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Rural livelihood strategies and social capital in Latin America: Implications for rural development projects*

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Abstract

Evidence from studies across Latin America show that rural households in the region are increasingly employing a diverse set of activities to maintain and improve livelihoods suggesting that households use multiple paths to get out of poverty. Of particular importance in household livelihood strategies are the assets households own and the context in which they operate. Recent development literature has highlighted the important role of social capital in development and particular emphasis is place on the role of this asset in this paper. The objective of this paper is to examine these trends in order to inform project design and implementation in the region. Based on the conceptual framework and evidence from Latin America, the paper offers a number of suggestions for improving project design and implementation in Latin America.

Key Words: rural livelihoods, social capital, Latin America, rural development projects

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1. Introduction

Recent studies in Latin America show that 40% of income generated by rural households came from nonfarm activities (Reardon, Berdegue and Escobar, 2001). Rural households obtain additional income from migrant remittances, agricultural wage employment, and by a range of agricultural activities including livestock and crop production. The evidence suggests that not only is the rural sector fairly diversified across activities, but households and individuals use a range of activities as a part of a strategy to maintain livelihoods. That is, within a single household a number of income-generating activities are used for livelihood maintenance and improvement.

Given that livelihood strategies tend to be multidimensional, interventions geared towards improving rural livelihoods should be designed accordingly. Historically, however, rural development policies and projects implemented by national and local governments, NGOs and international organisations have tended to focus efforts on single sectors of the rural economy. In particular, the focus of interventions has been on agricultural production and, quite often, individual crops. While this may be suitable in certain circumstances, given the diversity of activities employed by households to maintain livelihoods this focus may be limited at best and quite likely inappropriate. Recognising the need to broaden the scope of development projects, international organisations, such as the United Nations Development Programme (UNDP), and bilateral aid agencies, such as the United Kingdom's Department for International Development (DFID), have initiated "sustainable livelihood" programmes. Such pragrammes attempt to develop projects that recognise the multiple means, activities, entitlements and assets by which people make a living (UNDP, 2000). In this paper, we identify the implications of the recent literature on rural livelihood strategies on rural development projects in Latin America.

Rural development projects invariably depend on collective action and the required action is typically complex. The complexity is driven by the incomplete knowledge of both the technical and human aspects of the project, including uncertainty to the extent to which individuals required to cooperate for collective action can be trusted to do so (Marshall, 2001). Incomplete knowledge is reduced through the sharing of information. In recent years, the concept of social capital has been developed to help understand the costs and benefits of communicating information and the mechanism by which external influences modify these benefits and costs. Although households use a number of assets to maintain livelihoods, there has been increasing recognition of the importance of social capital. Social capital can be defined as the "features of social organisation, such as trust, norms and networks, that can improve efficiency of society by facilitating coordinated actions" (Putnam, 1993). Because the importance of social capital in development has only been widely and explicitly recognised in the last decade, it is only now beginning to be incorporated into project design. For this reason, in this paper particular emphasis is placed on the role of social capital in livelihood strategies and on the design of rural development projects.

The objective of this research is to examine livelihood strategies used by rural households in Latin America in order to inform project design and project implementation in the region. The focus is on projects, as opposed to policies in general, for two reasons. First, in recent years, because of the changing role of the state in Latin America, projects have become the primary mechanism by which policies are implemented (Schejtman, 2000). That is, rather than implementing policies with a broad, sectoral focus, governments are shifting towards "policy packages" that are delivered to a specifically targeted region or group for a fixed amount of time and are organised as individual projects or as components of pragrammes. For example, in the mid-1990s the Government of Mexico, faced with continuing high levels of extreme poverty, ended the universal price subsidisation of tortillas to fund PROGRESA, a cash transfer pragramme targeted at poor rural households that required child school attendance and regular visits to health centres (PROGRESA, 1998). Secondly, since projects tend to be targeted and limited in duration, they are natural testing grounds to promote institutional and policy innovation, and in this sense projects can be thought of as agents of institutional change.

To achieve the mentioned objectives, this paper is organised as follows. Section 2 outlines the concept of livelihoods and the practical implications of the concept. As part of section 2, the role of social capital and institutions in livelihood maintenance and improvement is noted in detail. Section 3 examines livelihood strategies in Latin America by examining the literature that discusses the activities of Latin American rural households. The influence of policies and projects within the Latin American region on livelihood strategies is discussed in section 4 with particular emphasis placed on projects managed by the Food and Agriculture Organisation – Region for Latin America and the Caribbean (FAO-RLC). Section 5 examines how rural development projects in Latin America can be implemented or adjusted to assist rural households in achieving and improving livelihoods.

2. Livelihood strategies: A conceptual framework

A livelihood comprises the assets, the activities and the access to these that together determine the living gained by an individual or household (Ellis, 2000a). There is some question of whether this, and similar definition of livelihoods, sufficiently encompasses all the relevant considerations for the well-being of rural households (Barrett and Reardon, 2000).[1] To ensure a sufficiently encompassing perspective, in this section we carefully investigate the range of factors that contribute to an understanding of rural households' livelihood strategies in Latin America. Figure 1 examines the components of a household livelihood strategy and the factors that influence the direction of the strategy.[2] We begin by focusing on the household and household behaviour and then turn to examining the context in which the household operates and the important role of civil society and social capital.

2.1 *The household*

The basis of a livelihood strategy is the asset position of the household at a given point in time. Note that, as has become standard practice, household assets are defined broadly to include natural, physical, human, financial, public and social capital as well as household valuables such as jewellery.[3] These assets are stocks, which may depreciate over time or may

[1] Barrett and Reardon (2000) describe livelihoods as being similar to a production function in that they are processes that map assets (akin to factors of production) to outputs. As such, livelihoods cannot be compared because they are by nature processes. Additionally, Barrett and Reardon note that the livelihood concept has tended to ignore the importance of prices and price risk, which are important determinants of income derived from livelihood strategies. These shortcomings are considered in developing the concept of livelihoods in this paper.

[2] The figure is partially based on Figure 2 in de Janvry and Sadoulet (2000).

[3] The types of capital that households access can be categorised in a variety of manners. One common categorisation is to define four types of capital: natural, human-made (physical), human and social (Serageldin and Steer, 1994). Our categorisation reflects a desire to provide greater detail in the types of capital used by

be expanded through investment. In making decisions on strategies to improve the livelihood position, households consider both the current situation and the long-run livelihood position. Livelihood strategies thus include a dynamic component.

The quantity of an asset owned is not the only determinant of the value of that asset to the household. Among others, the ownership status and the fungibility of the asset influence value. If assets are clearly owned, meaning there is no difficulty with access, then the value is likely to be higher than in the case were ownership is vague or uncertain. Ownership status also influences the transferability of an asset. Land that has a clear and transferable title may be sold while human capital, although clearly owned, cannot be transferred. Assets can be productive, in that they can be used as inputs in a productive process, or nonproductive, such as household valuables (Barrett and Reardon, 2000). Some assets, such as literacy and numeracy of household members, can be used in a number of productive activities while others, such as farm machinery, tend to be coupled with particular activities. In some cases, such coupling may be the product of specialisation and can lead to higher returns. However, the lack of fungibility of coupled assets can result in the asset not being used to its full potential.

