pathway from poverty consequently consists in improving the human capital level of the children of the rural poor to allow them to be more productive not only in agriculture, but also in rural non-agricultural activities and in migrating to the urban sector. This is the strategy followed by the Mexican government through the *PROGRESA/Oportunidades* program. This program consists in conditional cash transfers (CCT) to mothers in poor households living in marginal rural communities and peri-urban environments, where the condition is uninterrupted presence at school and regular visits to a health clinic. In 2003, *PROGRESA* had an annual budget of US$2.2 billion and covered 4 million families, clearly one of the most ambitious CCT programs in place for human capital formation among the rural poor.

To measure impact, *PROGRESA* selected a sample of 506 communities comprising 24,000 households and 17,000 children eligible for transfers, to which a survey was applied before the program started in 1997 and subsequently every 6 months over the next three years. Information was collected on individual, household, and community characteristics. The sample design consists in the random selection of 320 treatment communities and 186 control communities from among these 506 communities. While these data were used to assess the initial impact of *PROGRESA* (see Skoufias, 2002), the long-term impact of the program is not known, a critical lacuna give that *PROGRESA* is now being widely copied throughout Latin America. In 2003, a follow up survey was conducted, allowing us to characterize the impact on migration, labor market performance, and earnings of children who benefited from *PROGRESA* versus those who did not. The randomized nature of the *PROGRESA* study provides a rigorous identification strategy for a pathway from poverty that starts with an investment in education and health, and affects beneficiary households differentially according to the characteristics of the child, the assets the household controls, and the context where it is located. Improved human capital for the children of the rural poor expectedly allows them to select more effective livelihood strategies, resulting in a lesser incidence of poverty than among their parents. The 2003 follow up data will enable us to test this hypothesis, and explore the role of complementary assets and quality of context in producing heterogeneous outcomes on exiting from poverty. Results will have important policy implications for the design of effective CCTs and for the definition of complementary programs that can help maximize the poverty reduction effect of an investment in human capital.

Philippines. The panel data used for this study includes survey rounds in 1984/85, 1992, and 2003/04 of households living in the southern part of Bukidnon province, Mindanao, collected by the IFPRI and the Research Institute for Mindanao Culture (RIMCU), Xavier University. The original sample of 448 households was interviewed in all four rounds in 1984/85. Of the original 448 households, 352 were interviewed again in 1992. The 2003 wave was able to interview 311 original respondents and 261 households formed by children living in the area. The 2004 wave, which is currently in the field, is interviewing households formed by children who no longer live in the survey area. In both the 1984/85 and 2003/04 rounds, detailed economic and nutrition information was collected for individual household members (e.g. earnings from various employment activities, anthropometry, education, food intakes) and at the household level (e.g. farm production, production and consumption credit, housing, total expenditures). The 2003/04 round was preceded by a qualitative study in the survey communities on changes in the social and economic environment over the last 20 years.

Analysis of these data will be particularly valuable in assessing the relative importance of physical versus human capital accumulation as a pathway from poverty. The research site was originally chosen to study the effects of agricultural commercialization on consumption and nutrition outcomes. Construction of a sugar mill in the area in 1977 led to a major shift from corn production to sugar production for many households in the region. Among the main effects of the introduction of export cropping were a significant deterioration in access to land, as smallholder corn tenant farms using primarily family labor were consolidated into larger sugar farms using primarily hired labor, and an increase in incomes for households that grew sugarcane. While the shift to sugarcane may have increased landholding concentration, a number of factors may have mitigated the effect of asset concentration on the rural poor. First, public investments in infrastructure and social services provision (such as increased access to secondary schools) have increased substantially over the past 20 years. Second, in 1988, the Philippine land reform program was expanded to include crops other than rice and corn. While opinions regarding the effectiveness of the Philippine land reform program are mixed, this is a policy change that could potentially alter the distribution of assets and income. Third, urbanization and the growth of rural nonfarm enterprises have created a demand for nonagricultural labor.

