

## Productive Strategies for Poor Rural Households to Participate Successfully in Global Economic Processes

## Regional Scan for the Western Caribbean and Central America (Belize, Cuba, Guatemala, Honduras, Nicaragua & the Yucatan Peninsula) to the International Development Research Centre, Rural Poverty & Environment Programme Initiative

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## 1 INTRODUCTION

The goal of the International Development Research Centre (IDRC) Rural Poverty and Environment (RPE) Programme Initiative (PI) is to support participatory action-learning-research, policy and institutional innovations and reforms. RPE PI contributes to the development of networks, partnerships and communities of practice, in order to strengthen organisations, policies and practices that enhance the food, water and income security of the rural poor, including those living in fragile or degraded upland and coastal ecosystems.

In order to achieve this, RPE will support activities in four outcome areas:

1. Building effective environmental governance where all stakeholders, including marginalized groups, participate in environmental and natural resource management;
2. Enhancing equitable access and use rights to natural resources by strengthening the negotiating capacity of the rural poor to defend or expand their rights to natural resources;
3. Strengthening communities' capacity to respond to and benefit from integration within wider social and economic systems (i.e. urbanisation, globalisation and market integration); and
4. Adaptive learning.

It is in the context of the third outcome that the RPE PI is developing a programming capacity on 'Productive strategies for poor rural families to participate successfully in global economic processes'. In November 2005, IDRC invited the Overseas Development Institute in London to implement a Scoping Study in order to prepare an agenda of priority research for this RPE PI theme. The aim of the Scoping Study is to provide a conceptually robust and empirically sound rationale for the allocation of some CAD\$1 to 4m in research Calls for Proposals that will be launched each year in the remainder of the five years program cycle from July 2006 to 2010. The emphasis is on transformative research that will not just study the conditions of the rural poor – but undertake the research necessary to change them. The need was articulated for a research agenda that will be concerned with diagnosis but especially with inspiration. During the study ODI will:

1. Identify and review research directions and actors by: preparing an agenda of priority research areas; highlight critical issues regarding methodologies; identify on-going working within the scope of the theme by other donors and related institutions; and, identify potential partners;
2. Provide recommendations that enable RPE to build a coherent programme of research in this area, including possible collaboration with other IDRC programmes – such as Globalisation, Growth and Poverty (GGP);
3. Identify the policies, process and institutions that will expand the potential benefits of wider linkages to the rural poor and allow the development and dissemination of these findings with researchers, NGOs and civil society groups and policy-makers in the South; and
4. Identify ways to enhance the capacity of rural communities to develop their own indigenous capacities and define their own productive strategies to improve their livelihoods.

There are four phases to the study:

- An inception phase when the study team and members of IDRC's RPE programme held discussions and made agreements on how the study would be implemented (see Inception Report);
- Regional scans for six target regions with documents produced and distributed in February and March 2006;
- A country study for each region, Honduras will be the case study country for the Western Caribbean and Central American region. Results from the regional scan and country study will be presented and discussed at a workshop to be held in Tegucigalpa in April 2006; and
- Results from all regional scans, country studies and workshops will be brought together by the London based team to develop a research investment strategy which will be presented to IDRC in June 2006

The current document is a regional scan for the Central Andes region with the objective of identifying:

- Regional research themes that are related to how global economic processes can have a positive impact on rural poverty and the environment; and
- Potential IDRC RPE research partners and implementers of research in the region.

The scan is based on a methodological framework, which can be found in the study Inception report, and the document has the following structure:

- Brief overview of socio-economic development issues in the Western Caribbean and Central American region.
- A regional perspective on:
  - How can poor rural households adapt their livelihood strategies to benefit from participation with global economic processes?
  - How can the enabling environment be enhanced to support the successful participation of the rural poor?
- An overview of contemporary and likely future relevant research activities which that will:
  - indicate 'gaps' in the research agenda; and
  - identify potential future partners for IDRC's RPE programme initiative between 2006 to 2010 as either co-financiers or undertakers of relevant research in the 'region'.
- A list of possible research themes.

The document will be circulated within the study team, to IDRC and to people within the region for comment in order to improve its content and relevance.

## **2 THE WESTERN CARIBBEAN AND CENTRAL AMERICA REGION**

The Western Caribbean and Central American regional scan covers the Central American countries of Belize, Guatemala, Honduras and Nicaragua, the Caribbean country of Cuba and the Mexican states of Yucatan, Campeche and Quintana Roo that make up the Yucatan Peninsula of Mexico. There is great diversity in this region in terms of government structure,

trade focus and agreements, and agricultural strengths (see Table 8 in Annex 2). However, there are similarities in the region in terms of the vulnerability to natural disasters in particular heavy tropical storms and hurricanes, the levels of poverty and, with the exception of Cuba, democratic governments and economies with strong trade links to the USA, either through bilateral agreements or trade pacts. The Central American countries (Belize, Guatemala, Honduras and Nicaragua) and Cuba are also prone to primary commodity price changes, which have a strong impact, both negative and positive, on poverty reduction. Mexico suffered an economic crisis in the mid 1990s which setback poverty reduction by between 5 and 10 years, and similar crises have in part been averted in Honduras and Nicaragua through the Highly Indebted Poor Countries Initiative. Finally, the Central American countries of Guatemala, Honduras and Nicaragua are emerging from periods of civil war and violent government rule. In these countries there is still a high degree of insecurity.

The largest human populations in the region are found in Guatemala and Cuba, countries that also have the highest population densities. Belize and the Yucatan Peninsula have the smallest populations and the lowest population densities (see Table 9 in Annex 2). There are large populations of Mayan descent in the Yucatan Peninsula and Guatemala, and there are many people who are of mixed European and Mayan descent in the other Central American countries. Belize and Cuba are of mixed African and European descent. The main language is Spanish, but Mayan and local indigenous languages are common in the Central American countries (see Table 10 in Annex 2).

Around a half of the population in Guatemala, Honduras and Nicaragua are reported to be in poverty and between 15 and 20% are reported to be in extreme poverty in these regions. In Belize and the Yucatan Peninsula, around a third of the population are reported to be in poverty. All social indicators in the region are improving and poverty levels are also reported to be improving, if slowly (see Table 10 in Annex 2).

In all countries a high proportion of the work force are employed in the agricultural sector, but this importance is not reflected in the contribution of this sector to the economy. Although the agricultural sector makes a significant contribution to the economies of all countries except Mexico and Cuba, this contribution is less than the proportion of the labour force employed in this sector and far less than the proportion of people found in the rural areas. Therefore, there is a large difference between the estimated GDP per capita in rural and urban areas with the greatest difference in Honduras and Mexico (see Table 11 in Annex 2).

A high proportion of the land area in the study area is covered by forest, and in Belize, Honduras and the Yucatan Peninsula more than half of the land area is forest. Around 10% of the land area is cultivated with annual and perennial crops. Cuba and Guatemala have the highest proportion of cultivated land, and Belize and the Yucatan Peninsula the lowest. The amount of cultivated land per capita is similar across the region, but there are differences with the amount of cultivated land per agricultural person, the highest being in Cuba, Nicaragua and Belize and the lowest in Guatemala (see Table 12 in Annex 2).

There has been a general upward trend in the area cultivated in all countries of the study area (see Table 13 in Annex 2). During the last 15 years, there has been an increase in cultivated land per agricultural person in Nicaragua and Honduras. Nicaragua is reported to have had strong agricultural sector growth of 8% per year in the early 90s, due to land area expansion rather than technological change or labour productivity improvements (World Bank 2003a). However, much of this growth was recovery from the period of civil war when large areas went



uncultivated, and the rates of growth have not been sustained. The pattern in Guatemala is for a slight reduction in land area cropped per person (see Figure 4 in Annex 2).

The most important area cultivated is for grain production, which is dominated by maize in all countries except Cuba, followed by rice. In Cuba, rice is the most important grain crop, but has been losing its importance over the last decade to maize. Root crops are also important in Cuba. Fruit crop production is dominated by banana, plantain, orange and citrus crops. In the Yucatan Peninsula of Mexico, maize dominates the land area, but in terms of value of the production chillies and vegetables are important. Sugarcane is of great importance in Cuba and Belize. The former relies heavily on sugar export to generate foreign exchange and the latter has preferential trade agreements with the USA and the EU to sell sugar. In Guatemala, Honduras and Nicaragua coffee is very important as a cash and export crop. Only Mexico and Nicaragua dedicate more than 50% of their cultivated land area to grain production, and if combined with pulses these countries have more than 70% of their cultivated land area dedicated to food crops. The pattern in Belize is of a low proportion of land dedicated to food crops, which is probably related to the very low population density of this country. Cuba has a relatively small area of land with food grains, but this proportion has increased over the last 15 years. The pattern in Guatemala and Honduras is of a reducing proportion of cultivated land dedicated to food grain crops, with this trend being stronger in Honduras. It is suggested that this would indicate a lowering dependency on food crop production, and production for household consumption in these countries. This could be related to better and more stable access to markets for cash crops and for other food products in the rural areas. It may also be related to a greater reliance on remittances and from food security projects (See Figures 5 and 6 in Annex 2).

None of the countries can be considered to be important livestock producers. There are relatively few livestock units in the region, low livestock population densities and few livestock units per capita. However, Nicaragua is reported to export beef, and livestock play an increasing important role as a means to save remittances sent from overseas. The Mexican State of Yucatan also has an important population of poultry and pigs and has been successful in the export of products from these systems, in part related to the State's good animal health status and veterinary services (see Table 14 in Annex 2).

All countries in the region have trade deficits, and they are severe in all countries with the exception of Mexico. The main trading partners are USA and Central America, with the exception of Cuba, which has a large proportion of its trade with the European Union countries (see Figure 7 in Annex 2). Belize and Nicaragua both have high debt burdens, and Honduras and Nicaragua have a high level of aid dependency. Between 2000 and 2003 foreign direct investment was less than 5% of GDP and during this period has reduced as a proportion of GDP in all countries except Belize. Where country data are available GNI per capita has been rising and only in Nicaragua has this increase been slow (See Table 15 in Annex 2).

Of the trade not documented there is heavy movement of people and remittances are important in all the study countries. Therefore, there is export of human skills and capacities in all the countries. In addition, the tourist industry is important in a number of countries.

## **2.1 SUMMARY**

The countries of the region have in general experienced reasonably strong growth based on strong demand for primary products and international labour. In addition, social policies relating to education and health (see further details in Section 3) have in all countries had a positive, but

slow impact on poverty reduction during the last 5 years. There have been setbacks, which are related to natural disasters, generally falling prices and volatile markets for primary products and a lack of trust in government organisations<sup>1</sup>.

Attempts to diversify the economies of the study region to primary products with less volatile markets such as horticultural crops is taking place, but the social impact has been largely neutral as these opportunities are captured by the better off sections of the society. There have also been attempts to diversify the general economy to tourism and to a lesser extent manufacturing.

Tourism has been successful in the Belize, Cuba and the Yucatan Peninsula where there is better security than in the other Central American economies. The largest change in the last 10 to 15 years has been the growth in international migration, particularly to Mexico and the USA. There has been a large increase in the proportion of households with residents overseas and also a large increase in the total remittances received from overseas.

### **3 REGIONAL PERSPECTIVE**

The regional perspective section sets out to answer two key research questions relating to rural poverty and the participation of the poor in global economic processes:

- How can poor rural households adapt their livelihood strategies to benefit from participation with global economic processes?
- How can the enabling environment be enhanced to support the successful participation of the rural poor?

#### **3.1 HOW CAN POOR RURAL HOUSEHOLDS ADAPT THEIR LIVELIHOOD STRATEGIES TO BENEFIT FROM PARTICIPATION WITH GLOBAL ECONOMIC PROCESSES?**

##### **3.1.1 Understanding the context:**

The rural poor are indigenous people, people with little or no education, relatively poor asset base, with poor official language skills and are dependent on agricultural activities, either in terms of home production or agricultural labour. The home production is focussed on food crops such as maize and beans and the families have few livestock and little land.