Based on access to a particular set of assets, the household must decide which activities it will employ and the intensity of involvement in that activity. For purposes of this paper, activities are actions taken by the household to produce outcomes. They involve the use of a single asset or a set of assets. Agricultural production, for example, may use natural capital in the form of land and water, human capital, physical capital such as tractors, financial capital for the purchase of inputs and social capital in the form of labour assistance by community members. Alternatively, nonfarm wage employment may only use human capital. The intensity of an activity depends on the degree to which assets are used. A strategy of agricultural intensification is likely to involve a greater use of human capital and financial capital (for the purchase of inputs) than a strategy that focuses on other activities or in less intensive agricultural production. The decision on the set of activities a household will employ and the intensity of those activities is conditioned on the context in which the household operates. That is, the choice of activities is dependent on natural forces and human forces, including the markets, the state and civil society, as highlighted in Figure 1. The context is discussed more fully below.

Household activities map into outcomes. Outcomes are flows that occur in a given period and include income, food, security and social claims. Activities may lead to single or multiple outcomes. For example, an activity such as agricultural production can lead to food and income. Additionally, some activities, such as participation in a community projects or labour exchange (e.g. minga), may not produce a short-run tangible outcome for the household but may entitle the household to future social claims; that is, the household may have a right to request assistance at a future date. Sets of activities may also produce the same outcome such as income or a sense of security. Finally, in certain circumstances, outcomes are directly linked to a household asset rather than obtained from a particular activity. For example, in the event of a poor outcome in terms of income or food, a household may obtain transfers by drawing upon their social capital (e.g., calling in favours) or may sell a household asset for income. Outcomes, therefore, are the result of a particular activity, a set of activities or direct use of assets.

Because of the uncertainty present in agricultural output, prices and wages, the outcomes from a set of chosen activities are also uncertain. Since markets for insurance in

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households although each of these categories can be subsumed in one or the four categories commonly presented.

developing countries are often missing, households as part of their livelihood strategies will hedge against uncertain outcomes by taking actions to manage risk such as diversifying activities. They also may actively invest in a diverse asset portfolio to enhance future livelihood prospects by increasing the available income-generating activities in which they can participate (Ellis, 2000b). Diversification is then an integral part of livelihood strategies.

Thus far, the discussion has remained static, focusing on activities and outcomes based on assets and the context at a given point in time. The concept of livelihoods is, however, a dynamic concept that recognises long-term strategic planning by households. Outcomes in a given period may not only be used to maintain well-being (through consumption) in a given period but may be invested in assets for future well-being. For example, income may be used to purchase household valuables or physical capital and participation in community projects may enhance social capital. As discussed below, the investment decision made by households is influenced by the context in which the investment is made. Property rights regimes dictated and enforced by the state shape investment in natural assets, as does the functioning of land markets. Credit markets and government credit policies influence investment in financial capital.

2.2 *The context*

A livelihood strategy is the process of choosing activities and asset investment for maintaining and improving livelihoods. Understanding this process requires measuring households' assets, activities and outcomes and evaluating the idiosyncratic context in which households form strategies. The heterogeneity in assets and idiosyncratic contexts means there are multiple paths that households may take to improve and maintain livelihoods. Given that the optimal path for households varies depending on assets and context, designing poverty alleviation strategies and specific rural development projects must take into account these two crucial sets of variables. Interventions designed to improve rural livelihoods must necessarily focus on the context in which households operate and create an environment that enables households to improve their condition. Specifically, interventions should be designed to reduce entry costs to various activities and enhance the return to activities. A degree of flexibility may be required to ensure that the intervention is compatible with various paths. Facilitating better access to opportunities or creating a situation which allows households to create their own opportunities is likely to be more cost effective for improving livelihoods than focusing support on a particular sector or subsector or rural economic activity (Ellis, 1999). In this and the following section, we turn to examining the context in which rural households operate to guide our understanding of how interventions can create an enabling environment conducive to the improvement of rural livelihoods.

As shown in Figure 1, the context can be broadly divided into four factors – natural forces and three human forces, markets, the state and civil society[4] – each of which influence the household's choice of activity and investment. Of course, each of these factors that create the context in which households operate are interdependent. State policy and efficiency influence how markets function in rural areas and vice versa. The effectiveness of state policy is dependent on civil society and the effectiveness of civil society depends on how it is supported by state policy. The acceptance of state dictates depends in part on civil trust in the state, which depends in turn on social capital shared between the state and civil society. The

[4] Some might regard markets as a subset of civil society rather than distinct from it. However, as noted by Barrett and Reardon (2000), discussions of livelihoods have often failed to adequately consider the role of markets in livelihood strategies. In seeking to highlight the importance of markets, we keep them distinct from other institutions of civil society.

norms that govern interaction of individuals in formal and informal contracts can shape market transactions. The response of the state and civil society to natural forces determines the impact of disasters and disasters help shape the state and civil society. The context in which rural households operate is complicated by all of these factors and the manner in which they interact. Keeping this in mind, each of these factors is discussed in turn.

Natural forces are part of the context that shapes the use of assets. Natural disasters like Hurricane Mitch in Central America have potentially grave implications for households. Not only might they lead to a depreciation of household assets, but households may also need to resort to selling certain assets in order to maintain a level of consumption in the short-run. A drawing down of assets in this manner influences the ability to choose certain activities in the future. In addition to natural disasters, weather patterns and agricultural pests and diseases create a degree of uncertainty in agricultural yields and thus in agricultural prices (thus linking natural forces with human forces). This uncertainty is likely to strongly influence the decisions of poor, risk-averse rural households. Local environmental conditions, such as the depletion of a ground water aquifer and deforestation of open access lands, can have a profound effect on the ability of households to maintain a livelihood or to improve their livelihood. At the same time, disasters and environmental challenges can also potentially build social capital and certain forms of human capital. Hurricanes, war, pest outbreaks, flood or environmental disaster have a remarkable capacity to extend and enrich social networks. The same goes for many types of human capital (e.g., knowledge of resource management).

Markets influence activities primarily through the price of inputs (including wages) and outputs. For example, a higher price for an agricultural input may reduce the incentive for participation in agricultural production. A higher wage in the nonfarm wage employment market may induce greater activity in this market at the expense of agricultural production. However, markets that do not function properly or have substantial transaction costs are likely to pose a barrier to entry for some households into certain activities. For example, a difference between the selling price and buying price for an agricultural commodity (a price band) due to transaction costs may create pressure to use assets for greater home production of agricultural commodities. Credit market failures or imperfections may induce greater involvement in wage employment in order to contravene a liquidity constraint. Credit constraints may also create a barrier to entering alternative activities such as nonfarm self-employment. In an ideal setting, markets function in such a way as to facilitate substitution between alternative activities as opportunities arise.