Several aspects of these data provide exogenous variation needed for identification in econometric models analyzing pathways from poverty. The original sample was drawn to provide a quasi-experimental design for the purposes of evaluating the effects of commercialization of agriculture resulting from the introduction of the sugar mill. Researchers stratified the sample of farmers into three cohorts based on three expanding concentric circles centered around the sugar mill and households were drawn randomly within these three strata. Those living in the stratum closest to the mill had significantly higher rates of sugar adoption in 1984 than did those in the next closest stratum. Very few households in the farthest stratum had adopted sugar at that time. This sample design makes it possible to treat the introduction of the sugar mill as a plausibly exogenous shock to 1984/85 income. The benefits of this quasi-experimental sample design can be extended to the 2003/04 data by treating post-1985 road construction and improvements as further exogenous shocks to income in later years.[6]

[6] Because the location of road investments may not be purely exogenous, we will construct an alternative measure of road improvements that is exogenous to household income: the distance of the household to the straight line connecting the nearest market to the sugar mill. This variable serves as an effective proxy for road investment and

South Africa.

As apartheid came to an end, South Africa opened up to the world economy, employing a fairly conventional mix of liberalization policies within an environment of fiscal restraint and modest redistribution. And yet as May, Carter and Padayachee (2004) point out, inequality and poverty both increased in the immediate post-apartheid period despite South Africa's success at meeting fiscal and liberalization goals and expectations that a liberalized economy would work better for its less well-off and historically disadvantaged citizens. To date at least, economic and political liberalization have not been sufficient to open up pathways from poverty for most South Africans.

Accordingly, a core focus of this component of the proposal is to identify and remedy the factors underlying the reproduction of South African poverty. To do so, we will use an 11-year panel survey of South African households found in KwaZulu-Natal Province. The first survey was undertaken in 1993 (PSLSD 1994) as part of a national study of living standards. With the aim of addressing policy research questions concerning how the dramatic political, social, and economic change since the democratic national elections in 1994 were affecting South Africans, African and Indian households in KwaZulu-Natal Province were resurveyed 1998 (May et al. 2000). Finally, the same households were re-interviewed in a third wave in early 2004. In 1993, the KwaZulu-Natal sample was representative at the provincial level and contained 1,354 African and Indian households. Of the target sample, 84 percent were re-interviewed in 1998 (Maluccio, 2001). To ensure comparability, the 1998 and 2004 household questionnaires largely followed the 1993 version that included, among other things, measures of demographic structure,

instrument for income because it is highly correlated with the road investment, but plausibly uncorrelated with unobserved factors associated with household income.

household income and expenditures, and anthropometry. In addition, a number of new modules were introduced in the later rounds, including modules on social capital, shocks experienced by the households, education decisions within the household, and the effect of HIV/AIDS.

The South African data will be particularly useful in assessing how a massive re-orientation of the governmental welfare system – expansion of the old-age pension system to all races in the mid-1990s and introduction of a national Child Support Grant program in 1998 – conditions mobility in the post-apartheid world. At the same time, it will allow a first look at longer-term implications of the HIV/AIDS epidemic that is ravaging KwaZulu-Natal, starting from a baseline relatively unaffected by the disease. In 1993, HIV/AIDS was not widespread. In 1998, while HIV was on the rise, the KIDS data did not provide evidence of increased morbidity or mortality resulting from the disease. In 2004, however, the crisis appears to be in full swing, with mortality on the rise. The fact that the KIDS data will permit us to see the ongoing evolution of household well-being prior to the onset of both the Child Support Grant and the HIV/AIDS crisis opens the door to powerful and compelling analyses of the impact of these events on pathways from poverty.

5. Methods

As described in section 2, our study has two principal research components: a description of how poverty and other dimensions of well-being change over time; and an analysis of the causal factors underlying these changes including the role played by policy, program and project interventions in creating pathways from poverty?