The Yucatan Peninsula has a high proportion of indigenous people and a greater concentration of poverty when viewed at a Municipality level. In 1995 it was estimated that 40% of the people in the region spoke only the local language Campeche. These people have lower levels of education, poorer access to health care services and insurance and fewer domestic appliances (World Bank, 2004a). Half the illiterate population in Mexico are found in the South-Southeast of the country and the illiteracy is 20% for the population 15 years and above (CIEPAC<sup>2</sup>, Plan

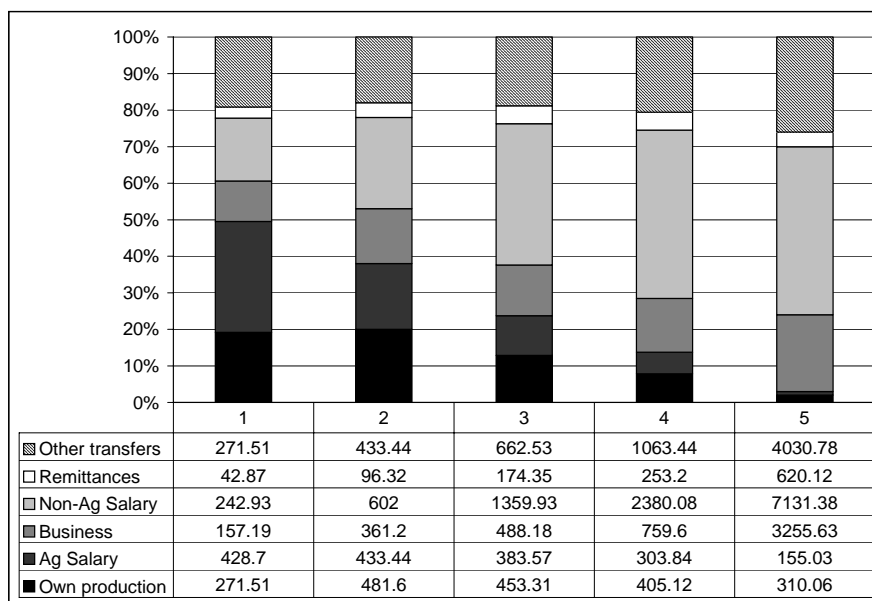
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<sup>1</sup> Government in the region has been fairly stable for most the last ten years, and, of course, for very much longer in the cases of Cuba and Mexico. The pressing problem in Guatemala, Honduras & Nicaragua is the quality of government that tends to be partisan and particularistic — the winners take all, quite literally. The concept of the state as a neutral arbiter that maintains the rule of law equally for all, and according to consistent constitutional principles, is weakly developed. In a word, few Central Americans trust the State — and with good reason (comment from Steve Wiggins).

<sup>2</sup> Centro de Investigaciones Económicas y Políticas de Acción Comunitaria

Puebla Panama, 2001). In Guatemala, the poorest households are much more dependent on agriculture, either in terms of their own production or as agricultural labourers, than richer groups. In richer groups, the proportion of income from agriculture reduces across the different quintiles. The one constant through all groups are the external transfers, which are between 22 to 30% of income, the lowest being in the poorest group and the highest in the richest (see Figure 1).

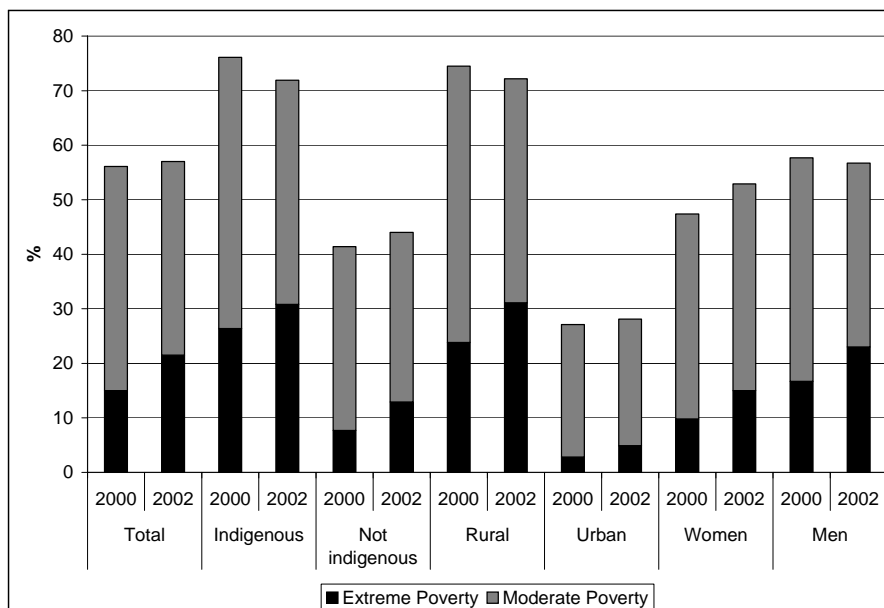
**Figure 1. Proportion of income from different sources in Guatemala in different socio-economic quintiles - note 1 is the poorest group. (World Bank, 2003b).**



A high proportion of the indigenous groups are found in the rural areas and the areas in which they are found have a larger number of farm holdings and the farm holding size is smaller relative to area with fewer indigenous people (Adams, 2005).



**Figure 2. Proportion of people in extreme and moderate poverty in Guatemala by social grouping, rural and urban areas and gender in 2000 and 2002 (cited by Adams, 2005).**



In Nicaragua rural poverty is associated with low education (particularly for females), large family size, the number of children under five and a lack of access to electricity. There is also a higher probability of a family living in poverty if there are in the Central Rural region (World Bank, 2003a).

In Mexico it is was found that rural municipalities are more likely to have a larger per capita municipal expenditures, more illiteracy, higher percentage of indigenous population, less employment in the manufacturing and services sector and less access to roads (World Bank, 2004a). In general this study found that rural municipalities are more isolated from centres of economic activity, from the coast and from the US-Mexico border. However, semi-urban and rural municipalities are similar in their illiteracy rates, their access to manufacturing employment and their proximity to the US-Mexico border. In general Mexican rural areas have high levels of non-farm employment and rural areas interact strongly with the urban economy especially in areas with a dense network of towns and cities (personal communication Steve Wiggins).

Throughout the region there are high levels of malnutrition in young children and mothers leading to stunted growth and limitations in learning abilities (UNICEF/World Bank, 2005). Data indicate that around a quarter of young children are stunted in Central America and that this proportion has changed little between 1980 and 2000.

Rural poverty rates in the region have decreased slowly in the last couple of decades, but de Janvry and Sadoulet (2001a; 2001b) report that this decrease is largely due to out-migration of the poor and not to expanded economic opportunity in rural areas. They go on to state that agricultural growth has not been a strong engine of poverty reduction, and absolute numbers of rural poor continue to increase in several Central American countries for example by approximately 1 million between 1992 and 2002 in Honduras.

There appear to be two main ways that poor rural families are currently participating in the global economic processes: migration to neighbouring countries (see Table 9) and employment in export crops.

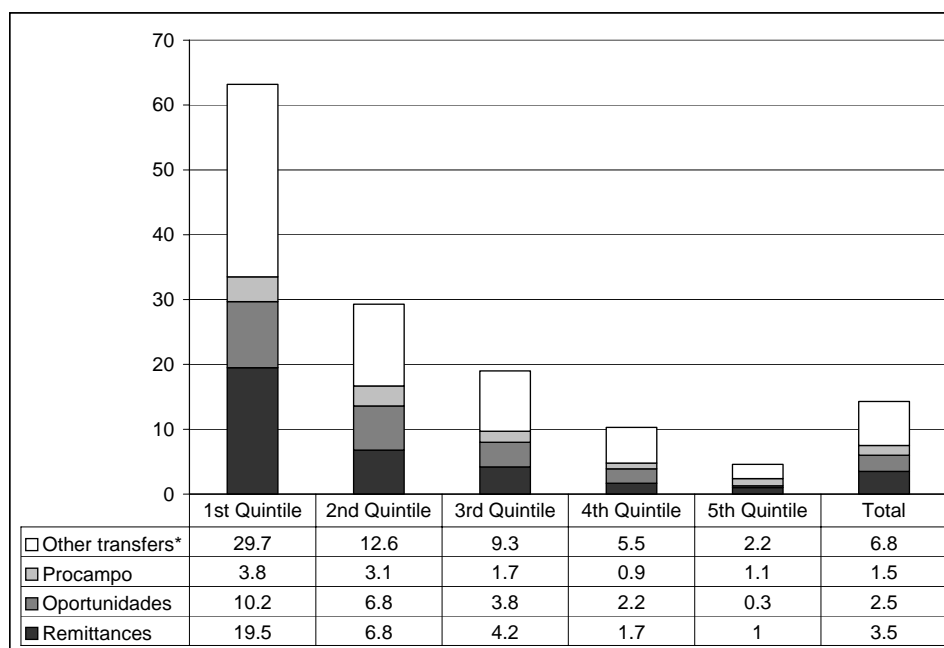
**Table 1. Data on migrant populations in Guatemala (data cited by Adams, 2005).**

Departments with:	Population	% indigenous	Migrants	% migrants	% of household with residents in other countries
75-100% indigenous	2,524,804	91.1	223,387	8.5	13.4
50-75% indigenous	2,091,120	57.4	222,278	13.1	26.8
25-50% indigenous	1,724,011	31.9	185,308	10.6	13.8
0-25% indigenous	4,897,261	9.7	605,687	19.1	46
<b>Total</b>	<b>11,237,196</b>		<b>1,236,660</b>	<b>11.0</b>	

There may also be a third in limited areas, which is working in tourist resorts particularly areas around the more important resorts of Cancun in the Yucatan Peninsula, Baradero in Cuba and the coastal region of Belize. In other countries in the region, tourism generated by migrants returning for holidays is also reported to be important (Orozco, 2005).

It is reported that remittances from abroad are received by 13% of all Mexican rural households and less than 4% of urban households. However, for the poorest quintile of rural households this proportion rises to over 20%. Average amounts received are much larger than other sources of income for these households (see Figure 7).

**Figure 3. Contribution of Transfer Income to the Level in Overall Income, 2002 in rural areas of Mexico (data from World Bank, 2004a).**



\*Pensions, severance payments, scholarships and gifts

The main barriers for the participation through migration are the difficulties of crossing international borders, especially with little legal documentation and in some cases limited education of poor rural people. Resolving the education and documentation is still not sufficient as the USA is applying stricter legal requirements, spending more money on policing its border and even proposing building a border fence. Given these difficulties in getting into the USA it is likely that people who migrate will stay illegally and also have difficulty in taking their families. Whilst they may send home money, the social structure of the family is changed and in some communities there may be a loss of many dynamic and economically active individuals. Gaps in

the rural "middle" classes may in the end create weakness in rural communities in their ability to change and adapt to new market opportunities and challenges for agricultural products.

Employment in the export cash crops, is best documented for coffee in Guatemala, Honduras and Nicaragua. The slump in coffee prices at the end of 90s and early 2000 caused terrible problems in these countries. In Nicaragua it was reported that poverty increased in Managua by 1.7 percent and extreme poverty increased by 5.7 percent in the coffee-dependent Central Rural region (World Bank, 2004b). The employment generated from these activities is therefore vulnerable to international market changes. It is noted that few poor farmers grow non-traditional agricultural crops that could be exported, instead they focus on subsistence crops and agricultural labour (World Bank, 2003b).

Growth prospects for the tourist industry appear strong for the region. The main reasons for concern are future natural disasters, Cancun suffered badly in 2005/06, insecurity and, in Cuba, tightening of regulations on running businesses that generate foreign exchange. In terms of opportunities for rural people, education is an important requirement as are means to reduce racial and gender discrimination within the society.

Many poor families have land, which is locally recognised as theirs, but they have no official land title. In addition, some countries in the region have levels of personal security that would suggest that even if laws existed to protect personal assets, the application of the laws is likely to be weak or non-existent and the rule of force may apply. Under such conditions social or economic freedom may be extremely difficult and there may be Mafia type groups who extort money in return for protection of assets and local businesses.

In terms of natural capital many poor families have land, but it is only sufficient to grow food crops for subsistence and it is reported that the land is also of poor quality and in remote areas (World Bank, 2003a). With human capital, the rural areas have poor access to education both in terms of quantity and quality and to health services (see Table 2). It is also recognised that rebuilding education services after long periods of conflict is not easy (World Bank, 2005).

**Table 2. Proportion of the urban and rural population with access to sanitation, drinking water and health services and the average number of years of education.**

Country	Adequate sanitation (1990-1997) <sup>a</sup>		Safe drinking water (1995) <sup>b</sup>		Health Services (1985-1995) <sup>c</sup>		Education mean years of schooling	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Guatemala	95	74	97	48	47	25		
Honduras	NA	57	91	66	80	50		
Nicaragua	34	35	93	28	100	60		

<sup>a</sup> UNICEF 1999; <sup>b</sup> World Bank 1999; <sup>c</sup> UNICEF 1996

Parker (2000) reports that elderly urban based people in Mexico are more likely to be healthy than their rural based equivalents and Espinoza and Hernandez (2000) reports that in Nicaragua less healthy people have lower earnings than healthy groups. This difference in labour productivity is stronger for men than women and for rural versus urban based people (Savedoff & Schultz, 2000). The general study on health found that healthier people receive high wages and that those populations with access to health services have better levels of health. The implications are that rural based populations, and particularly the poor, are disadvantaged in access to health services which implies that they are less healthy and less productive in general.

The level of physical capital in terms of access to safe drinking water and sanitation is in general far less in rural areas (see Table 2). The rural populations in Guatemala have poor access to sanitation and electricity. Around a half have access to drinking water and a quarter to housing of reasonable quality. In Mexico the situation is somewhat better with national level access rates were 98%, 90% and 80% respectively for electricity, water and sanitation in 2002. While the poor have systematically lower access rates, there have been improvements in the past decade. For example, for the rural extreme poor —the most disadvantaged group with respect to services— access to electricity increased from 63 to 90% between 1992 and 2002, while access to improved water increased from 38 to 58% in the same period. By contrast, access to improved sanitation for this group only rose from 22 to 26%.