The state influences activities through a variety of past and present actions such as the investment in infrastructure, provision of services, coordination and efficiency of activities, designing, implementing and enforcing laws, regulations and interaction with the private sector and NGOs. State investment in infrastructure can lower transaction costs and thus alter farm-gate market prices. Provision of services, such as education and health care, influence investment in human capital. The effectiveness of expenditures on infrastructure, services and other areas is largely dependent on the functioning and efficiency of the state. Rent seeking activity and inefficiencies can limit the ability of the state to provide adequate assistance to rural households. If a state only has limited capabilities then its intervention should be carefully determined (World Bank, 1997). State organisations are key to the functioning and success of rural development projects. The state may provide clear titles to land but without a properly designed and well-functioning judicial structure to mediate disputes land markets may not operate properly influencing the use of natural assets. A project designed to enhance resource conservation may fail if land rights are not clearly established and transferable. State failure may also limit the ability of the state to create an enabling environment and limit barriers to entry for certain activities.

Civil society shapes activities because institutions determine the acceptability of and returns to activities, influence the use of assets and establish the rules that govern the use of social capital. Institutions can be defined as a set of ordered relationships among people which define their rights, exposures to the rights of others, privileges and responsibilities (Schmid, 1972). According to North (1990) they act as a guide to human interaction so that when we wish to greet people on the street, drive an automobile, buy oranges, bury our dead, etc., we know (or can easily learn) how to perform these tasks. Institutions determine how certain assets are used. Human capital embodied in female members of a household may be limited in the activities they can undertake while similar human capital embodied in a male member may be limited in a different way. While civil society does not have a monopoly on the creation of institutions -- the state may deliberately or spontaneously create state institutions -- it plays a key role. In addition to the institutions in society, the organisations of civil society are also important. While institutions refer to the 'rules of the game', organisations refer to the 'teams playing the game'. The presence and types of organisations, including NGOs and community groups, will influence the activities households undertake. Finally, note that in certain situations civil society may fail and the 'rules of the game' may become unclear. Such changes can lead to profound effects on household behaviour.

2.3 S*ocial capital and livelihoods*

As noted earlier in this paper, one of the focuses of this paper is on the implications of the recent literature on social capital on project design and implementation. For this reason, we discuss social capital in more detail than the other household assets. Like other types of assets, social capital can be used to maintain and improve livelihoods.[5] As noted in the introduction, social capital can be defined as the features of social organisation, such as trust, norms and networks, that can improve efficiency of society by facilitating coordinated actions (Putnam, 1993). Social capital depends on both the quantity (density) and quality of inter-personal relationships. Since social capital is embedded in social structure and social relations, institutions dictate its creation and use. An active civil society can serve as a 'nursery' for building social capital.

Social capital can be viewed from a micro, meso, macro or integrating perspective (World Bank, 2000). Early research into social capital by Bourdieu (1985)[6] and Coleman (1988) focused on the micro or individual perspective. From an individual perspective, the focus of social capital is on the benefits to an individual of group participation and on the deliberate construction of sociability for the purpose of creating this resource (Portes, 1998). Like other forms of capital, individuals or households can then deliberately invest in social capital. But social capital is not only generated deliberately. In fact, Coleman (1990) argues that it is mostly generated as an accidental by-product of people interacting for some other purpose, such as short-sighted commercial reasons or simply because we are social animals and, within reason, get utility simply from having relationships. Newer and broader perspectives of social capital have stretched the concept of social capital to make it possible to speak of the "stock" of social capital at the community, regional or national level (Portes and Landolt, 2000). This is the view of social capital taken by Putnam (1993) in his research on the role of horizontal connections on government efficiency in Italy. Meso or macro perspectives tend to avoid the role of the individual in creating social capital taking the stock as given. An integrating perspective of social capital then seeks to include elements of each of these views of social capital. Given the focus of this paper is on household livelihood

[5] As noted later in this section, social capital can also have a downside both for society and the individual.
[6] Cited in Portes (1998).

strategies and rural development projects, the existence of social capital at a meso or macro level plays an important role as well as household decisions that directly or indirectly lead to the creation of social capital. For the purpose of this paper, an integrating perspective is considered.

As with other forms of capital, social capital is not a homogenous entity. Three categories of social capital can be identified: bonding social capital, bridging social capital and linking social capital (World Bank, 2000). *Bonding social capital* refers to the strong ties connecting family members, neighbours and business associates. These groups tend to be more homogeneous in that they share a similar economic and social background. This can be beneficial in that it allows for easier flow of information but it can be limiting in that the similarities limit diversity. *Bridging social capital* includes the weak ties connecting individuals from distinct ethnic and occupational groups. These are horizontal connections between individuals from similar economic and social standing but different backgrounds. One benefit of such ties is the diversity that such connections bring. *Linking social capital* consists of ties between distinct social and economic classes such as between poorer households and those with influence in formal organisations including government agencies, the police and banks. This type of link can assist in the flow of information between the poor and those in a position of power. For households seeking to use social capital to improve livelihoods, the value of social capital depends on the number and types of relationships that a household has and the quality of those relationships, where quality refers to how well established the relationships are.

Although discussions of social capital have focused on its positive role for individuals and society, social capital can also be a limiting factor in the choice of activities and assets used by households (Bowles, 1999, Portes, 1998). The creation of community groups that build relationships for some individuals may lead to the exclusion of other individuals – non-members may not receive the benefits of group participation and may even be negatively affected. Group homogeneity may limit the benefits of diversity of economic activities and of ideas. Groups may also promote conformity which can stifle entrepreneurial activity and limit business success. Those who do become successful may be pressed upon to support those who have fared less well. Furthermore, a group's social capital that once had a positive value may come to have negative consequences by placing heavy personal obligations on members that make it difficult to benefit from cooperating in broader groups (Portes and Landolt, 1996).

While recognising that social capital is not entirely positive, Narayan and Pritchett (1999) identify five mechanisms through which social capital can potentially benefit livelihood outcomes. They are:

1) *More efficacious government*: Government efficacy is improved through better horizontal relationships (bridging social capital) and vertical relationships (linking social capital.) There are two possible reasons for this. First, government officials are embedded in civil society and thus more responsive to the needs of society when relationships are stronger and more numerous. Second, the presence of these relationships allows for better monitoring of government provision of services and thus is likely to improve government service delivery.

2) *Solving common pool problems*: Communities with higher levels of social capital are more able to take actions that avoid the negative consequences of excessive exploitation or undermaintenance of common pool resources. Since negative environmental effects are often the result of individual incentives that can only be overcome through collective action, social capital is used to enforce collective

action. Sustainable management of resources will allow households to continuously draw on that resource for livelihood provision.

3) *Diffusion of innovations*: In communities and regions with better social capital, information on innovations is likely to flow more quickly. With better information on innovations, households are able to obtain the benefits of new technologies more quickly.

4) *Lowering transaction costs*: High transaction costs in market exchange are partially the result of limited information and an inability to enforce sanctions. Better social capital is likely to enhance the flow of information and allow for social sanctions against unacceptable behaviour thus lowering transaction costs. High transaction costs are often cited as a limiting factor in rural development. Social capital that limits these transaction costs improves the livelihood opportunities for rural households.