We envisage using a number of methods to describe how poverty and other dimensions of well-being change over time. These include assessing changes in the incidence and severity of poverty, measuring growth rates in consumption, assessing changes in the distribution of consumption, constructing transition matrices, estimating entry and exit rates into poverty, and estimating the duration of poverty spells.[7]

In order to analyze the factors underlying these changes, we will draw on three general approaches. The first is based on the observation that changes in outcome variables (such as consumption) can be decomposed into changes related to changes in asset holdings and changes in returns to assets. This is an application of the Oaxaca decomposition method (Oaxaca, 1973); Gunning, Hoddinott, Kinsey and Owens (2000) provide an example based on the conceptual framework described here. For example, in Ethiopia, application of this technique will allow us to discern whether improved market access, technological change and increased returns to agricultural activities led directly to higher consumption levels (through increased returns to assets), indirectly to higher consumption levels (through allowing households to increase asset holdings) or via both channels. Given the potential for poverty traps to exist, we will undertake these decompositions for various sub-groups within our samples (for example, distinguishing between very poor and less poor households).

The second approach will involve identifying the impact of specific programs, interventions and exogenous events such as shocks on consumption, poverty and other measures of well-being after taking into account other relevant factors. Using econometric techniques, we will estimate models of the following form:

$$C(h,v,t) = \alpha \cdot X(h,v,t) + \delta \cdot [Z(h,v,t)] + \eta(h,v,t) \tag{1}$$

[7] We will pay attention to two critical issues associated with the use of longitudinal data: life cycle considerations and attrition bias. Unless such life-cycle factors are taken into account, one might erroneously conclude that older households are less wealthy when in fact they have already made transfers to their children. If attrition is non-random, then survivorship biases may also affect our findings. We will address these issues in a number of ways: introducing controls for age, drawing on information on changes in household structure and asset transfers to the younger generation, testing for attrition bias using the methods outlined in Fitzgerald, Gottschalk, and Moffitt (1998) and adjusting for attrition should it be found.

where $C(h,v)$ is the outcome of interest for household h residing in village v at time t, $X(h,v,t)$ is a vector of characteristics that affect C (household assets as described in the conceptual framework, locality characteristics and other relevant settings and so on), α is a vector of estimated parameters associated with X and $\eta(h,v,t)$ is the disturbance term. $Z(h,v,t)$ is the specific intervention or shock being considered and δ is its associated parameter estimate. $Z(h,v,t)$ will vary across households and over time. For example, access to roads changes over time in the Bukidnon survey area; initial access to *PROGRESA* benefits was randomly assigned; not all households in Ethiopia receive drought relief and not all households in South Africa receive cash grants.

The challenge in estimating (1) lies in the fact that if unobserved factors (captured in $\eta(h,v,t)$) are correlated with observed variables and this correlation is not controlled or eliminated in the estimation procedure, biased and inconsistent estimates will result. In work on household pathways from poverty, for example, a critical concern will be the endogenous placement of programs and interventions (Rosenzweig and Wolpin 1986). Where, for example, interventions are placed in less-favored areas, failing to control for factors determining such placement will bias (most likely downwards) their estimated impact. While our strategy for resolving this concern will be country-specific, in general it will rely on two approaches. One approach will be instrumental variables estimation. In this procedure, first-stage estimates are made of right-side variables (e.g., access to roads) that are endogenous in the second-stage relation of interest (consumption), and the predicted value of the right-side variable is used instead of the actual value in the second-stage estimates. We will test carefully for instrument validity following standard methods (Bound et al 1995; Davidson and MacKinnon 1995).

Second, in the case of Mexico, we can exploit the randomized design of the allocation of *PROGRESA* benefits which implies that this correlation is unlikely to exist.

The third is to explore the effects of shocks and policy changes over the longer term. This is particularly important to capture irreversibilities into and out of poverty, and creation or elimination of poverty traps. This will be done by introducing state variables in equation (1) under the form of lagged variables instrumentalized by initial conditions following the Arellano-Bond (1991) methodology.