In Guatemala, three quarters of rural households have access to radios, a quarter to televisions and only 1% to telephones. A third have bicycles, but less than two percent a car or motorbike (World Bank, 2003b). It is noted that in Mexico a high presence of indigenous population are also places where households own less durable goods (World Bank, 2004a).

In Mexican municipalities that have high levels of poverty it is reported that they also have a low share of non-agricultural employment (World Bank, 2004a). In the poorest groups non-farm rural employment is a mixture of salaried work, both formal and informal and also businesses. Isgut (2002) found that 31% of rural income for Honduran households came from NFRE. The main sources of work were trade, hotels and restaurants, manufacturing and general service work. This source of income would appear to be becoming more important with income estimated to be between 16 and 25% from NFRE in 1993. Similar to Mexico, the proportion of the income from NFRE was dependent on urbanisation of the municipality and the level of salaries was related to education levels (Isgut, 2002). However, in general the majority of rural Mexican households have more than 60% of their income coming from agricultural activities (personal communication Steve Wiggins), which is similar proportion to that reported by Corral and Reardon (2001) for Nicaragua, whereas Ruben and Van den Berg (2001) report that between 75 and 85% of the rural household income in Honduras comes from agricultural activities. The latter authors noted that wealthier households generally had a higher proportion of income coming from NFRE, an indication perhaps that this is a route out of poverty.

There are reports of gender differences with NFRE. For example Katz and Correia (forthcoming) report that gender disparities in employment rates in Mexico are highest in regions with large agricultural sectors and lowest in regions with more diversified off-farm employment opportunities. Within these labour markets, women are more likely to obtain skilled or semi-skilled jobs, while men are filling unskilled positions. Pagan and Sanchez (1998) found that self-employment among women increased substantially, especially in non-agricultural sectors during the 90s and that in more rural areas, female non-agricultural self-employment increased by almost 90 percent during the same period.

### **3.1.2 Distributional issues:**

The levels of education at household level are important indicators of being poor, but also the opportunities of work and the type of work. In poor households the focus is on working in agricultural production either in their own land plots or as farm labourers, both types of work that have low returns per unit of labour in relation to other sectors of the rural economy. To secure adequate income for basic household needs women and children also have to work. For children this implies that their chances to attend school are reduced. It is noted that Nicaraguan

studies have shown that female secondary and higher education are highly correlated with lower poverty (World Bank, 2003a). In general in this region, people with secondary education and/or with access to capital are rarely poor.

In the region there is strong racial discrimination in the job market, in access to education and health services. Indigenous children are more likely to be given education of poor quality and receive limited and poor quality health services (Hall & Patrinos, 2005). There is vicious circle with these problems in that poor indigenous children are also commonly reported to be malnourished, and this in turn affects their ability to learn and pay attention in a school environment. Even if these problems are overcome, an educated indigenous person will have a lower wage rate than his/her equivalent educated non-indigenous person. In Guatemala it is estimated that this difference is nearly half the wage rate for a non-indigenous person (Hall & Patrinos, 2005). Therefore the returns to educational investment by indigenous people are low due to discrimination in receiving services for developing human capacities and within the job market.

Gender issues are reported to be particularly important in Mexico when mixed with male migration and the ejido land tenure system. Katz (1998) reports that where the male household head has migrated women are left in charge of land and its use, but do not have any land title. Therefore they have difficulty in getting access to credit and also to government extension and support services. Deere and Leon (1998) also report male bias in the land reforms of Honduras and Nicaragua. Kleysen (1996) found that women in general have poor access to agricultural technology and extension services, but it has been suggested that the level of access to such services is related to the contribution of women to agricultural activities. In Guatemala, the World Bank (2002) found that rural indigenous women on average had received half the amount of schooling than indigenous men.

The country level data would suggest that deforestation is strongest in countries with higher population densities, i.e. Cuba and Guatemala. In Cuba the heavy reliance on sugar as an export crop could be contributing to deforestation. A lack of openness to foreign investment in Cuba could have a negative impact on economic diversification, the creation of alternatives for rural poor and on land use. Nicaragua does not fit the population density and deforestation pattern with a high level of deforestation and medium population density (see Table 13 in Annex 2). There are reports from this country that agricultural production expansion has come from increasing cultivated land area rather than increases in land and labour productivity. Little of the Nicaraguan forest is effectively protected with only remoteness preventing further forest clearance for farming and ranching (personal communication Steve Wiggins).

Experience from non-timber forest product (NTFP) commercialisation in Mexico indicates that land tenure has a big impact on how people manage the resource once commercialisation takes off (Marshall et al, 2006). Early commercialisation almost inevitably leads to overexploitation of the NTFP resource. In areas with communal land tenure, which is the case in Mexico, there is then a shift to community management of the natural resource (i.e. in the forest). However, where there is individual land tenure, the shift is towards domestication of the resource on individual plots. In order to improve the marketing of the NTFP cooperative type organizations tend to be favoured for individual farmers and communal organizations where there is communal land tenure. The success of these marketing ventures is very dependent on the strength of existing communal organizations.

In coastal areas there are environmental concerns about the clearance of mangroves for shrimp production.

It is noted that a majority of the poor households in the region dedicate their land areas to growing subsistence crops, rather than non-traditional crops. It is suggested that this is a risk minimisation strategy and one that indicates that many families are not well integrated into markets. In terms of real shocks, the whole region has a high vulnerability to extreme weather, above all hurricanes and tropical storms and the impact of these natural disasters tends to be greater for the poor. For those households unfortunate enough to be hit hard, the loss of assets, such as planted and tree crops, homes, small workshops, shops and businesses, can be severe and recovery can take a decade or more. Hurricane Mitch in 1998 had severe national consequences for Honduras and Nicaragua. In response to such disasters migration to look for work is a strategy employed, but with some households there is a serious fall in socio-economic status often into severe poverty.

### **3.1.3 Constraints to participation:**

Within the region studies have shown that access to land, markets, human and social capital have a positive impact on the well-being of rural households. In Nicaragua and Guatemala households from communities with higher than average levels of participation had higher levels of well-being than households in communities with lower participation. In Nicaragua well-being measures were influenced more by the distance from markets, the further the families were from markets the more important land was to well-being and the less important the level of a family's education.

Statistical analysis in the region has shown that human capital and a lack of infrastructure are important constraints to the poor's participation in the non-agricultural sector (World Bank, 2003). The human capital relate to an ability to speak the main official language and a reasonable level of education. In addition in many regions there is racial and gender discrimination. The rural populations in Guatemala on average have half the amount of schooling than the urban groups. The indigenous rural groups have around a half the level of schooling as the rural non-indigenous groups (Adams, 2005).

**Table 3. Proportion of the total population and the population that are between 15 and 24 years old that are literate in Guatemala between 1989 and 2002 (data cited by Adams, 2005).**

Population	Total population				15 to 24 years	
	1989	1994	2000	2002	2000	2002
Total	60.3	64.2	68.2	72.5	81.7	86
Indigenous	35.6	38.4	50.1	58.3	69.8	77.2
Non-indigenous	73.1	74.8	79.4	82.4	89	92.2
Rural	48.2	52.2	56.9	63	74.1	81.7
Urban	79.6	83.2	83.5	86.3	93.1	92.4
Women	48.2	52.2	56.9	63	74.1	81.7
Men	79.6	83.2	83.5	86.3	93.1	92.4

The observation (Hall and Patrinos, 2005) that the indigenous population poverty levels are unaffected either positively or negatively by macro-economic change is worrying, and indicates that the linkages of these groups to national economic processes is weak or non-existent. The exception was Guatemala, but the reduction in poverty in indigenous groups in this country was from very high levels.



There are very strong sequencing events reported in the region for intra and inter generational periods. In intra generational periods, migration has strong sequential processes. National level migration is usually carried out before attempting international migration and communities with a number of families who have members who have migrated are more likely to have further migrants. In a inter generational sequence, a poor illiterate indigenous woman is less likely to teach Spanish as the main household language, less likely to send her children to school and in particular less likely to send her female children to school. Lower education levels in females have been shown to lead to earlier pregnancies and larger families, which in turn are related to higher poverty levels (World Bank, 2003a; 2003b).

As described above the main ways that poor rural households access value chains is through labour markets be they local, national, regional or international. In the latter case there are strong obstacles to getting to the labour markets either due to physical distance, education levels and/or racial or gender discrimination. Poor rural households work through middlemen and through working in industries and agricultural sub-sectors that are involved in export and global markets.

Recent research on migration in the region indicates that poor families in communities with strong networks of people who have migrated internationally are more likely to have opportunities to migrate (Özden, & Schiff, 2006).

### **3.1.4 Household livelihood strategy options:**

The strongest and most widely adopted strategies are migration and work in export orientated crop production. The barriers to both these strategies have been described above. In a more general sense strategies for improving welfare levels in Nicaragua were non-agricultural wage employment, off-farm opportunities, agricultural self-employment, education, paved roads, smaller family sizes, and access to productive assets (World Bank, 2003a). These strategies would appear to fit well with the conceptual model, perhaps family size is an addition, but one that could have been predicted with better education and hence socio-economic status.

Investment in education has variable returns depending on ethnic origin and gender (see above). Household level decisions on education are therefore taken on the basis of private returns rather than social and potential public good generation. It is noted that rural people need at least 6 years of education to take full advantage of infrastructure investments (Perry et al, 2006).

Drawing on experience from the successful commercialisation of non-timber forest products (NTFPs) in Mexico (Marshall et al, 2005; te Velde et al, 2005), engagement in local and regional markets is not always a necessary step in reaching international markets. However, early development of new markets appears to require key entrepreneurs who are focussed on the product development, marketing and logistics (te Velde, 2005).

Analysis of the short-term impacts of migration on household strategy would appear to be greater consumption and lowering of child education (Özden, & Schiff, 2006). The observations are not what would be expected where it might be predicted that remittances are often used to pay school fees. It might also be predicted that the success of the families receiving remittances would encourage the other families to invest in education. However, Özden, & Schiff (2006) found that people who migrated were not employed according to their education level, rather they had to take what work was offered. Therefore the returns to education were low. Anecdotal

evidence from Mexico indicates that investments are made in cattle as means to store wealth and to generate a future opportunity if the migrants return.

People migrate due to a lack of options in terms of income and food generation. Seasonal migration appears to be the worst option and one that is strongly associated with very poor families (World Bank, 2003b). In Mexico temporary migration is reported to be common among indigenous people and is linked to agricultural cycles (Instituto de Ecología, UNAM, 2006). The attraction of international migration is the potential reward of improving personal and family status. In Honduras it was reported that people specialise (coyotes) in taking migrants to the USA, a service for which they charge a large amount of money. There is anecdotal evidence that some remittances are also used for community projects.

Mexican studies indicate that migration is generally in steps or stages. Migrants first experience regional or national moves, before undertaking international migration, and migration is greatly facilitated by personal ties through extended social networks. Hence once one person migrates within a village, many more tend to join the migrant. Thus rates of emigration can vary strongly between villages in the same district. By and large, communities with many migrants are much better off than those without migrants. Within the Yucatan Peninsula there is a large movement of people and in particular indigenous people from the State of Yucatan to the area in and around Mexico City and also to the state of Quintana Roo. The latter may well be related to employment in the tourist resort of Cancun where many indigenous women migrants work in hotels. Remittances from migrants tend to finance investments in land, cattle and better houses, and also the purchase of consumer goods and vehicles. Reports from the early 90s indicate that regions of Mixtec, Central Valleys and the Northern Sierra received the most remittances.

The region has some important international tourist destinations which are found mainly in Belize, Cuba and the Yucatan Peninsula. In addition Orozco (2005) has detailed the importance of tourism from returning migrants particularly in countries such as Guatemala, Honduras and Nicaragua. In total international tourism for these three countries was estimated to be just over a billion dollars or 3.2% of GDP<sup>3</sup> in 2002. However, these countries have a lower percentage of migrants who return frequently to their native country and when they return their spending per visit is low. This would perhaps indicate the difficulties of making such journeys for economic and legal reasons. Orozco (2005) also details "nostalgic" trade, transport and telecommunications relating to the migrant populations, which are very important components of the economies of Central America. What is not clear from the literature is whether the international and migrant tourism and other migrant demands have linkages with rural economies and therefore providing a potential strategy for poor rural people to improve their livelihoods.

The region also has important fishing resources and industries attached to these resources. These are linked to global economic processes, but no information has been found on whether this activity is a potential strategy for poor rural people in the region. It has been noted above that there are environmental concerns from these fishing activities.