5) *Informal insurance*: With adequate information about outcomes and work effort, households with horizontal relationships are in a better position to pool risk and create informal insurance mechanisms. Such mechanisms may allow households to invest in riskier activities. Informal insurance arrangements then insure households against risk, avoiding depletion of assets in the event of negative outcomes, and allowing households to take more risk, thus improving the expected returns to activities.

Households that find themselves in an environment in which they are able to develop relationships can use these relationships to improve and maintain livelihoods.

As the earlier discussion implies, social capital may (or may not) be valuable to households in its own right or used in combination with other categories of capital to maintain and improve livelihoods. Like other forms of capital it may be strengthened through investment, depleted through use or neglect (a form of depreciation) or transformed (Ostrom, 1996) Investment in social capital implies activities that enhance the rights of a household to draw on social capital. Actions, such as providing labour for a community member or food for a relative who has suffered a shortfall, provide the household with rights to reciprocal actions from the recipients of assistance. Activities, such as participation in farmers' groups, church groups and other organisations can create an atmosphere of trust and cooperation which can be used in collective action The value of being able to draw on social capital for livelihood maintenance can be substantial.

Social capital is unequally distributed geographically and socially (Bebbington and Perrault, 1999) because institutions vary across geographic regions and even within regions and communities, and because household investment in social capital, whether the investment is deliberate or accidental, differs. As such, the use of social capital in livelihood strategies may differ. Since social capital can be an important component of a livelihood strategy, a key question is: what actions can be taken to help build social capital? Fox (1996) notes three ways in which social capital is built, or in his terms, how civil society is 'thickened'. First, individuals within the state may be able to occupy key positions and use the resources at their disposal to help strengthen local organisations and their contacts. Second, NGOs, church groups, international organisations and other organisations with community-based groups can use resources (including their own social capital) to help build local organisation and social capacity; that is, the capacity to develop social capital independently. Third, local groups can mobilise and build social capital autonomously by creating organisations and strengthening all sorts of social interaction. These actions can affect the density and quality of relationships as well as the institutions that govern these relationships. By crating an environment that allows the fostering of social capital, households may be in a better position to invest in social capital and use it in their livelihood strategies.

The implications of this discussions to our understanding of livelihood strategies is that first, organisations and institutions within society play an important role in the formation of social capital and its use in household livelihood strategies. Second, institutions can both limit and enhance opportunities for households and care must be exercised when fostering social capital development. Third, social capital is not homogeneous and in many cases not fungible in that it can serve only limited purposes. Fourth, like physical, natural, human and other forms of capital, social capital can be influenced by the actions of the state, NGOs and other organisations. This can be done directly, through assisting households in expanding the social capital base, or indirectly, by creating a context that facilitates local social capital development.

2.4 *Overview*

Section 2 has emphasised the many ways in which a household's asset position and the context in which the household operates shapes household behaviour. In designing projects, broad generalisations regarding the importance of assets and the context are not very helpful. Project design and implementation requires that project leaders be aware of and prepared for specific factors that are likely to be important in project success. The purpose of the remaining sections of this paper is to highlight these factors for Latin America in particular.

3. Rural livelihood strategies in Latin America and the Caribbean

The livelihood strategies employed by rural households in Latin America are highlighted in this section. Prior to examining the data, it is first necessary to understand recent changes that have dramatically altered the context in which households operate. After this (section 3.1), empirical evidence is presented in section 3.2.

3.1 *The changing regional context*

Following the debt crisis of the 1980s, countries in the Latin American regions embarked on a path of economic liberalisation. As part of this process the majority of the countries in the region have undertaken reforms, effectively changing the roles of the state, civil society and the market. Prior to reforms, many rural households relied on policy instruments and state programmes that supported agricultural production and other income generating activities. In the reform process, these policies and programmes have not been adequately replaced by alternative approaches, although the need persists. Additionally, governments have been slow in reacting to the new realities of rural life. For example, rural nonfarm activities have become increasingly important in absorbing the rural work force and generating income for rural households and, for an important number of households, a path out of poverty not provided by agriculture alone. Because the forces in rural areas are changing so fast, adjustments in markets often fail to keep pace generating a need for intervention. In an era of budgetary cutbacks, national governments have only had a limited ability to respond.

As part of the changes in state organisational structure, new actors have become increasingly important in rural development. Reform has been coupled with decentralisation leading to a shift in power from central authorities to local government entities. Non-governmental organisations have stepped in to provide services that were previously supplied by the government. The private sector has become increasingly active and an important player in the rural economy. The participation of these new sets of actors has brought a different set of challenges to national governments and governments may need to take actions to support these actors. In particular, governments may take steps to overcome the legal, political and economic obstacles that are impeding opportunities for development. The challenge is to develop both formal and informal institutions that can strengthen and channel collective and private initiatives, provide needed information, support a long-range perspective and develop the capacity to negotiate and resolve conflict.

This change of context has meant dramatic changes for rural households and their ability to maintain livelihoods. Without government support, certain agricultural options have become less viable. Liberalisation has brought changes in prices for inputs, outputs and wages. Households look less to the central government for support, and more to local NGOs and governments. With such changes, livelihood strategies must adjust to meet the new realities.

3.2 *Evidence from the region*

Since a livelihood strategy is a process similar to a production function in that it requires inputs (assets) and results in outputs (outcomes), it cannot be measured or compared directly. However, what can be measured are the assets of households, the activities they undertake and the outcomes they receive at a given point in time. In this section, data from a number of studies and sources are presented in order to provide insight into livelihood strategies across Latin America.

Rural Latin America has evolved into a highly diversified economy that closely mimics its urban counterpart. The past dominance of agriculture in the rural landscape has yielded an array of activities that rural households participate in to improve their livelihoods. Although empirical evidence of the evolution of activity diversification by rural households in the region is scant, rural nonfarm employment and income studies can be used to approximate changes. Klein (1992) found an absolute annual increase of 4.3% in primary occupation in the nonfarm sector for the 1970s for 18 countries in Latin America and the Caribbean. More recent studies show a similar trend for the 1990s. For Brazil, Da Silva and del Grossi (2001) report that the economically active population in the rural nonfarm sector increased at an annual rate of 2.5% from 1992 to 1997. For Chile, Berdegue et al (2001) show an increase in 18% in rural nonfarm income over 1990 to 1996. For Mexico, Davis (1997) finds that household participation in off-farm activities (excluding migration) rose by 50% in the ejido sector from 1994 to 1997. Elbers and Lanjouw (2001) report for Ecuador that nonfarm activities constituted 20% of rural employment in 1974 and grew to 36.4% by 1994. Undoubtedly the low profitability of agriculture, and the withdrawal of government funded programmes have been major determinants in the proliferation of activities that rural households maintain to sustain their livelihood. Lower profitability in agricultural activities implies a lower rate of return to household assets in these activities and therefore an incentive to reallocate assets to other activities, hence a push for diversification.