6. Collaboration and capacity building

While this proposal represents the first time that all individuals involved have worked collectively, we note that many of us have been working collaboratively for many years.

- Staff from IFPRI, UW-Madison and University of KwaZulu-Natal have worked on the collection and analysis of longitudinal data in South Africa since 1997 and worked collaboratively on the design and implementation of the latest survey round;
- Staff from IFPRI have worked with staff from Addis Ababa University on the design, implementation and analysis of the 1997 ERHS round and worked collaboratively on the design and implementation of the latest survey round;
- Staff from IFPRI have worked with staff and graduate students from RIMCU on the design and implementation of the 1984 Bukidnon study and have worked collaboratively on the design and implementation of the latest survey round;
- Staff from IFPRI and UC Berkeley have worked with staff from PROGRESA on earlier evaluations of *PROGRESA* since 1998

Earlier rounds of these longitudinal data have been analyzed by developing country nationals including some our current collaborators. However, in a number of cases this analysis has been undertaken outside their home country and this has led to less capacity strengthening than we would have liked. Accordingly, an important component of this proposal is to strengthen the capacity of *local* scholars in each country to analyze processes of poverty dynamics and economic mobility, and to disseminate the findings of such analyzes to government and civil society. While the exact form of capacity strengthening will vary from country-to-country depending on needs, we envisage the following activities taking place: (1) Workshops introducing local researchers to the data sets, data collection methodology, and “best practice” analytical techniques that can be applied to the data; (2) The mentoring of local researchers engaged in empirical research relevant to the country’s policy debate; (3) Collaborative work between local researchers and international experts; (4) Workshops that explore topics for research and for the dissemination and discussion of work emanating from this project.

By directly linking local researchers to the study team, survey instruments and research methodologies that examine the constraints to agricultural growth, private sector growth, and human capital formation, the analytical capacity to assess effective pathways from poverty will be transferred in a sustainable manner to key policy research institutions in our study countries. Through regular interaction with the policy makers, the wider academic community and civil society, the insights of the studies will be fully integrated in the policy dialogue and thus will form an important building block for future policymaking.

advantages in the analysis of pathways from poverty: (1) They provide information on changes over time of poverty and the causal factors related to these changes; (2) Where a sufficient number of observations are available, it is possible to use fixed effects or dynamic panel data estimation methods so as to purge estimates of the impact of fixed unobservables while, where appropriate, controlling for the influence of lagged dependent variables; and (3) They provide more accurate data on past events than retrospective surveys.[5]

These advantages underpin our decision to use individual and household longitudinal data. In addition, a number of common features of these data make them particularly attractive for the analysis of pathways from poverty: (1) The time spans of these longitudinal data is reasonably long – six years for Mexico, eleven years for South Africa, 15 years for Ethiopia and 20 years for the Philippines. This means that it is feasible to examine poverty dynamics over long periods of time; (2) In all countries the most recent survey round was fielded in either 2003 or 2004 and so it will be possible to link current poverty outcomes to past policies and interventions; (3) Virtually all data will have been collected by the time this project starts and a considerable amount of cleaning and data preparation will also have been undertaken; (4) Members of our research team were involved in the design of all survey instruments. We have