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<sup>3</sup> US\$ 606 million Guatemala (2.7% GDP); US\$251 million Honduras (3.8% GDP); US\$157 million Nicaragua (6.3% GDP)

## **3.2 HOW CAN THE ENABLING ENVIRONMENT BE ENHANCED TO SUPPORT THE SUCCESSFUL PARTICIPATION OF THE RURAL POOR?**

### **3.2.1 Overarching issues:**

Traditional policies of the majority of the countries in the region have led to a deformed version of market economies. In these economies the rich and powerful seek to gain monopoly powers, protection from competition, subsidies and resource rents. This group pay almost no taxes, and seek when possible to use the state as an additional source of cheap capital. In addition there are activities of multinational companies and macro-economic management under IMF tutelage. However, the workers and the poor have little or no political power and come low in the list of government priorities. Such a structure leads to low levels of innovation and little or no risk taking in the use of national capital, with national investors preferring sure-fire investments in protected markets, real estate, government bonds, etc. Foreign investors are hesitant to invest owing to the uncertainties of politics and the dangers of operating in economies where personal and particular favours matter so much more than reliable and neutral economic institutions. Given these uncertainties foreigners who do make investments look for activities that make high profits quickly. Many of the jobs created in the economy are unskilled, and therefore there is little pressure for public investment in a skilled and healthy work force. This bleak picture needs to be balanced with the observation that old oligarchies are increasingly being called to account, and that the new macro-economic orthodoxies are slowly beginning to reform institutions and policy-making to make for a more predictable and neutral business environment. However, these changes take time.

In Mexico, Rocha (2005) reports that pressures of democratisation and changes in the accountability of federal poverty reduction programmes have reduced the politicisation of such programmes and improved their pro-poor focus. However, the decentralised programmes have been much less successful, although they have received more substantially more money. Rocha argues that the problems of these programmes are due to a lack of local government capacity especially at Municipality level.

Honduras and Nicaragua are both part of the Highly Indebted Countries Initiative, but as Booth et al (2006) report there have been difficulties in the implementation of the Initiative. These authors identify that there is a general lack of state legitimacy and effectiveness and within the main political parties a lack of strategic vision for national problems. A worrying comment is that "the incentive for parties and party members to rise to the challenge of reforming the state and promoting fast, equitable economic growth is weak, especially in the traditional, personalist parties", and for this reason poverty and its reduction is not central to political debate. Within this the politicians have seen the Poverty Reduction Strategies as just a means of managing the aid relationship, but have not seen it as a means to address serious poverty and social problems. There has been very little buy in to the HIPC process beyond seeing it as another means to receive outside support.

On more specific country level details, Guatemala has recently focussed its poverty reduction efforts on the Western Altiplano. This area has been targeted because of its heavily concentrated indigenous population and because the area suffered badly from discrimination and violence during the civil war.

In Honduras public investments have been skewed towards municipios that have good natural capital and growth potential. These areas are between the capital Tegucigalpa and the industrial

city of San Pedro Sula and then along the northern coast, making up the "T of Development". Outside this T, public investments (particularly road networks and other infrastructure) have been concentrated where agro-ecological conditions are favourable for export agriculture such as coffee (concentrated on small and medium-sized farms in the west) and bananas (mostly on large plantations in northern valleys). Most other rural areas, where approximately 80 percent rural population are found, have not received significant public investments.

In Nicaragua, also has a strong spatial economic development pattern, with high-potential areas located close to the main cities, particularly Managua, and in the Pacific Region. The Central Region contains high-potential coffee-producing areas with favourable agroecological conditions and good transportation access. The Atlantic Region is most isolated and has only limited economic potential, due both to poor access and low-quality soils (Alwang et al, 2005)

The critical elements to the enabling environment for key strategies of participation in the global economic processes appear to be: education; access to communication where information can be provided on the possibilities of work and success of migration; and in the case of export oriented products infrastructure and government institutional credibility. It is suggested that market failures occur in food grain markets, which make it risky for poor rural households to dedicate their scarce land resources to anything other than food crops. In addition the poor access to technology and inputs would appear to be a problem. However, no direct evidence was found to support these two answers. While market failures are much broader and important conceptually, as mentioned above government failure and the State's inability to intervene in a benign manner is currently a far greater problem in the region.

### **3.2.2 Access to factor markets:**

Credit markets exist in rural Guatemala, with half of the poor people receiving loans from formal credit sources. However, there is a lack of competition between the lenders. The World Bank (2003b) recommends that interventions into these credit markets needs to go hand in hand with investments in infrastructure, education and information access and the state that credit can provide an important input to both agricultural and non-farm profitability.

Research in Nicaragua suggests that credit provision has been successful for the better off households, but has had little and in some cases negative impact in the poor and poorest households (World Bank, 2003a).

Obtaining credit requires the formal ownership of land. In study it was found that although poor people were owners of the land in the eyes of the local community they did not possess a land title (World Bank, 2003b). Therefore, on the need for people to have land titles, the benefits would appear obvious in particular in terms of obtaining financing.

In terms of land redistribution, it is well know that most of Central America has very inequitable land distribution. As mentioned above the ejido system in Mexico, while very widespread with half of Mexican farmland held in 26 thousand ejidos by 2.9 million families (Quijandria et al, 2001), has a strong male bias. The potential benefits of poor people getting more land has to be weighed against the social and political upheavals of land redistribution. The latter needs to recognise that the region has had recent civil wars and there is still high levels of personal insecurity. The benefits of such land distribution are also short-lived, maybe only a generation

(see Rigg, 2005 as he cites evidence from Lopez & Valdez, 2000<sup>4</sup>). In addition it should be recognised that migration and non-farm employment have become a key aspect of livelihood strategies and these are not dependent on land.

It is also worth mentioning that giving poor people more land, but not at the same time offering better education and extension services may mean that these people do not have the capacities to improve their production systems and income and consumption levels for a sustained period, i.e. land is a part of the jigsaw not the complete picture.

### 3.2.3 Processes:

Migrants can be supported by have permanent and stable employment rather than seasonal, the latter tends to be related to working in export cash crops which are selling into volatile commodity markets. Özden, & Schiff (2006) recommend that countries receiving immigrants need to relax the processes of entry to ensure that benefits accrue to all concerned.

In some of the countries there are barriers to poor people participating in markets that relate to language, racial and gender discrimination and geographical isolation. In addition, it is possible that input and service markets for agricultural production are not as well developed or organised as the output markets. Finally, markets for basic inputs such as land suffer from issues relating to land rights.

An IFAD project that worked with poor communities in adding value to traditional crops in Guatemala found that poverty alleviation required the strengthening local social capital. These strengthening activities helped to reduce the transaction costs to the rural poor population for inputs, services, and markets for products. In addition the local social capital was particularly important for landless farmers and rural workers in search of employment in rural and non-rural labour markets, where traditional social protection mechanisms can substitute for land as the principal, and sometimes only, asset available to assure economic survival.

Institutional factors play a very important role in the successful participation of poor rural households in global economic processes in that discrimination is still a strong issue in providing education and hence economic opportunities in parts of the study region. In Cuba, the situation is good in terms of education, but poor or non-existent in terms of an adequate business environment to participate.

The business environment in the Central American countries has improved, but there is still a high level of uncertainty in terms of respect from private possessions and property and levels of personal security that make this region a high risk investment area. In Cuba, the recent changes in policy on running businesses that generate foreign exchange make this country very unattractive, if not impossible to enter.

Of the countries that are currently being monitored by the World Bank in the study region, Nicaragua has the best business environment followed by Mexico. Honduras has a poor ranking in terms of trading across borders (see Table 11).

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<sup>4</sup> López, R., & Valdés, A. (2000). Fighting rural poverty in Latin America: New evidence of the effects of education, demographics and access to land. *Economic Development and Cultural Change*, 49(1), 197–211.



**Table 4. World ranking of "Doing Business" in Guatemala, Honduras, Mexico and Nicaragua. (World Bank, 2006b).**

Country	World rank (155 countries)				
	Selected indicators				Doing business
	Starting a business	Registering Property	Getting credit	Trading across borders	
Guatemala	120	61	49	51	109
Honduras	129	78	50	119	112
Mexico	84	74	68	39	73
Nicaragua	65	110	71	50	59

In general, natural resources are used and abused, with little regard for any formal protection, particularly when the mining of a natural resource can generate short-term income. Observations from Nicaragua indicate that resources tend only to be conserved when they are remote and cannot be exploited.

### 3.2.4 Access to Markets

Emerging international value chains, as mentioned above, appear to be dependent on entrepreneurs for their development (te Velde *et al.*, 2005). For other chains, there is a great deal of variation and change.

In Nicaragua it is reported that agricultural production expansion has come about through increases in land area, with little or no additional use of inputs or increases in labour productivity. It is likely that this expansion of farm and ranch land is by both large and small farmers, and this response, in a country where the land frontier is not closed, is rational as it makes more sense to expand extensively rather than intensively. However, it needs to be questioned why the agricultural growth in Nicaragua has now slowed? Earlier comments were that land expansion has now largely stopped as free land is becoming scarce, so agricultural production can no longer be increased by bringing more land into production. It would also indicate that technologies to intensify land use are not being applied, and this maybe related to difficulties of accessing technology and input markets. A reviewer has argued that access to global technologies and inputs is not limited by a lack of foreign exchange as local currencies have remained strong even in countries with large trade deficits because of international remittances. It could be that there is a lack of investment in technologies for land intensification because of the very existence of remittances, i.e. the economies and particularly the rural economies are suffering from a form of Dutch disease.

Many poor communities lack infrastructure. Evidence for scale or production are lacking, but organising the supply for a large number of smallholders rather than one or two large scale farming operations has very different transaction costs. With respect to NTFP commercialisation, the greatest single barrier to entry is market information (Marshall *et al* 2006).

It is noted that an underlying issue with agricultural and forestry products is the need for processes of certification be it of origin, production processes, for example organically produced goods, or food safety that take into account hazard analysis and critical control point (HACCP) systems. Organisations with international credibility need to be available to monitor and evaluate these processes. To lower transaction costs to small scale rural producers ideally these organisations would be local and supported by government organisations. Credibility of such



organisations in the region is generally inadequate and below an example is presented from Guatemala.

### 3.2.5 Government support:

The World Bank's Guatemala poverty assessment document (World Bank, 2003b) contains a useful summary of actions that include:

- Enhancing opportunities should be at the centre of the poverty agenda.
  - Reducing the human capital gaps between the poor and non-poor.
  - Lowering transactions costs in accessing markets.
  - Creating mechanisms to discourage labour-market discrimination for the indigenous and women.
- A rural development strategy is also key for Guatemala's overall poverty reduction strategy.
  - Promoting growth of non-agricultural sectors
  - Increasing agricultural productivity and diversification.
- Safety nets and risk management for:
  - Seasonal migrants
  - Child-labourers
  - The indigenous,
  - Geographically isolated households.

In the coffee markets that are vulnerable to rapid price changes it has been suggested that producers are encouraged to go for niche markets of high quality. For those that will struggle to survive in competitive markets for low quality product and cannot produce quality, there is a need to assess the potential of other crops. Finally of greatest relevance to the rural poor dependent on seasonal work in the coffee sector, there is a need for work programmes during times of low prices to ensure that these people have a safety net.

The debate on what part of the rural economy has the greatest impact on poverty is not settled as the World Bank in 2003 stated that "...agriculture overall is unlikely to provide a significant route out of poverty for the bulk of the rural poor." However in 2005 de Ferranti et al (2005) when asking the question "*How do we make rural development more pro-poor?*" their response was that "*agriculture makes a disproportionate contribution to poverty reduction, although this varies much by case, with linkages and labour intensity being key variables. Households escape poverty if they have access to more than one asset. Given the importance of non-farm activities and migration, investments in roads and education can pay off highly. Targeted transfer, as seen in Mexico's Oportunidades and in Brazil's rural pensions, look promising.*" The point the authors make is that while agriculture may not directly alleviate poverty on a large scale, through linkages agricultural development may be one of the most effective ways to reduce (rural) poverty. The paper by Rigg (2005) adds to the debate showing that rural economies are changing rapidly and the general mixes within them are important points of providing poor rural people potential strategies for escaping from poverty. Attanasio and Székely (2001) support the view that land based economic activity is not the key to resolving rural poverty when they reach the conclusion that "having more or less skills is a stronger determinant of poverty than being located in rural areas, being employed in relatively unproductive sectors of activity, belonging to female headed households or living in households

with relatively young or old household heads". What is perhaps important is that support programmes for poor rural people should be flexible enough to respond to opportunities, and that focussing on either agricultural or non-agricultural misses the point. Poor rural people need flexibility to escape poverty and this flexibility should be reflecting in support programmes that offer means of developing human capacities (knowledge and skills) as well as improving access to resources.

In poor rural areas extension services from government, non-government and private sources is at best sparse and at worst patchy, and similar patterns are seen with health care. Education seems to give a better coverage and is perhaps related to the physical infrastructure, financial, human and logistical support given to providing primary education. The pilot IDB project EXPIDER that is aimed at offering technical advice is still in the process of being assessed (IDB, 2004a).

The most important change to the global markets in this region has been the economic boom in the USA that has generated a demand for both skilled and unskilled labour. This has created opportunities for many rural households, but for the less skilled there have been considerable risks and costs in reaching this valuable labour market. Work in Mexico indicates that throughout the 90s there has been an increase in international migration and overall it is estimated that 15% of the rural population are involved in this process (Özden, & Schiff, 2006). The remittances across all study countries have grown rapidly (IDB, 2004 see Table 12) and there has been research on the short-term impacts on health, communities and education in families with members who have migrated (Özden, & Schiff, 2006).