Table 1 presents cross country evidence of income diversification of rural households for selected countries from Latin America put together from recent case studies. What is most striking about the data is that for the countries considered, own-farm income is less than half of total rural household income. Even considering agricultural wage employment, the total contribution of agricultural activities ranges from a low of 50% for Mexico to a high of 72% for Honduras. Lanjouw (1999, 2001) for Ecuador and El Salvador and Corral and Reardon

(2001) for Nicaragua also show the scope of nonfarm enterprises and wage employment found in the rural economy is quite broad.

As discussed above, the activities rural households participate in are largely determined by their asset positions. Among the assets commonly measured and used to explain household's decision to participate in different activities and income generation from these activities are natural capital, human capital, physical capital, social capital, and public capital. Natural capital, particularly land, is extremely important in activity choice. Certainly one of the driving forces behind diversification is the high percentage of landless households present in rural areas in the region and the decrease in average per household land stock. For example, the landless make up close to 40% of households in Nicaragua and they earn 65% of their income from nonfarm activities (Corral and Reardon, 2001). In Peru, the land stock of agricultural producers dropped from an average of 8.2 ha in 1985 to 5.59 ha in 1994 (Escobal, et al, 1998). In the same time span, nonfarm labour allocation increased by 12%. Figures 2 and 3 from Davis (1999) show the relationship between land size and rural household activities for Mexico and Nicaragua respectively. The evidence suggests that for households with only limited land access nonfarm income generation is extremely important. Furthermore, households with significant land holdings tend to have more livestock income particularly in Nicaragua. The evidence clearly shows that income-generating activities vary with natural capital.

It has been argued that high entry costs may preclude some households from participating in nonfarm activities and therefore from diversifying their portfolio of income generating activities. Landholdings might allow households to overcome this entry barrier. Corral and Reardon (2001) fail to find this situation in Nicaragua and in fact report the opposite; the more land per capita the household holds, the less likely is participation in nonfarm activities. Lanjouw (1999) for Ecuador finds that landholdings per capita are negatively correlated with participation in low productivity occupations but have no effect on high productivity employment. Hence, he concludes that land is linked to economic security, which makes it less likely that an individual will need to turn to low-productivity, last resort employment options. Lanjouw (2001) finds similar results for El Salvador. In the Mexico ejido, de Janvry and Sadoulet (2001) find that greater access to land reduces participation in construction work, an easy entry, low paying activity.

Perhaps no asset has received as much attention by researchers as human capital, particularly education. Of the studies reviewed here, nearly all conclude that education is a key determinant in households' participation and income generation in nonfarm activities. In Nicaragua, Corral and Reardon (2001) find that the probability of participating in nonfarm wage employment increases by close to 11% if the individual has secondary education. They also find that the average years of schooling of adults is a significant determinant of rural household income from nonfarm sources. De Janvry and Sadoulet (2001) find for Mexico that education is a key factor in participation in the more remunerative nonfarm activities. Lanjouw (1999, 2001) finds that in Ecuador and El Salvador, relative to the uneducated, those with education are generally more likely to find employment in the nonfarm sector. Finally, Escobal (2001) reports for Peru that the effect of education on income diversification is strong. The higher the level of education the greater the incentive to allocate time to self-employment and wage-employment nonfarm activities.

In terms of financial capital, such as credit, its influence in diversification is mixed. Escobal (2001) finds credit access plays a key role in self-employment activities, both agricultural and nonfarm. De Janvry and Sadoulet (2001) find no influence of access to formal credit on off-farm work in Mexico.

The role of public capital, such as electrification, access to roads and potable water, are shown to be significant and to increase profitability of self-employment activities in Peru (Escobal, 2001). Access of the household to a paved road increases participation in nonfarm wage employment in Nicaragua (Corral and Reardon, 2001). Lanjouw (1999) finds that whether a household is connected to the public electricity network and whether it has a telephone connection are important contributing factors to the likelihood of home enterprise ownership. For El Salvador, Lanjouw (2001) finds that infrastructure services appear to exercise significant influence on the likelihood of finding nonfarm employment.

Using factor analysis is, Winters, Davis and Corral (2001) find that a number of specific social and public capital variables significantly influence income generation from farm and non-farm activities in rural Mexico. In particular, they find that proximity to an urban center positively influences the level of crop income while semi-urban status is negatively associated with crop income. That households that are very near urban and rural centers are likely to earn less income than households further out on the periphery of these centers. However, households that are very far away earn significantly less income. Their results also indicate that households with access to basic infrastructure such as water, sewage, bathrooms and telephones earn higher income from crop production. A similar result is found for livestock income, self-employment and non-agricultural wage employment. These results indicate that a community with substantial household access to these types of infrastructure is likely to have greater income-generating opportunities. Lack of formal production arrangements appears to limit crop, livestock and self-employment income. Winters, Davis and Corral point out that these formal production arrangements seem to play an important role in increasing the level of income received by households. However, formal ejido organisation is negatively associated with livestock income. They conclude that these results provide evidence for the view that the types of social capital matter. Both of these variables are indicators of social capital as they measure associational activity. However, only an association with productive oriented organisations has a positive influence on livestock income. They find that both non-agricultural and agricultural wage income are positively related to the level of infrastructure. Ejidos with access to electricity, lighting, water and paved roads, general indicators of economic development, provide higher wage employment income than those without.

Migration assets (a form of social capital), whether domestic or international migrant networks, provide remittances that may allow a household to overcome high entry costs into more remunerative activities. De Janvry and Sadoulet (2001) find that higher endowments in U.S. migration assets increase participation in seasonal migration to the U.S. among ejidatarios, while decreasing participation in agricultural wage employment, which is generally low paying. With respect to other social capital variables, some of the studies reviewed use ethnicity, defined as speaking an indigenous language, to capture some of the influence that social capital might have on participation in rural activities. The assumption being that, in general, relationships are stronger in ethnic communities and thus social capital is enhanced. Lanjouw (1999) finds that Quichua speakers and Shuar speakers are just as likely to participate in the nonfarm sector as Spanish speakers in Ecuador. De Janvry and Sadoulet (2001) find that indigenous ethnicity lowers access to nonfarm wage employment and to seasonal migration, but increases the likelihood of participation in self-employment. Hence indigenous populations are at a disadvantage in accessing the more remunerative off-farm activities. In Nicaragua, Corral and Reardon (2001) find that ethnic Miskitos are less likely to participate in agricultural wage employment while being Creole increases the likelihood of participation in nonfarm self-employment by 22%. In addition to ethnicity, Winters, Davis and Corral (2001) find that formal organisation within the Mexican ejido (land reform) sector is positively associated with participation in crop and livestock production as well as nonagricultural wage employment. Furthermore, they find that the returns to crop, livestock and self-employment are influenced by the presence of formal production arrangements; that is, linking social capital.

The empirical evidence clearly suggests that rural households in Latin America are diversifying their income-generating activities. This empirical observation seems to arise from diversification among the individual members of the household and not individual members' diversification into various activities (de Janvry and Sadoulet, 2001). That is, individuals do specialise in particular activities but households hold a diverse portfolio of activities. The continued move towards diversification may present one of the most difficult challenges for project design and implementation.