[5] While we considered using cross-country data sets, extant work using such data (including our own) has not been an unqualified success. Temple (1999) writes, "Even the most enthusiastic proponent of cross-country growth regressions must acknowledge that we are a daunting distance from the ultimate goal, a model with high explanatory power which indicates precision the relative contributions of different influences" (Temple, 1999, p. 148). Further, even if such problems can be overcome, cross-country studies cannot tell us anything about mobility or poverty dynamics at any level of aggregation below that of the nation-state (Rosenzweig, 2003). We also considered using cross-sectional data. However, cross-sectional analyses, by their very nature, are a picture at a point in time. In order to examine pathways, one needs to extrapolate and this is problematic. For example, one could examine relationships between welfare outcomes of interest and variables that affect those outcomes, then use the results of this analysis to model changes in outcomes as a function of changes in variables that affect these outcomes. But these relationships may be affected by the particular circumstances surrounding the year in which the data were collected; for example, the relationship between capital and output in agriculture may be very different in drought and non-drought years. A further complication stems from the finding of Baulch and Hoddinott (2000) that a significant proportion of poverty is transitory. The churning of households in and out of poverty confounds attempts to understand the correlates of poverty as households with identical asset holdings can be poor one year, but not poor the next, depending on the realization of exogenous events such as shocks.

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Pathways from poverty: A multi-country study
Outputs and Outreach

1. Outputs

We envisage three audiences for this work. The first is researchers on development issues in the countries in which are working, the United States and elsewhere. The second is USAID staff in Washington and in-country missions. The third is policy makers in the four countries in which we are working. Because these audiences have different requirements in terms of the materials needed to reach them, we envisage three broad sets of outputs: (1) Research-oriented output, suitable for publication in peer-reviewed journals; (2) Policy briefs, which would be targeted to host country, USAID and international policymaking audiences; and (3) Workshops held in host countries with policymakers and USAID-mission staff to discuss issues, explore how the analysis can be directly linked to current policy concerns and discuss findings.

We envisage three research-oriented papers each for Ethiopia, Mexico and the Philippines. One will focus on describing how poverty and other dimensions of well-being change over time. The remaining two will focus on topics specific to country circumstances. In addition, we will produce two synthesis papers. One will be a comparative analysis of poverty dynamics in the four countries; the second will be an assessment of the role played by policy, program and project interventions in creating rural pathways from poverty. In the case of South Africa, we have secured separate funding for the analysis of child support grants and the effects of HIV/AIDS. For this reason, we envisage only two papers for South Africa: one will focus on describing how poverty and other dimensions of well-being change over time (thus providing information comparable to the other country studies); and a second which will integrate these into an analysis of pathways from poverty. These are described in the following table.

General questions	Specific questions	Ethiopia	Mexico	Philippines	South Africa	Synthesis
1. How do poverty and other dimensions of well-being change over time?	a. How much does consumption increase over time?	X	X	X	X	X
	b. How many households move out of poverty? How many households move into poverty?	X	X	X	X	X
	c. How are consumption gains and losses distributed? What were the characteristics of those who moved out and into poverty?	X	X	X	X	X
	d. How much mobility is there? Does mobility increase, decrease or remain the same over time?	X	X	X	X	X
2. What are the causal factors underlying these changes? What role does policy, program and project interventions play in these pathways from poverty?	a. How has improved market access and improved returns to assets, facilitated asset accumulation and thus provided a pathway from poverty?	X				
	b. How do shocks and the ability to mitigate the impacts of shocks (idiosyncratic and aggregate)—both through ex-ante and ex-post behaviors (including private transfers, access to drought relief and cash transfer programs) influence pathways from poverty? How does this affect the evolution of consumption and poverty?	X	X		X	
	c. What have been the relative contributions of improved farm incomes and access to non-farm employment?			X		
	d. How has investments in education facilitated new livelihood opportunities and thus provided a pathway from poverty?		X	X		
	e. Idiosyncratic or common? Are pathways from poverty the same everywhere?					X

2. Outreach to policymakers

One of the main audiences of this research program is policymakers and development practitioners in developing countries (governments and civil society) as well as donors such as USAID who can make decisions regarding interventions that have the potential to reduce poverty, risk, and vulnerability. Thus, in addition to the proposed outreach and dissemination activities to USAID officials, the proposed research program will also include seminars and other dissemination activities targeted to the academic and policymaking communities in our case study countries. Our research partners in developing countries are well-connected to local policymakers and participate actively in current policy debates on poverty reduction. Specifically:

In Ethiopia, we will work through three channels. The first is the Economics Department of Addis Ababa University. The second is the Ethiopian Economics Association (EEA). The EEA has several hundred members working in government, universities throughout Ethiopia and other civil society organizations. The third is the Ethiopian Development Research Institute (EDRI) with which IFPRI has formal links. EDRI is headed by the Chief Economist of the Ethiopian Government, a cabinet level position and provides a formal mechanism for disseminating research results to the Ethiopian government.