**Table 5. Remittances to the study countries in 1999 and 2003 (data World Bank, 2006a; IDB, 2004b).**

Country	1999			2003		
	GDP (US\$ billions)	Remittances		GDP (US\$ billions)	Remittances	
		Total	% of GDP		Total	% of GDP
Belize	0.832			1	0.073	7.3
Cuba					1.194	
Guatemala	19.4	0.535	2.8	23.5	2.106	9.0
Honduras	5.5	0.368	6.7	6.7	0.862	12.9
Mexico	501.1	6.795	1.4	639.1	13.266	2.1
Nicaragua	3.7	0.345	9.3	4.1	0.788	19.2
<b>Total</b>	<b>529.7</b>	<b>8.043</b>	<b>1.5</b>	<b>674.4</b>	<b>17.095</b>	<b>2.5</b>

Future changes are likely to be shaped by CAFTA for Guatemala, Honduras and Nicaragua. It is currently predicted that the implementation of this agreement will have a negative impact on the local agriculture as cheap grains come in from the USA. Some have called for the agreement to include the removal of agricultural subsidies in the USA and a free market for labour. The Central American countries probably have a comparative advantage in horticultural products, but these need to be supported by government animal and plant organisations that have international credibility and expertise at farm-level in maintaining food safety as well as quality. Recent experiences in Guatemala with the export of raspberries show that if these technical issues, then US markets can be quickly lost and are very difficult to regain (Jaffee & Henson, 2005). Experiences with the introduction of Mexico into NAFTA could provide important lessons on the general impact on rural areas and poor rural people.

In Cuba, the recent trends appear to be to reduce world market integration and tighter control of export dollar income from agricultural exports and tourism. These trends are related to the closer relationship between Venezuela and Cuba with agreements on the bartering of oil and oil products to some extent for skilled labour.

## **4 AN OVERVIEW OF CONTEMPORARY AND LIKELY FUTURE RELEVANT RESEARCH ACTIVITIES**

An analysis of the activities of major donors, NGOs and research organisations is presented in Annex 3.

In summary the multilateral and bilateral donors have and are focussing on aspects of the enabling environment in terms of health, education, rule of law, land rights, basic infrastructure and good governance. There is also money for natural disasters, which is mainly given as emergency relief. Some attempts are being made to develop early warning systems through a regional project coordinated by IFPRI. The good governance focuses on how money is controlled and spent, but little focus seems to be applied on how to prioritise spending. Some money is provided for specific rural development issues and a little is directed at more technical issues of agricultural, forestry and fishery production.

The analysis of the NGOs, research organisations and the private sector indicates that they are more focussed on technical issues and to some extent the coordination of regional research efforts and organisations than the large donors. The exception is IFPRI, which is more focussed on policy level issues. The policy level research efforts are supplemented by work carried out by the World Bank and IDB on key development themes. The private sector actions with regards to research are not as well covered in the analysis. It is suggested that the large scale commercial crops such as coffee, banana, sugar and citrus fruit have access to a large body of international research and the producers involved in these activities are generally not the poor, and are well able to access information through the internet. There may be linkages or multiplier effects on the poor with such information, but even if such mechanisms exist it is questionable whether they are effective and efficient in providing information for the poor.

The gaps in research that appear from the analysis would appear to be:

1. On a macro level, the search for better governance and government organisations is an important aspect of ensuring that efforts to improve human capital at rural level continue and become more successful and that export of agricultural produce is well supported with credible organisations.
2. Migration has a number of components:
  - a. There appears to be no facilitation of local migration and links with the peri-urban and urban labour markets. Given that rural poor appear dependent on NFRE to improvement their well being, general aspects of the rural economy seem to be left to the market to resolve.
  - b. There appear to be few actions to facilitate international migration and the research seems to be blinded at the moment to the quantities of money sent through remittances and the short-term impacts on household consumption levels. Medium to long-term impacts on removing economic active people from rural families and communities have yet to be fully explored.

- c. There is also a gap on whether transport, telecommunications, tourism and nostalgic trade stimulated by migration have an impact on rural areas and the rural poor and how these aspects could be used to help the rural poor.
3. Moving on from point 3, little is known about small-scale informal enterprises and their potential as centres of growth, technical innovation and employment generation; perhaps by looking for the agglomeration economies of industrial clusters. A good example is the wood-working workshops of the area close to Masaya, Nicaragua. In similar vein, we know little of rapidly emerging small-scale and informal trading networks — example, cheese exports from Nicaragua to El Salvador. A better understanding of these activities would perhaps help policy makers support industry to supply nostalgic trade of the migrants.
4. A lack of involvement of the CG technical centres in the region. Given the focus on the agricultural sectors there would appear to be a role for IRRI in Cuba and Belize and perhaps in the Mexican State of Campeche. CIAT should probably have a stronger involvement in bean legumes and CIP with potatoes. It is assumed that CIMMYT is providing information on maize in the region. Potentially ILRI could have a role in the development of the cattle sectors in Guatemala, Honduras and Nicaragua and it is understood that they are evaluating a CPC funded initiative to improve the competitiveness of the cattle sector in these countries at the moment. There is also a need to involve ICRAF and CATIE with respect to developing more sustainable (environmentally and economically) and land-intensive farming based on agroforestry techniques.
5. Relatively little is known in the region on the environmental impact of demand for agricultural and forestry products through global economic processes, particularly in an institutional environment where land tenure is uncertain. Hence development of policies to confront negative environmental and hence inter generational distribution is poorly developed.
6. A lack of dynamism in the agricultural sector away from the export orientated crops, that is not being addressed by looking into market failures of the input and service markets.
7. Little development of processes to help policy makers to prioritise actions at local, regional or national level to help the rural poor, with the exception of the IDRC development of the Social Analysis System and the IFPRI policy work.
8. Although NGOs have mechanisms to coordinate their work there is weak coordination of NGOs actions by government organisations. Given the strengths of NGOs, both in financial and technical terms, government organisations could improve their own actions in rural areas by harnessing these NGO strengths.
9. Despite the region having internationally recognised research organisations such as Zamorano College in Honduras, CATIE in Turrialba and various Mexican groups, the impact of research outputs on providing rural poverty reduction opportunities appears limited.
10. A lack of research of how skills and knowledge of indigenous groups can be harnessed or used in the global economic processes in order to reduce social and economic disadvantages that these groups suffer.

11. A lack of investigation on whether global economic processes with poor implementation of market freedom for input and output markets are having an impact on natural resource management and deforestation.
12. There is a lack of information on how global demand for fish and marine products impacts on the rural communities in terms of employment opportunities and whether this demand is met in an environmentally sustainable manner.
13. A lack of research on the potential negative impacts of countries heavily reliant on aid and how this dependency can be changed.

## 5 POSSIBLE RESEARCH THEMES

On the basis of the previous sections Table 8 presents possible research themes for the western Caribbean and Central American region with suggestions of potential partners.

**Table 6. Possible research themes for the Western Caribbean and Central American region.**

No	Theme	Potential partner(s)	Country focus
<b>Migration</b>			
1.	Given that migration is an important strategy for poor rural people and that in the job market they are disadvantaged in terms of salaries they receive <b>"What knowledge and skills would improve their entry into the national and international job markets?"</b>	<b>World Bank, IDB, GGP</b>	<b>Guatemala, Honduras, Nicaragua</b>
2.	On the identification of knowledge and skills for national and international job markets from research theme 1 <b>"What are the best methods of improving such knowledge and skills and which would be the best organisations to carry out such training"</b>	<b>World Bank, IDB, GGP</b>	<b>Guatemala, Honduras, Nicaragua</b>
3.	Given the importance of migration in the region, its unknowns with regards to its medium and long term impacts and its potential to create a Dutch disease impact: <b>"What are the negative medium to long-term social and environmental implications of international migration on families and rural communities affected? How can these impacts be resolved or alleviated by policy measures?"</b>	<b>World Bank, IDB, GGP</b>	<b>Guatemala, Honduras, Nicaragua</b>
4.	Given the importance of transport, telecommunications, tourism and nostalgic trade resulting from migration <b>"Are there links between poor rural people and poverty reduction and transport, telecommunications, tourism and nostalgic trade resulting from migration? How can the potentially positive aspects be improved through policy measures?"</b>		<b>All countries and regions</b>
<b>NAFTA, CAFTA, agricultural product trade and organisations</b>			

5.	Given that the existence of NAFTA and the creation of CAFTA: <b>"How can value chain analysis be used to identify:</b> <ul style="list-style-type: none"> <li>• where a country has comparative advantage such as high value products;</li> <li>• which products have the greatest potential for rural poverty reduction; and</li> <li>• where there are bottlenecks in terms research, commercialisation and general institutional environment?"</li> </ul>	IDRC's GGP and ICT. World Bank's Doing Business project.	Belize, Guatemala, Honduras, Nicaragua, Yucatan Peninsula
6.	Given that the understanding of the development of small informal enterprises and clusters is relatively weak <b>"What are critical human (education, health, nutrition, skills), financial, social and institutional factors that have favoured development of small informal enterprises and can these be replicated in supporting opportunities from nostalgic trade, CAFTA and NAFTA?"</b>		All countries
7.	Given the weakness of government organisations in the coordination of NGOs and the importance of these organisations in rural areas: <b>"How can processes be developed to monitor, evaluate and provide leadership of NGO actions in order to have the greatest impact on poor rural people's ability to benefit from global economic processes?"</b>	NGO coordination groups and the donors who fund their actions. Governments of Guatemala, Honduras and Nicaragua and the State governments of Campeche, Yucatan and Quintana Roo.	Belize, Guatemala, Honduras, Nicaragua, Yucatan Peninsula
8.	Given the weakness of government actions in prioritising and supporting actions to reduce poverty in rural areas: <b>"How could products from themes 5, 6 and 7 be used to influence policy and the use of government resources?"</b>	GTZ who are working on decentralisation in a number of countries and the different layers of government. ODI with their RAPID project	Belize, Guatemala, Honduras, Nicaragua, Yucatan Peninsula
<b>Environmental</b>			
9.	Given the uncertainty of land tenure in many parts of the region, and the unknown impact of global economic processes on natural resource use <b>"What is the impact of current land tenure and environmental policies on how global economic processes influence rural poverty reduction and environmental conservation?"</b>	ODI with its experience in NTFPs and forestry	Belize, Guatemala, Honduras, Nicaragua, Yucatan Peninsula
10.	Given strong global demand for fish and marine products and the development of the fishing industry in the region to satisfy this		



	<b>demand: "Are there links between rural poverty reduction and the fishing industry? What are the environmental impacts of the growth in the fishing industry?"</b>		
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### 7.3 ABBREVIATIONS

AGROSALUD	Red de Sanidad Agropecuaria e Inocuidad de Alimentos
AGUILA	Red Agricultura Urbana Investigaciones Latino América
ALOP	Asociación Latino Americana de Organizaciones de Promoción
BMZ	German Federal Ministry for Economic Co-operation and Development
CAFTA	Central American Free Trade Agreement
CamBioTec	Red Internacional sobre Biotecnología
CAPGERnet	Red de Recursos Fitogenéticos del Caribe
CARDI	Caribbean Agricultural Research and Development Institute
CARICOM	Caribbean Community and Common Market
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CIDA	Canadian International Development Agency
CIP LAC	Center for Potato Improvement Latin America and The Caribbean
CIMMYT	Centro Internacional de Mejoramiento del Maíz y el Trigo
CLAYUCA	Consorcio Latino Americano y del Caribe de Apoyo a la Investigación y Desarrollo de la Yuca
DFID	Department for International Development, UK
DGIS	Dutch Development Cooperation Programme
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FLAR	Fondo Latinoamericano Para El Arroz De Riego
FODEPAL	Proyecto Regional de Cooperación Técnica para la Formación en Economía y Políticas Agrarias y de Desarrollo Rural en Latino América
FONTAGRO	The Regional Fund For Agricultural Technology
GGP	Globalisation Growth and Poverty
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
GVC	Global Value Chains
IDB	Inter American Development Bank
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IICA	Instituto Interamericano de Cooperación para la Agricultura
INFOTEC	Sistema de Información Científica y Tecnológica del Sector Agropecuario en las Americas



JICA		Japanese International Cooperation Agency
LACPA		Asociación Latinoamericana para la Protección de los Cultivos
Livestock (LSU)	Unit	Equivalent to a full grown cow in the USA, around 500 kg liveweight. Conversion factors for the region are 0.71 per head of cattle, 0.1 for a head of goat or sheep, 0.26 for a head of pig and 0.01 for a head of poultry
MOFA		Ministry of Foreign Affairs of Japan
MUSALAC		Red de Investigación y Desarrollo de Plátano y Banano para América Latina y el Caribe
NAFTA		North American Free Trade Agreement
NFRE		Non-Farm Rural Employment
PPP		Purchasing Power Parity
PRM		Programa Regional del Maíz
PROCIANDINO		Programa Cooperativo de Investigación y Transferencia de Tecnología Agropecuaria para la Subregión Andina
PRECODEPA		Programa Regional Cooperativo De Papa
PRODAR		Programa de Desarrollo de la Agroindustria Rural en América Latina y el Caribe
PROFRIJO		Programa Cooperativo Regional de Frijol para Centro América, México y El Caribe
REDBIO		Red de Cooperación Técnica en Biotecnología Vegetal
REDCA		Red Regional de Cooperación en Educación e Investigación Agropecuaria y de los Recursos Naturales
REDCAPA		Red de Instituciones Vinculadas a la Capacitación en Economía y Políticas Agrícolas en América Latina y el Caribe
REDCAHOR		Red Centro Americana de la Hortaliza
REDECO		Red Ecoregional para America Latina
RELACO		Red Latinoamericana de Agricultura Conservacionista
REMERFI		Red Mesoamericana De Recursos Fitogeneticos
REPIDISCA		Red Panamericana de Información en Salud Ambiental
RIFALC		Red de Información Forestal para America Latina y el Caribe
RIMISP		Latin American Center for Rural Development
RLAB		Red Latino Americana de Botánica
RPE		Rural Poverty and the Environment
SIDA		Swedish International Development Assistance
SIHCA		Sistema Hemisferico de Capacitación para el Desarrollo Agrícola
Simbiosis		Sistema de información especializada en Biotecnología y Tecnología de Alimentos para América Latina y el Caribe
UNDP		United Nations Development Programme
UPE		Urban Poverty and the Environment
USAID		United States Agency for International Development
VC		Value Chains
WB		World Bank
WFP		World Food Programme