4. Rural development projects and livelihood strategies

The purpose of rural development projects is presumably to improve the well-being of rural households, particularly poor and food insecure rural households. To the extent that this is true, projects would be designed to assist households in improving their livelihoods. Given the theoretical discussion presented in section 2, this can be done in two ways. First, actions can be taken to improve the asset position of households by investing directly in the various forms of capital that households employ for livelihood generation. Second, projects can take action to influence the context in which households operate. By altering the context, projects can create an environment that allows households to expand their capital base or projects can create a situation, which allows households to better use the capital they already own. Whether improving the investment opportunities or allowing more efficient use of existing resources, altering the context can improve livelihoods.

One of the challenges in project design and implementation stems from the heterogeneity of assets and activities used by households to maintain and improve livelihoods, as shown in section 3.2. The diversity of assets and activities employed by households suggests that there are multiple paths out of poverty (de Janvry and Sadoulet, 2000). This being the case, projects should be design to carefully consider the possible paths for households. There should also be sufficient flexibility in the project to ensure a diversity of options for households.

Given the theoretical background presented in section 2 and the evidence presented in section 3 about rural livelihood strategies in Latin America, in this section we consider the implementation of rural development projects in Latin America. To do this, we first provide a general classification of projects in Latin America with the objective of highlighting the appropriateness of current project design. Following this discussion, a few examples of projects designed and implemented in Latin America by FAO are discussed in depth. Information for these case studies comes from FAO documents and interviews with leaders of FAO projects.

4.1 *Rural development projects in Latin America*

As noted in section 3.1, countries in Latin America have undertaken significant reforms, in the context of structural adjustment, effectively changing the role of the state, civil society and markets in rural development and, in the process, creating an institutional vacuum. In this context, the state can no longer play the role that it once did in rural development. Against this backdrop, we consider rural development projects in Latin America.

For purposes of this analysis, rural development projects can be categorised into three types: 1) traditional projects, 2) integrated rural development projects, and, 3) transitional projects (Schejtman and Reardon, 1999). *Traditional projects* have concentrated resources on agriculture or natural resource management. In general, these project have been designed to increase agricultural production through new technologies, credit provision, input provision, irrigation, training etc. while maintaining the natural resource base. What is assumed in these projects is that rural livelihoods are best improved by increasing agricultural production of a staple or high value crop or by improved management of the entire farming system in the short- and long-run (through proper natural resource management). In some cases, this may be a suitable approach. For example, if food security is a serious concern, focusing on improving production of a staple crop may be appropriate. Similarly, if a certain commodity is found to have substantial demand in the market, such as milk in the Cajamarca region of Peru, focusing on improving the efficiency of production of that commodity is likewise appropriate. However, in many circumstances emphasis on a single commodity or even set of agricultural commodities can provide limited benefits to rural households. If farmers only receive limited income from agriculture or the gains from a project are only marginal, the benefits of such projects are limited and not very likely to significantly improve livelihoods.

Unlike the more commodity and sectoral based traditional projects, *integrated rural development* (IRD) projects have taken a more regional approach. IRD projects include a number of activities designed to improve the well-being of farmers in a geographic region. Although multisectoral in approach, the emphasis of IRD projects has been on agricultural producers and the agricultural sector and the provision of services to promote that sector. The problem with these projects has been primarily in the emphasis on agricultural production and the implementation of the projects. The projects have been centrally designed and developed, failing to consider local conditions, develop local capacity and foster local participation. Additionally, there was no recognition of the nonfarm activities that rural households employed. As such, the projects were not sufficiently flexible to allow for difference across region or household in livelihood strategies.

Transitional projects are projects that started out with a traditional approach but evolved to meet the needs of stakeholders. Schejtman and Reardon (1999) cite the example of the PROLESUR project in Honduras. Initiated in 1994 the original objective of the project was to improve the production of staple crops (primarily corn) in a manner that did not degrade the environment and was thus sustainable. After meeting this initial objective, the project expanded to other agricultural activities, including production of animal products and horticulture, and ultimately to include nonfarm activities such as the processing of agricultural commodities. The project is transitional in that it went from a traditional approach to expanding to meet other needs of rural households beyond the original mandate. In doing so, the project used local information gained from the early experience in the project. It also was able to use the early success of the project to bring about additional benefits. In effect, this second stage is using the social capital built in the early stages of the project. Project participants develop a trust in the project and other participants and build on this to make further gains.

Following in this same direction, recent rural development projects have tended towards decentralisation of decision-making, focusing on participatory approaches and, to a certain extent, developing social capital. In part a reaction to the failure of previous centralised and top-down development projects, this approach has emphasised the need to consult with local stakeholders, put decision-making in the hands of those with local information and "thicken" local social capital. In contrast to the transitional approach, this approach seeks immediate feedback from local participants on the needs of rural households in the target region. Given the background on rural livelihood strategies noted above, this appears to be a move in the right direction. Through direct interaction with rural households and local information, designing and implementing a project to meet the needs of rural households becomes easier.

One problem with this approach is that it has the potential to be too isolating. Consider a regionally based project adopting a participatory approach that is seeking to improve the livelihoods of rural households in the region. The approach may identify problems rural households are facing in maintaining and improving their livelihoods, but coming up with solutions to those problems in isolation, that is without assistance from the outside, can be difficult and lead to inappropriate responses. For example, suppose households in the region note that one serious food security problem is the reduction in potato yields caused by late blight. There are many potential options to responding to this problem. First, production technologies, such as fungicide spraying or resistant varieties, can be used to try to limit the effects of late blight. Second, it may be the case that late blight pressure in the area is too substantial to warrant continued production of potatoes and the best option for farmers is an alternative cropping system. Third, it may also be the case that these rural households can best meet their food security needs through nonfarm activities and assisting households in this task may be the best option. Of course, given the heterogeneity of households it is likely the case that the best path is household specific. Given that limited funds are available, projects must be carefully designed to provide the best set of options to rural households.

What this example illustrates is that in order to design projects that meet local needs, it is necessary to have suitable information. Obtaining that information requires links to government, NGOs, research institutes and the private sector. If a project is designed to help rural entrepreneurs find niches in the rur-urban processed food market, this requires non-local knowledge and partnerships with rur-urban firms (Reardon, 2000). If a project seeks actions that help improve production or marketing of a certain crop, links to agricultural research centres with experts in the area may be required. Facilitating such interaction may require coordination of rural development projects by the national government (de Janvry and Sadoulet, 2000). This does not mean a return to state-led, centrally planned rural development, but a forum for coordinating activities across geographic regions and across sectors. Such a forum can ensure that information flows between different sectors of society. It also serves to improve the coordination of macroeconomic policy with agricultural and rural development policy. So while decentralisation, local participation and the development of local social capital may be necessary conditions for proper project design and implementation, they are generally not sufficient conditions.