In Mexico, our counterpart is the government ministry that is responsible for implementing *Oportunidades*, the country's premier poverty-reduction program. IFPRI was involved in the initial evaluation of Progresa, together with Mexican and US academics.

In the Philippines, RIMCU has a long-standing relationship with the National Economic and Development Authority (NEDA) in Region 10, which has named RIMCU an associate member of the Regional Development Council. RIMCU has also worked with local government units at the municipal and provincial levels, as well as national government agencies and NGOs in Mindanao. Since civil society is an important player in the Philippine policy arena, these dissemination activities will include participants from various civil society organizations representing the rural sector. The University of the Philippines School of Economics is the country's premier institution for higher education in economics and has substantial influence in policymaking circles (most Secretaries of Budget and Economic Planning are recruited from UPSE). One of the IFPRI co-investigators (Quisumbing) was formerly a faculty member of UPSE and has maintained contact with UPSE over the years.

In South Africa, the project will be able to tap into a newly formed network that links the School of Development Studies at the University of KwaZulu-Natal directly with both national and provincial levels of government. Funded by the Department for International Development (UK), the Strengthening Analytical Capacity for Evidence-Based Decision (SACED) project, links the School of Development Studies directly with the South African National Treasury, the Department of Social Development and Statistics South Africa. This five-year project involves extensive dissemination activities including a workshop program and annual conferences. The School also encompasses the Centre for Civil Society which provides community outreach activities, and hosts a monthly seminar series through which members of civil society organizations are able to access research findings.

Pathways from poverty: A multi-country study
Timeline

Our proposed timeline for completing these activities is as follows:

Activities in 2004-05												
	2004			2005								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Planning meeting (to coincide with BASIS TC meeting)												
Creation of analysis files												
In-country planning meetings and "scoping" meetings with policymakers												
In-country workshops with graduate students and possible users of data												
Data analysis related to first paper (pathways)												
Completion of first paper												

Activities in 2005-06												
	2005			2006								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Presentation of draft paper at conferences												
Midterm meeting (to coincide with BASIS TC meeting)												
Data analysis related to second paper												
Completion of second paper for all four countries												
Synthesis activities												
In-country workshops and dissemination activities												
Final workshop												
Submission of final report												

Pathways from poverty: A multi-country study
Summary of Researcher Qualifications

US-Based Researchers

University of California - Berkeley

Alain de Janvry is a Department of Agricultural and Resource Economics at the University of California at Berkeley. he is an economist working on international economic development, with expertise principally in Latin America, Sub-Saharan Africa, the Middle-East, and the Indian subcontinent. Fields of work include poverty analysis, rural development, quantitative analysis of development policies, impact analysis of social programs, technological innovations in agriculture, and the management of common property resources. He has worked with many international development agencies, including FAO, IFAD, the World Bank, UNDP, ILO, the CGIAR, and the Inter-American Development Bank as well as foundations such as Ford, Rockefeller and Kellogg. His main objective in teaching, research, and work with development agencies is the promotion of human welfare, including understanding the determinants of poverty and analyzing successful approach to improve well-being and promote sustainability in resource use. He is a member of the French National Academy of Agriculture and a fellow of the American Agricultural Economic Association.