## 8 ANNEX 2 – SUPPORTING TABLES AND FIGURES FOR THE INTRODUCTION

**Table 7. Summary of the government structure, legal system, trade focus and agricultural strengths.**

Country	Government Structure (CIA, 2005)	Legal system (CIA, 2005)	Trade Focus	Agricultural Strengths
Belize	Parliamentary democracy. Independent since 1981, but British Queen remains head of state	English law	Part of CARICOM, close links with UK and USA	Rice, maize, beans, sugar, fruit, fish and shellfish
Cuba	Communist state with Fidel Castro either Prime Minister or President since Feb 1959	Based on Spanish and American law, with large elements of Communist legal theory	Until early 1990s had strong links with Soviet block. More recently with EU, Canada and Venezuela	Sugar, rice, maize, beans, tobacco
Guatemala	Constitutional democratic republic	Civil law system	Strong links with USA, part of CAFTA	Maize, beans, coffee, bananas, sugar
Honduras	Constitutional democratic republic	Based on Roman and Spanish civil law with increasing influence of English common law	Strong links with USA, part of CAFTA	Maize, beans, coffee, sugar, wood products, prawns
Mexico	Federal republic with decentralisation	Mixture of US constitutional theory and civil law system	Part of NAFTA	Maize, beans, chilli, vegetables in Yucatan Peninsula. Monogastric livestock are important in Yucatan State
Nicaragua	Republic	Civil law system	Strong links with USA, part of CAFTA	Maize, beans, coffee, bananas, sugar, cattle

**Table 8. Land area, human population and population density in the study countries (FAOSTAT, 2005; CIA, 2005, authors analysis)**

Country or area	Land area ('000 KM2)	Human Population ('000)		% of the population rural	Population density
		Total	Rural		
Belize	22.97	266	137	51.5	12
Cuba	110.86	11,353	2,727	24.0	102
Guatemala	108.89	12,978	6,858	52.8	119
Honduras	112.09	7,257	3,888	53.6	65
Nicaragua	129.49	5,727	2399	41.9	44
<b>Sub-total</b>	<b>484.30</b>	<b>37,581</b>	<b>16,009</b>	<b>42.6</b>	<b>78</b>
Yucatan Peninsula	137.59	3,224	664	20.6	23
Mexico	1,972.55	106,385	25,504	24.0	54
<b>Total</b>	<b>621.89</b>	<b>40,804.86</b>	<b>16,672.50</b>	<b>40.9</b>	<b>66</b>

**Table 9. The people and languages, social indicators and poverty levels in the study countries (data from World Bank, 2006a except where stated).**

Country	People and Languages (Instituto del Tercer Mundo, 1992)	Literacy levels (above 15 years old)	Life expectancy	Under 5 mortality rate (per 1000 births)	Poverty levels
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Country	People and Languages (Instituto del Tercer Mundo, 1992)	Literacy levels (above 15 years old)	Life expectancy	Under mortality rate (per 1000 births)	Poverty levels
Belize	Largely of African descent. Around a fifth are Mayan descent. The main language is English, and Spanish, Creole and Mayan dialects are also spoken	76.7 for males, 77.1 for females	71.2	39	33% primarily in the southern rural districts of Toledo and Cayo (CIA, 2005; World Bank, 2005)
Cuba	Of mixed Afro-European-American origin. The main language is Spanish	96.2 (UNDP, 2000)	74.7 (UNDP, 2000)	9.4 (UNDP, 2000)	Not available
Guatemala	40% are Mayan descent, around a third are mixed Mayan and European. The main language is Spanish, but most people speak a Mayan dialect	NA, primary education completion rates are 66.5% overall and 62.5% for females and improving	66.1	47	62% in 1989 down to 56% in 2000 with 16% in extreme poverty (World Bank, 2005)
Honduras	The people are of mixed Mayan and Spanish descent. 10% are native Americans. Spanish is the main language	NA, primary education completion rates are 79.3% overall, no data for females	66.1	41	53% (CIA, 2005)
Mexico	In the Yucatan Peninsula there is a high proportion of people of Mayan descent	NA, primary education completion rates are close to 100% for male and female	73.6	28	In South-Gulf 39.6% in 2000 and 34.7 in 2002 (World Bank, 2004)
Nicaragua	The majority of the people are of mixed Mayan and Spanish descent. Spanish is the main language	NA, primary education completion rates are 69% overall and 74% for females	68.8	38	National poverty level dropped from 50.3 to 45.8 %, and that of extreme poverty from 17.3 to 15.1 % between 1998 and 2001 (World Bank, 2003).

**Table 10. The economy and employment data for the study countries (FAOSTAT, 2005; CIA, 2005, authors analysis).**

Country	GDP (PPP\$)		% GDP from agriculture	Labour force		GDP per capita (2004 PPP\$)		GDP per capita in rural areas as a % of	
	Total (billions)	Per capita		Total (millions)	% in agriculture	Urban*	Rural**	GDP per capita	GDP per capita in urban areas
Belize	1.778	6,500	17.7	0.09	27.0	11,343	2,297	35.3	20.3
Cuba	33.920	3,000	6.6	4.55	24.0	3,673	821	27.4	22.4
Guatemala	59.470	4,200	22.7	3.68	50.0	7,511	1,968	46.9	26.2
Honduras	18.790	2,800	12.7	2.47	34.0	4,869	614	21.9	12.6
Nicaragua	12.340	2,300	20.7	1.93	30.5	2,940	1,065	46.3	36.2
<b>Sub-Total</b>	<b>126.298</b>	<b>3,361</b>	<b>16.6</b>	<b>12.72</b>	<b>34.5</b>	<b>4,882</b>	<b>1,311</b>	<b>39.0</b>	<b>26.9</b>
Mexico	1,006.000	9,600	4.0	34.73	18.0	11,941	1,578	16.4	13.2
<b>Total</b>	<b>1,132.298</b>	<b>7,865</b>	<b>5.5</b>	<b>47.45</b>	<b>22.4</b>	<b>10,454</b>	<b>1,475</b>	<b>18.8</b>	<b>14.1</b>

\* Urban GDP per capita - All aspects of the economy except agriculture divided by the urban population

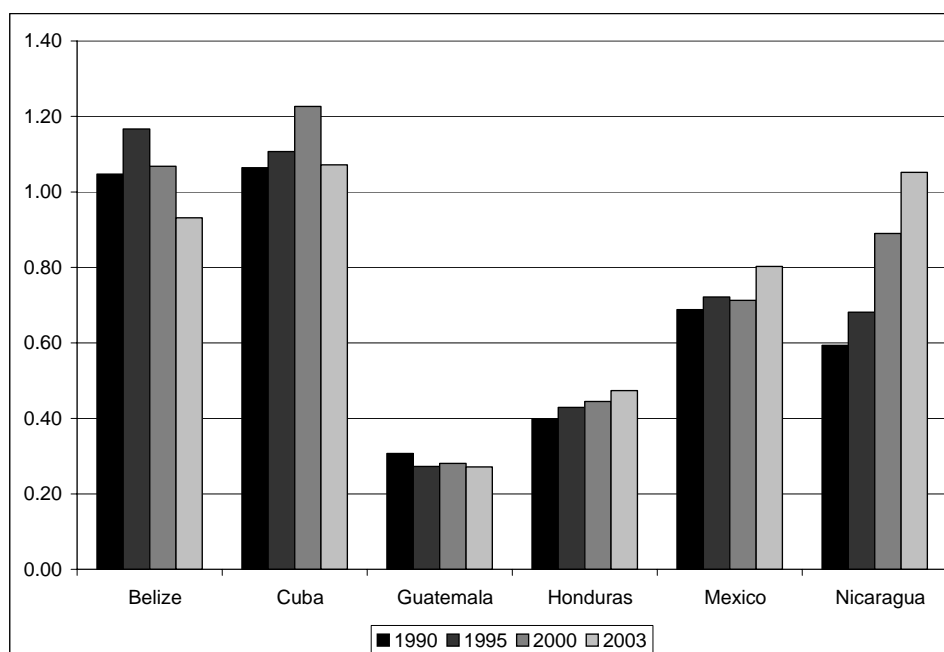
\*\* Rural GDP per capita - The agricultural economy divided by the rural population

**Table 11. Land area, forest and cultivated land in the study countries (data FAOSTAT, 2005; World Bank, 2005; SIAP, 2003; authors analysis).**

Country	Total land area (Km <sup>2</sup> )	Forest		Cultivated*				
		Km <sup>2</sup>	%	Land Area (Km <sup>2</sup> )	%	Hectares per		
						Person	Rural Person	Agricultural person
Belize	22,966	13,480	58.7	708	3.1	0.28	0.54	0.93
Cuba	110,860	26,080	23.5	18,401	16.6	0.16	0.66	1.07
Guatemala	108,890	28,500	26.2	16,111	14.8	0.13	0.24	0.27
Honduras	112,090	53,830	48.0	10,501	9.4	0.15	0.28	0.47
Yucatan Peninsula	137,589	91,050	66.2	4,613	3.4	0.14	0.70	NA
Nicaragua	129,494	32,780	25.3	10,709	8.3	0.20	0.46	1.05
<b>Total</b>	<b>621,889</b>	<b>245,720</b>	<b>39.5</b>	<b>61,043</b>	<b>9.8</b>	<b>0.15</b>	<b>0.37</b>	<b>0.53</b>
Mexico	1,972,550	552,100	28.0	180,180	9.1	0.17	0.71	0.80

\* Estimated from the number of hectares with different primary crops from FAOSTAT and for all crops planted in the Yucatan Peninsula from SIAP.

**Figure 4. Estimation of the land area cultivated per agriculture person in the study countries in 1990, 1995, 2000 and 2005 (data from FAOSTAT, authors analysis)<sup>5</sup>**



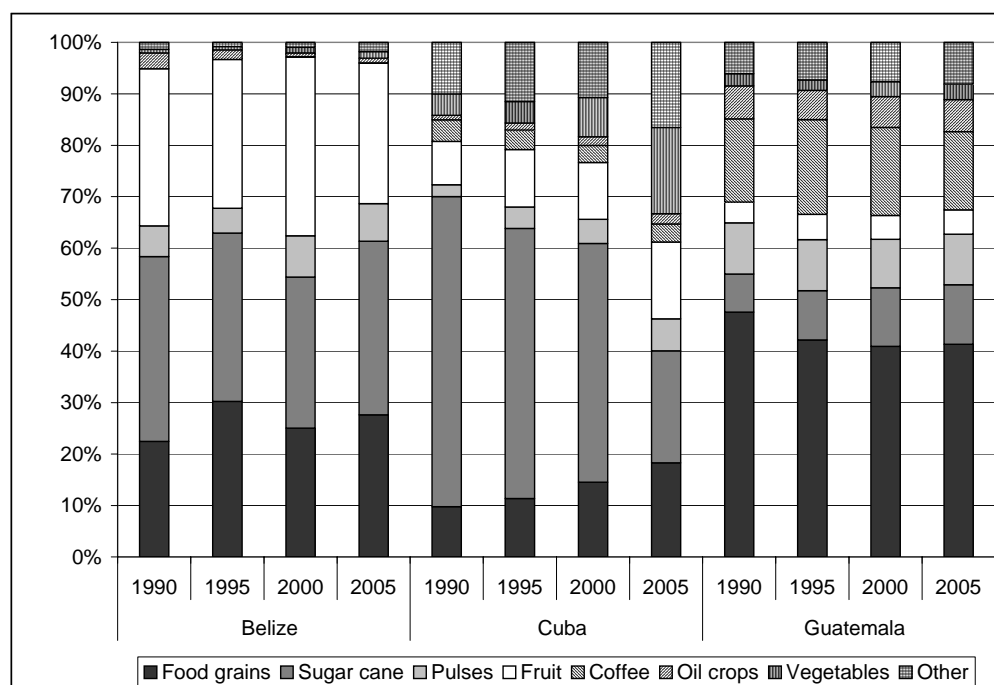
<sup>5</sup> Mexican data are for the whole country.