4.2 *Case study: Projects of the Food and Agriculture Organization*

As part of this investigation into rural development projects in Latin America, a number of projects administered by FAO-RLC were evaluated using information from FAO´s regional office in Latin America and through semi-structured interviews with the Principal Technical Advisor (PTA) for a number of FAO projects.[7] The purpose of the interviews was to gain insight into how projects are currently being managed in the field, the difficulties in designing and implementing these projects and how projects have evolved.

Broadly speaking, FAO projects can be divided into three types: technical cooperation programmes, unilateral trust fund programmes and government cooperation programmes.

[7] The authors wish to thank FAO project leaders for taking the time to answer questions.

Technical cooperation programmes are small-scale projects with limited resources from FAO budgetary funds that provide technical assistance to developing country governments upon request generally for unforeseen and urgent circumstances. For example, the project "Exclusión del picudo mexicano y capacitación sobre manejo integrado de plagas de algodón" in Bolivia on integrated pest management of cotton pests falls under this project type. *Unilateral trust fund programmes* are technical assistance projects financed by recipient governments themselves or through loans, credit and grants made by international financing institutions such as the World Bank and Inter-American Development Bank. An example of this type of project is the "Alianza Para el Campo" a project funded by the Mexican government and managed by FAO that is designed to built government capacity in the agricultural sector. *Government cooperation programmes* are projects that are directly funded by bilateral or multilateral donors and directed toward specific countries or sets of countries in a region. The Honduran project "Desarrollo Rural del Sur de Lempira" is an example of this type of project. This FAO managed project is funded by the Dutch government and focuses on improving livelihoods in an economically depressed area of Honduras. The FAO PTAs interviewed for this research primarily managed government cooperation programmes and unilateral trust fund programmes.

Before proceeding a brief comment on donor funded projects is warranted. In donor financed projects three entities can be distinguished as playing a role in the project: financiers, providers and beneficiaries (Adato et al, 1999). On occasion, the financier and provider might be the same entity as with technical cooperation programmes. Among the projects that are funded by a financier, such as USAID, GTZ, and the World Bank, a degree of flexibility in project design may be lost due to the agenda of the financier. This is not simply a FAO issue, but a general problem for governmental, non-governmental and international organisations that manage projects (providers). Financiers set agendas for their aid programmes based on political interests and donor domestic concerns or based on their own beliefs about development. In order to meet financier requirements, projects may be designed in a way that does not necessarily meet the primary needs of rural households in a given region and may limit the flexibility of project leaders. This needs to be borne in mind in considering project design and implementation.

The semi-structured interviews with FAO PTAs focused on the requirements for project success with an emphasis on the activities necessary to implement a project. The focus on implementation rather than design was due to the fact that PTAs are directly responsible for implementation and at least the original project design was done prior to their involvement in the project. From the interviews with the PTAs, the following characteristics were noted to be important for project success:

1) *Participatory*: Nearly all leaders noted that the project they managed took a participatory approach meaning that farmers were consulted on their needs prior to implementation. This was deemed crucial to project success.

2) *Self-selection of participants*: Project leaders noted that participants in the project were always those who chose to be in the project and not chosen by the project to participate. Self-selection was deemed an important feature of projects because it limited the problem of participants leaving the project and ensured interest in project activities.

3) *Flexible and evolving objectives*: Project leaders noted that objectives not only needed to be flexible but they necessarily changed over time. This is for two reasons. First, at the initial stages of a project a lack of complete information may lead to unrealistic or inappropriate objectives. As information is obtained then

objectives may need to be adjusted. Second, as objectives are met then it is necessary to move onto other objectives. In either case, leaders made it clear that changing objectives must be interactive and include input from participants.

4) *Concern for social differences*: A number of project leaders noted that one possible outcome of project implementation is that it increases inequality within communities. This and other changes in recipient communities have the potential to decrease social cohesion and lead to problems. Monitoring of changes in communities is necessary to mitigate problems.

5) *Establishment of alliances*: Project leaders commented that project success and sustainability required that alliances (a form of social capital) be established with other development organisations, such as NGOs, local groups and local government. This means not just communicating with these organisations but actively fostering relationships and getting them involved in projects and seeking complementarity in actions. Additionally, it means helping to build local capacity to work for development after the project has finished.

6) *Administrative continuity*: Project leaders noted problems in project management arise from the fact that government officials associated with projects are regularly changed for political reasons. It is difficult to establish long-term relationships that foster development if officials change on a regular basis. Government turmoil makes it difficult to develop social capital.

7) *Long-term relationships*: Project leaders noted that rural households tended to continue to work with organisations that they had worked with in the past and had positive experiences working with. Additionally, as a project develops early successes can translate into further benefits because a level of mutual trust is developed. This suggests that the returns to projects depend on the relationship that develops between participants and the project organisation.

The results of the interviews with PTAs confirms the importance of local information, local decision-making, the building of institutions and fostering of social capital and the importance of developing linkages to support overall rural development.

5. Designing and implementing projects to support rural livelihood strategies in Latin America

Since rural communities and rural households are heterogeneous, it is not possible to present a particular recipe for designing and implementing rural development projects in Latin America. However, given the concepts and data presented, there are clear factors to consider in project design and implementation. In this final section, we present some important considerations for rural development projects in Latin America.

The data from Latin America clearly shows that rural households are employing a number of different strategies to maintain and improve livelihoods. Given this is the case, households may take a number of different paths to get out of poverty. The diversity of activities and assets suggests that projects require substantial local information in order to design appropriate interventions. This means continuing to use a participatory approach to project design and maintaining local control of project implementation and evolution. Furthermore, projects may need to be flexible and offer a number of options for households, allowing them to take advantage of the assets to which they have access. The recent changes in the rural areas and the increasing reliance on nonfarm activities suggest that traditional agricultural and natural resource based projects – that is those focussed on a particular commodity or activity – are not likely to substantially improve the living conditions of rural households. Alternative approaches always need to be considered along with a degree of flexibility.

Along with other forms of capital, social capital has an important role to play in fostering rural development. How social capital influences rural livelihood strategies depends on how it is used and developed by households. As part of any project, actions should be taken to foster a positive impact of social capital. This can be particularly important for sustaining the achievements of a project after the project has ended. At the local level, this means carefully fostering community organisation and developing long-lasting relationships between community organisations and other public and private local organisations. Additionally, attention must be paid to the possibility that newly formed connections might be exclusive and actions must be taken to avoid harm to non-participants.

Although social capital formation is important in project implementation, it is equally important that projects have a sound and broad basis. That is, projects must in some way broadly improve the asset position of households or create a situation in which households can enhance their own asset position. Social capital is only one of a number of important assets that households own. Projects while fostering social capital must not ignore the need for the accumulation of complementary assets such as natural, physical, human and public capital and improved technologies for using those assets. Of course, this logic applies equally to projects that would develop physical capital (such as an irrigation system) or human capital (such as irrigation skills) without developing complementary social capital (such as the relationships between irrigators upon which they will depend to jointly design and enforce rules for sharing water).