Elisabeth Sadoulet is a professor of development economics and econometrics in the Department of Agricultural and Resource Economics at the University of California at Berkeley Most of her work has been directed at understanding the causes of underdevelopment, poverty, and environmental degradation, and at analyzing policies and programs that can help remedy these situations. To do this, she has used theoretical and empirical tools, as well as extensive field visits and case studies. Her work has covered Africa, Latin America, and some of East Asia. She has worked with most of the international development agencies, particularly the World Bank, FAO, IFAD, UNDP, the Inter American Development Bank, and the ILO.

International Food Policy Research Institute (IFPRI)

John Hoddinott is a Senior Research Fellow at IFPRI. He has a B.A. in economics from the University of Toronto and a D.Phil. in economics from the University of Oxford. His research interests lie in the microeconometric analysis of issues in development economics, particularly the determinants of health and the long-term consequences of early childhood malnutrition and poverty. His publications also include work on the causes of poverty, the determinants of human capital formation, intrahousehold resource allocation and the operation of labor markets. Together with Bob Baulch, he is the editor of *Poverty dynamics and economic mobility in developing countries*. He has experience in the collection and analysis of longitudinal data from a number of developing countries including Ethiopia, Guatemala, Mali, Mexico, and Zimbabwe. Prior academic positions include Associate Professor of Economics, Dalhousie University, Fellow and Tutor in Economics at Lady Margaret Hall, University of Oxford as well as visiting positions at Princeton and Toronto.

John Maluccio has been a Research Fellow and a Postdoctoral Fellow at IFPRI since he completed his Ph.D. at Yale in 1997. He has been heavily involved in the design, implementation, and analysis of three household panel surveys in Ethiopia, Guatemala, Nicaragua, and South Africa. His research has included analyses of how measures of bargaining power based on assets of partners at the time of marriage influence current household decision-making, particularly as it pertains to child investments in education and health, of how treating human capital as behaviorally determined affects estimates of its impact on adult wages, on the roles of social capital and shocks on individual and household well-being. He currently directs the evaluation of the Red de Protección Social, a conditional cash transfer program in Nicaragua.

Agnes Quisumbing, a Filipino national, is a Senior Research Fellow at IFPRI. She has M.A. and Ph.D. degrees in economics from the University of the Philippines, Quezon City and was a Fulbright-Hayes Doctoral Enrichment Grantee at the Massachusetts Institute of Technology. Prior to joining the IFPRI staff in 1995, she had been on the faculty of the University of the Philippines at Los Banos, the School of Economics, University of the Philippines, Quezon City, an Affiliate Postdoctoral Scientist at the International Rice Research Institute, Los Banos, Philippines, a Visiting Fellow, Economic Growth Center, Yale University, a Consultant and then Economist in the World Bank. She has considerable field experience in Asia, Africa, and Latin America in the areas of land tenure and intrahousehold allocation. Her work in the Philippines focused on land tenure issues in diverse production environments and intergenerational transfers. Subsequent work in Sumatra and Ghana analyzed the implications of the evolution of customary land tenure institutions on productivity and equity. She has also studied various dimensions of human resources and intrahousehold allocation in developing countries. Currently she is involved in a longitudinal study of the effects of past credit constraints on asset accumulation and well-being in the Philippines (funded by BASIS-CRSP), a longitudinal study on the impact of early childhood nutrition on human capital accumulation and economic productivity in Guatemala, and a longitudinal study of the long-term effects of food assistance in Bangladesh.

University of Wisconsin - Madison

Michael Carter is a Professor of Agriculture and Applied Economics at the University of Wisconsin-Madison. His research focuses on the nature of growth and transformation in low income economies, giving particular attention to how inequality in the distribution of land and other assets shape, and are shaped by, economic growth. While working primarily through the econometric analyses of household and firm level data, he has made theoretical contributions in the areas of asset accumulation, institutional innovation and credit rationing. He carried out the fieldwork for his dissertation on the Peruvian land reform in 1980, and have since had numerous other research projects in Latin American, Africa and Asia. He has been working on South African income distribution dynamics since 1994 when he joined a team analyzing a national living standards survey. His current projects include analyses of the safety net features of property rights systems in China, the impact of liberalization on the welfare of the rural poor in Central America, and social capital and the reproduction of inequality in ethnically stratified societies.