**Table 12. Total land area (hectares) cultivated in the study countries (FAOSTAT, 2005; Authors analysis)**

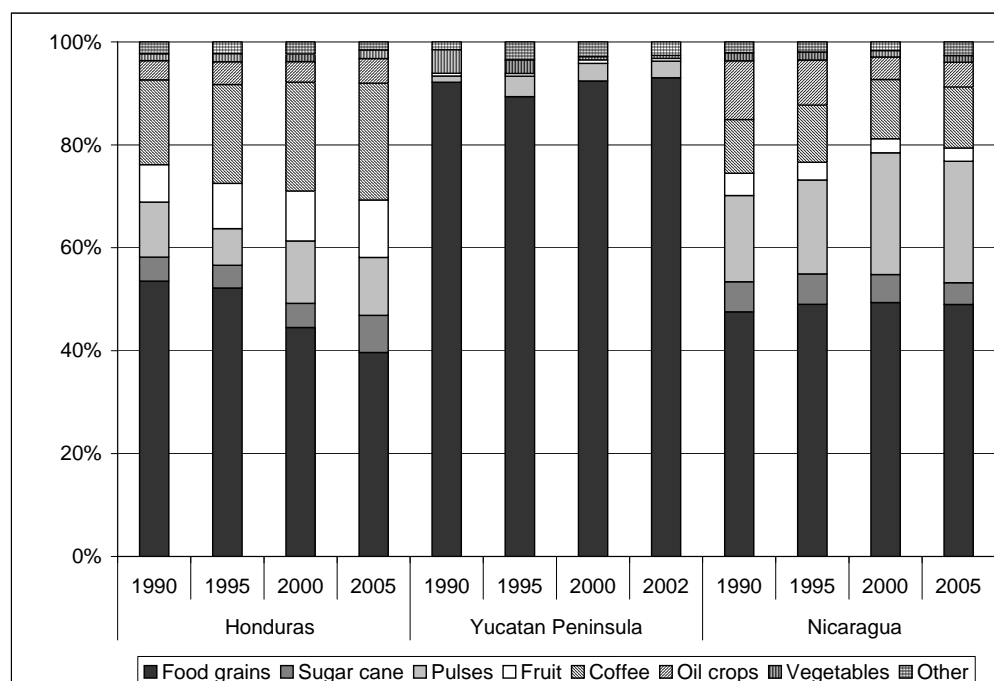
Country	Year							
	1990		1995		2000		2005	
	Total	%	Total	%	Total	%	Total	%
Belize	65,965	2.9	80,504	3.5	79,040	3.4	70,813	3.1
Cuba	2,357,277	21.3	2,243,139	20.2	2,245,423	20.3	1,840,050*	16.6
Guatemala	1,510,041	13.9	1,444,601	13.3	1,599,544	14.7	1,611,147	14.8
Honduras	869,186	7.8	957,289	8.5	996,431	8.9	1,050,053	9.4
Yucatan Peninsula	337,027	2.4	457,463	3.3	480,355	3.5	461,317	3.4
Nicaragua	672,700	5.2	754,567	5.8	940,813	7.3	1,070,898	8.3
<b>Total</b>	<b>5,812,196</b>	<b>9.3</b>	<b>5,937,563</b>	<b>9.5</b>	<b>6,341,606</b>	<b>10.2</b>	<b>6,104,278</b>	<b>9.8</b>
Mexico	17,362,051	8.8	17,600,141	8.9	16,545,532	8.4	18,018,047	9.1

\* This figure looks too low

**Figure 5. Proportion of cultivated land dedicated to different crops in Belize, Cuba and Guatemala (data from FAOSTAT, 2005; authors analysis).**



**Figure 6. Proportion of cultivated land dedicated to different crops in Honduras, Mexico and Nicaragua (data from FAOSTAT, 2005; SIAP, 2003; authors analysis).**

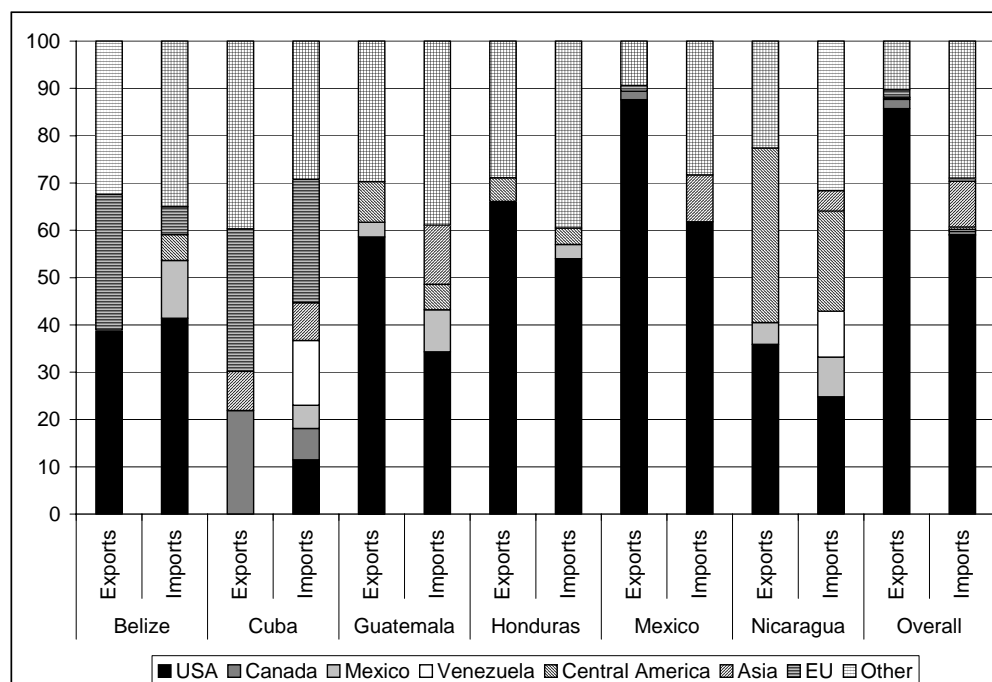


**Table 13. Livestock units in the study countries by species, per person and land area (FAOSTAT, 2005; conversion factors from Pius Chilonda; authors analysis).**

Country	Total LSUs (‘000)	Percentage of LSUs from:						LSUs per	
		Equines	Cattle	Chickens	Goats	Pigs	Sheep	Person	KM2
Belize	68.54	6.4	61.1	23.3	0.0	8.3	0.8	0.3	3.0
Cuba	3,604	5.8	79.8	0.9	1.2	12.3	0.1	0.3	32.5
Guatemala	2,392.61	3.3	75.4	11.3	0.5	8.5	1.1	0.2	22.0
Honduras	2,145.31	5.8	79.5	8.7	0.2	5.8	0.1	0.3	19.1
Yucatan Peninsula	1,179.94	NA	56.4	30.1	0.0	12.7	0.8	0.5	8.6
Nicaragua	2,848.89	5.3	84.7	5.8	0.0	4.1	0.0	0.5	22.0
<b>Sub-total</b>	<b>11,059.50</b>	<b>5.1</b>	<b>79.9</b>	<b>6.1</b>	<b>0.5</b>	<b>8.1</b>	<b>0.3</b>	<b>0.3</b>	<b>22.8</b>
Mexico	38,937.40	13.8	56.2	13.9	2.4	12.1	1.7	0.4	19.7
<b>Total</b>	<b>12,239.44</b>	<b>4.4</b>	<b>76.8</b>	<b>7.0</b>	<b>0.5</b>	<b>11.1</b>	<b>0.3</b>	<b>0.3</b>	<b>19.7</b>



**Figure 7. The main trading partners of the study countries (data from CIA, 2005).**



**Table 14. Import and exports products, trade deficit summary and aid dependency of the study countries (data from CIA, 2005; World Bank, 2005; authors analysis).**

Factor	Belize	Cuba	Guatemala	Honduras	Mexico	Nicaragua
Exports	Sugar, bananas, citrus, clothing, fish products, molasses, wood	Sugar, nickel, tobacco, fish, medical products, citrus, coffee	Coffee, sugar, petroleum, apparel, bananas, fruits and vegetables, cardamom	Coffee, shrimp, bananas, gold, palm fruit, oil, lobster, lumber	Manufactured goods, oil and oil products, silver, fruits, vegetables, coffee, cotton	Coffee, beef, shrimp and lobster, tobacco, sugar, gold, peanuts
Imports	Machinery and transport equipment, manufactured goods; fuels, chemicals, pharmaceuticals; food, beverages, tobacco	Petroleum, food, machinery and equipment, chemicals	Fuels, machinery and transport equipment, construction materials, grain, fertilizers, electricity	Machinery and transport equipment, industrial raw materials, chemical products, fuels, foodstuffs	Metalworking machines, steel mill products, agricultural machinery, electrical equipment, car parts for assembly, repair parts for motor vehicles, aircraft, and aircraft parts	Consumer goods, machinery and equipment, raw materials, petroleum products

Factor	Belize	Cuba	Guatemala	Honduras	Mexico	Nicaragua
Trade deficit	A trade deficit of between a fifth to a quarter of the economy	Trade deficit which is estimated to be around a fifth to a third of the economy	Trade deficit which is estimated to be around a quarter of the economy	Trade deficit which is estimated to be around a third of the economy	Trade deficit that is between 1 to 2% of the economy	Trade deficit which is estimated to be around a third of the economy
International trade in goods and services	Increasing deficit, reducing importance of exports and increasing importance of imports	Deficit, data not available on trends	Increasing deficit, reducing importance of exports and increasing importance of imports	Increasing deficit, slowly increasing importance of exports and rapidly increasing importance of imports	Deficit similar over the 90s but an increasing importance of both exports and imports in the economy	Increasing deficit with an rapidly increasing importance of both exports and imports in the economy
Foreign Direct Investment	2.1% of GDP (US\$17.7 million) in 2000 and 4.0% in 2003 (US\$40 million)	NA	1.2% of GDP (US\$229.9 million) in 2000 and 0.5% in 2003 (US\$115.8 million)	4.7% of GDP (US\$282 million) in 2000 and 2.9% in 2003 (US\$198 million)	2.9% of GDP (US\$16600 million) in 2000 and 1.7% in 2003 (US\$10800 million)	6.8% of GDP (US\$266.9 million) in 2000 and 4.9% in 2003 (US\$201.3 million)
Debt	Heavy (105% of GNI)	NA	Reasonable (24% of GNI)	Medium (53% of GNI)	Reasonable (31% of GNI)	Heavy (109% of GNI)
Aid dependency	Low and lowering (1.1% of GNI)	Not important	Relatively low (1.2% of GNI)	High but reducing (6.8% GNI)	Insignificant	Very high (19.3% of GNI)
GNI per capita	Rising rapidly (US\$3100 in 2000, US\$3740 in 2003 and US\$3940 in 2004)		Rising rapidly (US\$1700 in 2000, US\$1910 in 2003 and US\$2130 in 2004)	Rising rapidly (US\$860 in 2000, US\$960 in 2003 and US\$1030 in 2004)	Rising rapidly (US\$5110 in 2000, US\$6290 in 2003 and US\$6770 in 2004)	Rising slowly (US\$740 in 2000, US\$750 in 2003 and US\$790 in 2004)

## **9 ANNEX 3 - ANALYSIS OF THE AID AGENCIES, NGO AND RESEARCH GROUPS**

There is a great deal of aid activity in the study region with multilateral and bilateral donors, NGOs, international, regional and national research groups. Plus, in some rural sectors there are active private organisations working on research. In addition, aid in Honduras and Nicaragua make up a significant component of the national economy. This implies that there are many projects and much to summarise. To simplify this process key issues for rural poverty and the environment have been identified on the basis of the previous two sections, which are as follows:

1. Rural development with agricultural being a component of this process
2. Crops, livestock, forestry and fisheries with subsistence and food crops being a component.
3. Assets – Physical assets – land and houses, access to inputs and financial services, natural resources
4. Capacities of the poor people – education and health
5. Discrimination – racial, gender and geographic
6. Trade and migration
7. Capacity of government and private organisations.
8. Coordination of government, non-government and private sector
9. Disaster management and safety nets – natural and markets
10. Infrastructure

These issues will be used as column headings in the following three matrices:

1. Multilateral donors
2. Bilateral donors
3. NGOs, research organisations and the private sector

Within each matrix activities were identified for the different organisations and the geographic focus indicated (see Tables ?? to ??).