The need for flexibility, local information and the fostering of social capital suggests that rural development projects might be best designed in a sequential manner similar to the apparently successful Honduran PROLESUR project noted in section 4.1. The project started as a traditional project focusing on primary staples and then, building on earlier successes, moved to other agricultural commodities and to nonfarm activities. By starting with a particular activity, the project was able to provide farmers with experience with working with the project and with each other. The farmers obtained information about the project and the project about the farmers and their situation. With that information and in conjunction with farmers, the project shifted to meet other needs. This sequential approach to rural development projects corresponds to the responses of the FAO PTAs who noted the importance of local information, long-term relationships, establishment of alliances and flexibility of objectives. Therefore, in designing rural development projects, governments, NGOs and international organisations should look first to initiating a project that will provide these necessary ingredients recognising that objectives will change over time as the project develops and that greater success comes from early activities. While traditional projects may be suitable initially, there must be room for expansion into other activities that reflect the diversity of livelihood strategies that households employ. In this manner, rural development is more likely to succeed.

Finally, beyond the local level, for rural development projects to have a lasting impact on the rural economy as a whole, it is necessary for projects to be part of an overall rural development strategy. Governments need to coordinate efforts to improve the standing of rural households through macroeconomic and sectoral policies that complement other rural development policies. For their part, rural development projects must consider how projects fit into broader rural development planning and what actions might be available to take advantage of opportunities presented by government policies. For this to be accomplished, there is a need for the establishment of relationships between the variety of public and private actors involved in rural development.

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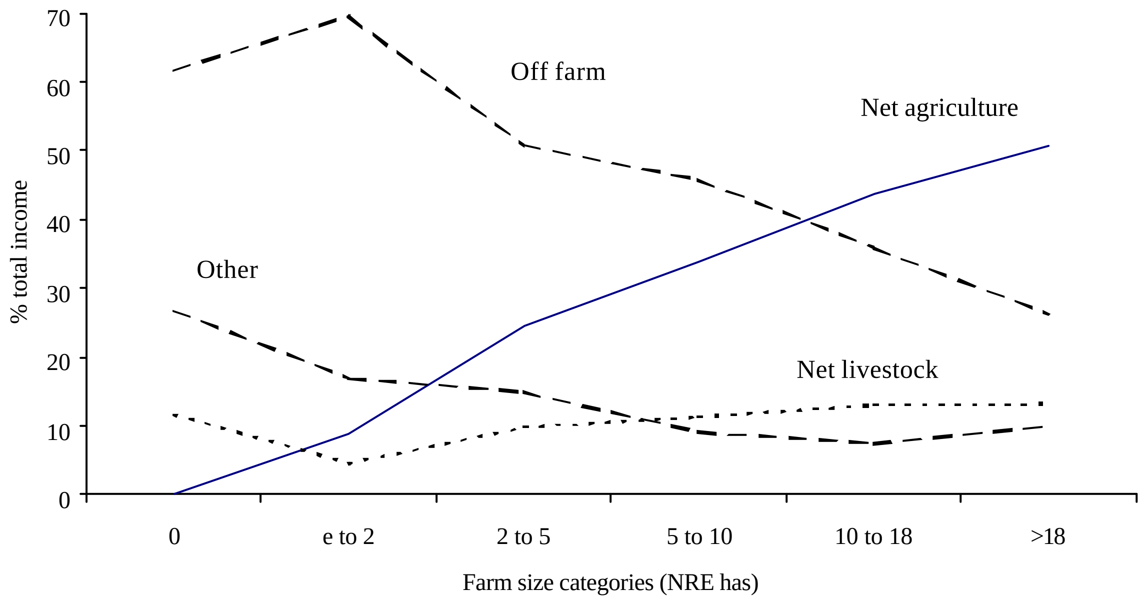
Table 1: Share of income by activity of rural households

Country	Own-Farm Employment	Agricultural Wage Employment	Nonfarm Self-Employment	Nonfarm Wage Employment	Other
Ecuador	46%	9%	32%	9%	4%
Honduras					
North and rest	49%	21%	9%	12%	8%
West	54%	24%	10%	7%	5%
South	42%	24%	16%	10%	8%
Mexico	45%	5%	9%	20%	21%
Nicaragua	35%	17%	11%	30%	7%
Peru	49%	7%	30%	15%	--

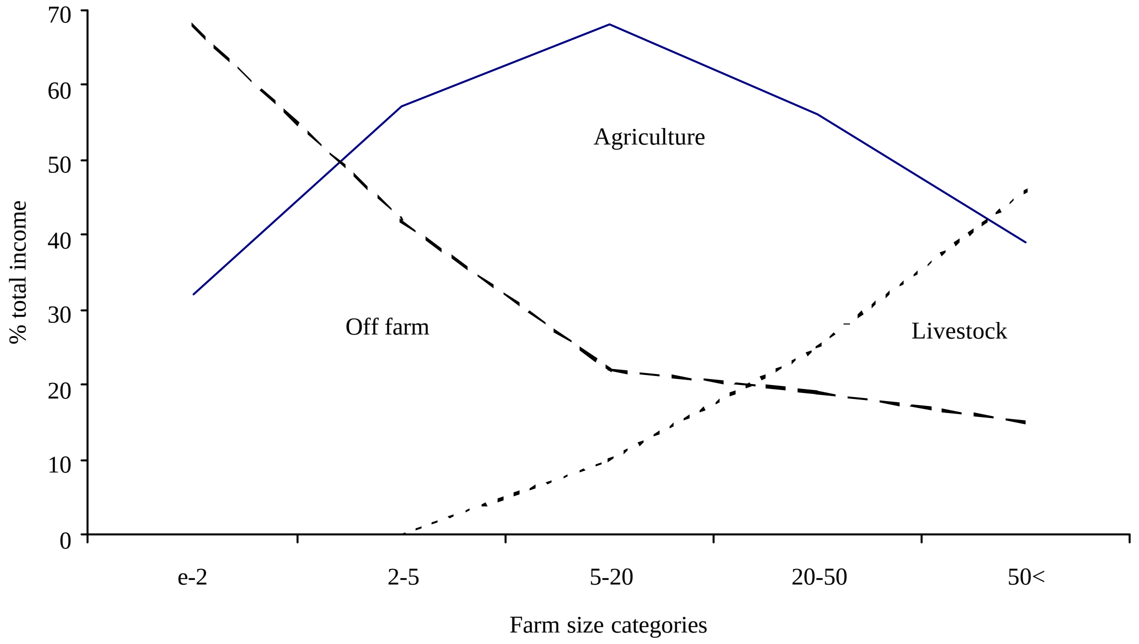
Sources: Ecuador, Elbers and Lanjow (2001), Honduras, Ruben and Van den Berg (2001), Mexico, de Janvry and Sadoulet (2001), Nicaragua, Corral and Reardon (2001), Peru, Escobal (2001).

Figure 2. ~~Structure of income, by farm size in Mexico~~



Source: Davis (1999)

Figure 3. ~~Structure of income, by farm size in Nicaragua~~



Source: Davis (1999)

Figure 1: Household Livelihood Strategy