Developing Country Collaborators

Emmanuel Esguerra (Philippines) is Associate Professor at the School of Economics, University of the Philippines, Diliman. He has an M.A. in Economics from the University of the Philippines, Diliman Quezon City, and a Ph.D. in Agricultural Economics from Ohio State University. He is currently Director for Research, U.P. School of Economics, and Executive Director, Philippine Center for Policy Studies, a nonprofit research organization with strong links with civil society and the academe. He is also editor of the *Philippine Review of Economics* and has served as Managing Editor and Associate Editor of the *Philippine Review of Economics and Business*. He has done extensive research on the comparative efficiency and effectiveness of microfinance institutions in the Philippines, collateral substitutes in rural informal financial markets, and the design of special credit programs for the poor. He has also written on the implications of fiscal decentralization on health services provision.

Julian May (South Africa) is Associate Professor in the School of Development Studies at the University of KwaZulu-Natal where he is the director of the School's Population and Poverty Studies Programme. Between 1994 and 1998, he led the Poverty and Inequality Report commissioned by the Office of the Deputy President of South Africa and the South African Participatory Poverty Assessment. He has also worked with a number of government departments in the development of poverty reduction policy options and systems for monitoring the impact of policy, including the social security grants. He has provided training courses on poverty monitoring to officials from NGOs and government in Lesotho, Maldives, Mozambique, Namibia, South Africa, Swaziland and Sweden. He was also the principle researcher for the Poverty Indicators Study of Mauritius. In 1999, he was appointed by the UNDP onto an evaluation team to examine the impact of their $20 million Poverty Strategy Initiative, and undertook research in Uganda, Zambia, Lesotho and Maldives. Recently, he has worked in Lesotho and the Maldives developing national poverty monitoring systems. He is a member of the South African Statistics Council, an Associate Researcher at the International Food Policy Research Institute and at the Department of Social Policy, Oxford University.

Linda Montillo-Burton (Philippines) is Director of the Research Institute on Mindanao Culture, Xavier University and co-Principal Investigator of a BASIS-CRSP funded project in the Philippines. She has an M.A. in Anthropology from Brigham Young University and a Ph.D. in Anthropology from the University of Pittsburgh. She has held various teaching positions in Imperial Valley College, California, Universidad de Baja California, Mexicali, Mexico, and Xavier University, Cagayan de Oro, Philippines, and was an exchange professor at Virginia Polytechnic and State University. She has also held research positions at the Imperial Valley College Museum, the National Museum of the Philippines, and has been with RIMCU since 1981. She has been director of RIMCU since 1996. Her professional work has been in the following areas: archaeology and prehistory of Southeast Asia, Asia, Oceania, and Mexico; ecological anthropology; social and culture change; community health medicine; women's issues; environment and natural resource management; ethnohistory; peoples and cultures of Insular Southeast Asia and Oceania; political anthropology; and applied anthropology.

Tassew Woldehanna (Ethiopia) is an Assistant Professor in the Department of Economics, Addis Ababa University and a Visiting Assistant Professor at Wageningen University, the Netherlands. His principal research interest lies in understanding poverty and its determinants. Past research has encompassed the analysis of household behavior with particular attention paid to the behavior of farm households, occupational choice, micro-credit and the diversification of income sources in rural Ethiopia, the role of education in facilitating risk-taking in agriculture and assessing poverty-reducing schemes. Currently, his work focuses on the analysis of poverty in Ethiopia - its determinants, trends and regional (spatial) distribution – with particular emphasis placed on the analysis of micro data.

(Please note that we have had a series of discussions with the Director of Evaluation, Oportunidades, who has agreed in priniciple that her staff will be involved in this project. The formal approval for collaboration, however, takes a number of months and so, at this time, we do not list any of our Mexican collaborators by name.)