**Table 15. Multilateral donor activities in the study region.**

Organisation	Country	Rural Development	Crops, livestock & forestry	Assets	People capacity	Discrimination	Trade & migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
WB	Belize			Temash Conservation Project, Northern Belize Biological Corridors							
	Guatemala	Local development project		Land Administration, Credit	Education, maternal and infant nutrition			Government financial management and technical assistance, Guatemala National Competitiveness Program (PRONACOM)	Community management of Bio reserve		Roads
	Honduras	Copan Valley Project		Land Administration, Credit	Education	Nuestra Raices Project		Government financial management and technical assistance, Productivity program		Natural Disaster Program, Nutrition program	Roads, Electricity
	Mexico		Community Forestry	Education, Rural Finance, Rural Credit and Savings	Access to land for young farmers, Health care for poor and indigenous groups	Indigenous People's Project					Water and sanitation. Irrigation
	Nicaragua		Technology Project, Coffee & all spice, Forestry & Agro forestry, Precious Woods	Land Administration, Credit, Various natural resources, conservation and biodiversity projects	Health, Education, PRSC health and education		PRSC CAFTA and regional integration	PRSC accountability and macro-economic stability, Public Sector Technical Assistance, Municipal Development Plan	PRSC - donor coordination	Natural Disaster Vulnerability Reduction	Roads, Electricity, Telecommunications

Organisation	Country	Rural Development	Crops, livestock & forestry	Assets	People capacity	Discrimination	Trade & migration	Government Private Capacity &	Organisational coordination	Disaster management & Safety Nets	Infrastructure
IDB	Belize							Capacity to Negotiate the FTAA, Small business Competitiveness in the Tourism Industry, Strengthening of Public Utilities Commission			
	Guatemala	Production and marketing of export crops	Coffee, non traditional crops, dairy	Credit	Education, health			Institutional support	Small farmer organisations		Roads, electricity, Irrigation
	Honduras	Diversification		Credit	Native people projects, Young person training, Health	Native people projects		Decentralisation, Electronic Government, Fiscal Management, Financial services support including micro credit		Hurricane Beta relief	
	Nicaragua	Rural Production Revitalising Program		Global Facility	Credit for mothers and children			Government animal, plant and forestry health services, Foreign Trade Management	Implementation of PRSP		Roads
IFAD	Belize	Community-Initiated Agriculture and Resource Management Project	Toledo Small Farmers Development Project			Community-Initiated Agriculture and Resource Management Project					
	Guatemala	National Rural Development Programmes: Central, Eastern, Western Regions & Las Verapaces and Quiché Departments									

Organisation	Country	Rural Development	Crops, livestock & forestry	Assets	People capacity	Discrimination	Trade & migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
	Honduras	Local development project						Strengthening local organisations			
	Mexico	National Micro Watershed Project				National Micro Watershed Project					
	Nicaragua	Economic Development of the Dry Region of Nicaragua	Technical Assistance Fund Programme								
WFP	Cuba									Assistance to people in the Granma province, and to areas with natural disasters	
	Guatemala									Disaster relief	
	Honduras	Enabling Poor Households			Health, Education, Training			Enabling Poor Households community organisation		Natural Disaster Mitigation	
	Nicaragua				Pre primary education and nutrition					Assistance to vulnerable mothers and infants, Support to families in areas of flood and drought	
EU	Belize			Land Management Project	Education	Social Investment Fund		Improving animal and plant health services to smallholders	AI-INVEST - meetings of private companies, ALFA coordination between European Universities	Disaster preparedness and relief	Roads
	Cuba									Food Security Programmes	
	Guatemala	Early 90s rural development				Human rights, rule of law		Good governance			
	Honduras										



Organisation	Country	Rural Development	Crops, livestock & forestry	Assets	People capacity	Discrimination	Trade & migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
	Mexico					Human rights, rule of law, social development and reduction of inequalities		Support for small and medium enterprises			
	Nicaragua										
UNDP	Cuba	Biotechnology				Gender issues		Good governance			
	Guatemala	Rural development Zacapa & Chiquimula			Health, education						
	Honduras							Good governance			
	Mexico										
	Nicaragua							Good governance			
CARICOM	Belize				HIV/AID				Caribbean research dissemination		Energy

**Table 16. Bilateral donor activities in the study region.**

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration &	Government Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
BMZ & GTZ	Guatemala	SME development			Education	Human rights		Decentralisation, Municipal development			
	Honduras	Economic reform & Market Development		Forest and natural resource management	Education		Business environment	Decentralisation			
	Mexico			Environmental protection and resource conservation							
	Nicaragua			Forest and natural resource management		Gender		Decentralisation, M&E for PRSP		Education in Hurricane Mitch affected areas	
JICA & MOFA	Guatemala	Top donor site in Spanish									
	Honduras				Reproductive Health and Education	Human rights					Bridges
	Mexico	SME development, tourism	Ag. Management	Natural Resource Management	Health				South-South cooperation		
	Nicaragua				Education						
SIDA	Guatemala										
	Honduras							Public administration support			Water, sanitation, housing
	Nicaragua										
USAID	Belize										Water, school construction
	Cuba							CSO development			
	Guatemala	Rural economic diversification			Health, education		Open economies	Transparent Governance		Food security	
	Honduras			Management of watersheds, forests and protected areas	Education and training	Democracy and rule of law		Decentralisation and support to Municipalities, Policies for pro-poor growth			

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration &	Government Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
	Mexico			Natural Resource Management, Access to finance	Training, Exchanges, Scholarships, Health (TB and AIDS)	Rule of law		Transparent Governance			
	Nicaragua		Coffee production								
DFID	Belize	Regional plan									
	Cuba	Small business development			Health, education						
	Guatemala	Regional plan									
	Honduras	Regional plan									
	Nicaragua	Regional plan, plus bilateral aid									
CIDA	Belize			Managing the environment	HIV/AIDs		Trade & investment, links with Canadian companies			Reducing impact of natural disasters	
	Cuba			Environmental change	Education			Modernisation of State (Tax, Econ. Management, Capacity Building), Strengthening CSOs		Emergency relief to Hurricane Michelle	
	Nicaragua	Watershed management	Sesame production								
Taiwan	Belize	Food processing	Rice and vegetable production				Tourism	Public service management			Roads, Housing
	Guatemala	Production and marketing for export	Bamboo, Tilapia		Education					Relief for Hurricane Mitch	
DGIS	Guatemala			Environmental management		Human rights		Good governance			

**Table 17. NGOs, research organisations and the private sector.**

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade & migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
IFPRI	Guatemala	Targeted interventions for poverty reduction						Impact and opportunities of CAFTA  Policy Options for Poverty Reduction			
	Honduras	Sustainable Development, Targeted interventions for poverty reduction								Family Allowance Programme (PRAF)	
	Mexico	Post harvest and agro-industry for the rural poor								Early warning systems for El Niño	
	Nicaragua	Targeted interventions for poverty reduction		Rural Finance for Food Security of the Poor			Impact and opportunities of CAFTA				
	Cuba				Control of Dengue			E-commerce for eco-tourism			
	Guatemala			Decentralised forestry management	Chagas control				Social System Analysis  Diversified Livelihoods through effective Agroenterprise Interventions, Strengthening Latin America and Caribbean Research Networks in ICT for Social Development		
	Honduras	Participatory Research for the Promotion of Ecological Agriculture			Chagas control						
	Mexico	Adaptive Management of Seed Systems and Gene Flow (maize, cassava, lima bean and chilli pepper)			Chagas control	Training of women citizen participation		Equity, Financing and Decentralization in Mexico			
	Nicaragua										

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
Ford Foundation	Honduras			Protection of water resources		Ethnic community organisation, training and education					
	Mexico				Education	Youth gangs	Migration processes				
	Nicaragua			Natural Resource Management, Credit provision	Education	Women's rights		Local government budget processes	Regional research interchanges		
ACDI/VOCA	Belize										
	Cuba										
	Guatemala										
	Honduras	Small scale business	Coffee Vegetables								
	Nicaragua										
CARE International	Belize										
	Cuba		Dairy and smallholder livestock, Forest farms	Forest farms							
	Guatemala										
	Honduras										
	Nicaragua			Natural Resource Management	Health (particularly mother and child), Education						Water, Sanitation
CARDI	Belize	Information Management for agricultural and rural development through the ACP-EU Technical Centre for Agricultural and Rural Cooperation (CTA)	Technical services in integrated pest management technology, organic and crop production systems, sheep and goat production systems					Agribusiness and Marketing technical assistance	Regional Research Coordination through the establishment of commodity and thematic networks under the Caribbean Agricultural Science and Technology Information		

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
									Networking System (PROCICARIBE)		
CATIE	Belize			Bank of forest seeds	MSc and PhD programmes in agricultural development, agroforestry, natural resources and environment,			Assessments in GIS, biotechnology, water, animal nutrition, phytoprotection, roots studies, human resources, communication	Links with more than 200 public and private institutions and universities among the member countries		
	Guatemala										
	Honduras										
	Nicaragua										
OIRSA	Belize							Animal and plant health and food safety services and support			
	Guatemala										
	Honduras										
	Nicaragua										
FONTAGRO	Nicaragua		Participatory in priority setting for funding of strategic agricultural research projects								
MUSALAC	Cuba	Enhance productivity and competitiveness of the banana value chain through scientific and technology development							Interrelationship of different actors of the chain from the different countries		
	Honduras										
	Mexico										
REDCAPA	Mexico										
	Honduras	Research and teaching in rural development and public policies in environment and agroecology, Food and agroecology, Gender and Ethnicity, zoology, Fishery and Forestry						Institutional development	Promotion and coordination between the different universities and research institutions		
REDCAHOR	Guatemala		Horticultural research to						Coordination between the		
	Honduras										



Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
	Nicaragua		obtain a locally, nationally and internationally competitive product						countries		
PROFRIJOL	Cuba		Research and technology transfer bean production systems						Coordination with the producers and social actors of the chain between the countries		
	Guatemala										
	Honduras										
	Nicaragua										
	Mexico										
PRECODEPA	Cuba		Research in sustainable potato production technologies						Coordination in the appropriate use of technology in member countries		
	Guatemala										
	Honduras										
	Nicaragua										
	Mexico										
RELACO	Cuba		Scientific research to develop conservational and production technologies						Coordination between scientists and FAO		
	Nicaragua										
	Mexico										
REMERFI	Guatemala		Strengthening of national phytogenetic resources systems								
	Honduras										
	Nicaragua										
	Mexico										
OIKOS	Honduras									Emergency aid, prevention of natural disasters	
	Nicaragua										
	Cuba	Strengthening of small agricultural cooperatives									
Campesino a Campesino	Guatemala									Exchange of experiences about	
	Honduras										
	Nicaragua										

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration	& Government Private Capacity	& Organisational coordination	Disaster management & Safety Nets	Infrastructure
	Mexico									diversification and production of food between farmers of the countries members	
CLAYUCA	Nicaragua		Improve production systems, post harvest management, animal nutrition, extension						Coordination of universities, NGOs and producers		
	Cuba										
	Mexico										
CAPGERnet	Belize		Genetic resources (sugarcane, citrus, bananas, cereals, grain legumes)						Information systems		
	Cuba		Genetic resources (fruits, vegetables, rice)								
RLAB	Mexico				MSc and PhD courses in crop science						
REDCA	Belize				Improve research quality and higher education, training and extension						
	Mexico										
	Guatemala										
	Honduras										
	Nicaragua										
LACPA	Guatemala								Crop protection		
	Honduras										
	Nicaragua										
	Mexico										
Cam BioTec	Latin America								Support between Canada and Latin		

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
									America in biotechnology filed		
SIHCA	Cuba				Researcher skills				Coordinate training programmes		
	Honduras										
	Nicaragua										
AGROSALUD	Latin America and The Caribbean							Facilitate the communication, exchange and coordination of activities to promote the commercialisation of agricultural products regarding the WTO requirements			
AGUILA	Latin America and The Caribbean		Aquiculture, small animal production					Policy making, prioritisation of research in the region			Waste water
ALOP	Latin America and The Caribbean								Integration of regional NGOs and support in project bids		
FLAR	Latin America and the Caribbean		Rice production of HYV and low environmental varieties						Research coordination between the countries members		
FORAGRO	Latin America								Coordination among National Agricultural Research Institutes, International Research Centres and the regional and sub regional aid programmes		
IICA	Latin	Promote						Promote	Coordination		

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade migration &	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
	America and The Caribbean	technological innovations						agribusiness, food safety, animal and plant health, extension and education, institutional reforms	among private and public institutions		
INFOTEC	Latin America and The Caribbean							Support institutional reforms	Promote links between research institution working in innovation technologies		
PRM	Central America and the Caribbean countries		Release maize varieties adapted to local environments						Coordination with the member countries and CIMMYT		
PRODAR	Latin America and The Caribbean	Promote and strengthening rural agro industry							Promote the coordination between CIRAD, CIAT, FAO		
REDBIO	Latin America and the Caribbean countries		Crop biotechnology for production, storage and phytogenetic resources						Coordination with the different actors, FAO and associated laboratories of USA, France, Spain, Italy, Holland, UK and Japan		
REDECO	Latin America and The Caribbean	Sustainable agricultural and environmental conservation									
REPIDISCA	Latin America and The Caribbean								Exchange information on toxic residues, water supply, waste water, air pollution		
RIFALC	Latin							Compile			

Organisation	Country	Rural Development	Crops and livestock	Assets	People capacity	Discrimination	Trade & migration	Government & Private Capacity	Organisational coordination	Disaster management & Safety Nets	Infrastructure
	America and The Caribbean							publications, statistics, documents, reports			
RIMISP	Latin America countries	Rural innovations			Strengthen research capacities				Coordination with universities, research institutes, public and private institutions, NGOs		
Simbiosis	Latin America and The Caribbean								Information system about specialization biotechnology and food technology		