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## **Agriculture in Development: Food Security in an Era of Increased Demand**

### **Introduction**

The population division in South America Tropics indicates that with a population of 121 million citizens, 77 million make up the rural population. (7) “Up to 1996, Colombia enjoyed high, sustained, and stable growth. Since then, Colombia has undergone its most severe economic crisis since the 1930s.” (Colombia Poverty Report) Those living below poverty line are reflected in an estimate of 64% of rural citizens. These citizens exist on less than \$7, 303 USD yearly. Statistics indicate that in the last two decades there has been an increase in poverty stricken rural population”. (7) Of the 64% rural population, 47% are living in extreme poverty. (7) Extreme poverty is indicated by less than \$2,000 USD yearly income. (7) ”Using the “one dollar a day” poverty line, the poverty count is 13 percent.” (3) The rural poor population is almost three times larger than the urban citizens.

### **Geographic Information**

Colombia is the only South American country that shares borders with both the Pacific Ocean and the Caribbean Sea. The Pacific coast is home to ”more than 70 percent of its mangroves, which form well-structured, forests. The mangrove forests provide subsistence, coastal ecosystems and fishing area protection. “The mangrove thickets provide wood products, wood fuel, charcoal and the extraction of tannin from the bark’s bark to use in the leather industry. Mangroves also contribute substantially to supplying national industries of paper, chipboard, charcoal, shrimp and fishing.” (15) Columbia’s rural communities historically relied on these thickets to provide non-wood forest products such as crabs, crustaceans and mollusks. They also reduce erosion of the land along the coastal area. The lower rainfall and smaller tidal fluctuations of the Caribbean coast limit forest development, and only small, narrow fringes of mangroves are found (sometimes in the form of dwarf trees.” (5) The Caribbean area of Colombia grows cassava, a starchy staple of the poor. The country has three physical regions: lowlands, mountain ranges and llanos (grassy plains). 75% of the population lives in the fertile valleys between the cordilleras (parallel mountain ranges of the Andes). The country is famous for the coffee raised on more than 300,000 small farms.

In the South American Tropical area, Latin American farms consist of the father, mother, and children of all ages working together. When a couple marries they receive a small plot of land to farm. This may be as a tenant farmer (campesinos) or they may be given ownership by a wealthy land owner. As each child is born the work force is increased. It is not unusual to have a family of fourteen or more with a national average of six in a family. This increase in population appears necessary for the increased demand for production and survival.

The farms may consist of 25.9 acres of land. (2) The parents may have reached only the 5th grade. Many programs are increasing the education of the poor. The literacy rate of rural Columbia’s population is 67%. The non-rural population literacy rate is 92.8%. Many of these families are headed by women alone to lead the family. (2)

### **Current Status of Rural Farmers**

These rural Colombian families may eat maize, cassava, sweet potatoes, plantains, and rice. However, the fact that they raise the crops does not mean they are well nourished. Most often they cannot raise enough to feed themselves because the focus is on financial productivity of the crop for the land owner. These farmers work as hard as they are able to without adequate nutrition and without any improvement possible. (4) These struggles with social inequality result in the poorest 20% of the

population receiving 3% of all income while 20% of the wealthiest receive 75% of the income. (4) As indicated, marketing of the crop is most often handled by the land owner. Labor laws are limited and are rarely enforced. The class system has the population divided into three divisions; the wealthiest, the middle class and the poorest. In the lower class there are few opportunities for social equality. There are some social programs, health, social security and pension, in Colombia, however, only 16% of the population is covered and the poorest are excluded. (4)

The indigenous farmers gather natural crops of the tropics. Such crops as the maize, cassava, rice, plantains, bananas, and tobacco are gathered. These farmers are in extreme states of malnutrition and live day to day in existence. However, they are not tied to a boss or land manager and sell their products in native markets and to brokers. (13), (8) The United Nations FAO Committee released a report at the committee meeting on World Food Security, June 18, 2007, where they stated that one of the factors in the food crisis is “large scale public health challenges.” (15) The FAO is focusing on “rural development, reduce malnutrition and eradicate poverty on a sustainable basis.” (15) As described in their papers, “no country has ever become a sustainable democracy delivering stability and prosperity to its people without transforming the agricultural sector and developing its commodity and food markets.” (15) In order to truly attack the hunger and malnutrition of the rural farmers in South America and the rest of the world we all must have a deep commitment to the solution. This is why the FAO committee’s objectives are to work with the developing countries on poverty reduction through supplying an “infrastructure and technology and building effective markets.” (15) Secondly, aiding these developing countries as they enter “the global challenges facing agriculture” is imperative. (15)

The other factors in Colombia’s poverty are the civil war and the economic benefit of raising coca. Colombia’s location on the Caribbean and the Pacific Ocean and the Isthmus of Panama, make it a perfect place to run drugs. (10) The government has offered a “subsidy to farmers who switch to legal crops such as maize and yucca, but illegal crops remain by far the most lucrative of all the agricultural products in Colombia.” (10) The majority of the illegal drugs are grown on huge farms that are owned by land bosses who do not provide social services to these farmers or pay for the coca based on what they will earn on the market for the product. This leaves the rural farmer poor and indebted to the ‘boss’.

The stage has been set with the understanding of the horrible plight of the rural farmer in South America Tropics and the country of Colombia. Now it is time for a solution to be offered to work to help reduce the poverty and extreme living conditions. Knowledge of the condition does no one any good if a step towards eliminating this is not taken.

### **Purposed Solution**

I advocate the reinvention of the agricultural extension program in Columbia. To be successful it must be based on the integrity, honesty, humility and brilliance and the communities will prosper as will the entire world.

Colombia has decentralized the agriculture extension system. “According to the government, small farmers are defined as those with less than two Family Agricultural Units. The definition of this unit is based on the requirement of extra-family labor and on the share of family income from agricultural activities, which should provide at least 70 percent of total family income.” (17) The main difference is that the responsibility for the extension service has moved from the national government to the local government. This service is called the UMATA; Unidad Municipal de Asistencia Técnica Agropecuaria. (17) “In terms of financial support, the UMATAs are funded by the municipal government, which receives budgetary transfers from the central government and also has access to matching-grants from the national co-financing system.” (17) The UMATA’s are in 1,040 out of 1,050 municipalities and “providing free extension services to some 450,000 small farmers out of an estimated total of 1,600,000.” (17)

One such program is the PID model for extension in which “intuitive knowledge of villagers and the formal knowledge of scientists (researchers or other subject matter specialists) are combined to experiment on innovations.” (12) This is based on the respectful interaction between rural farmers, researchers and extension personnel who have “broad understanding of the local conditions, practices and knowledge.” (12) The knowledge of “villagers about their own complex situation is combined with external knowledge, which includes scientific knowledge, as well as the knowledge of farmers from other areas and extension employees. (12) In valuing the knowledge of the farmer, a respect is established which aids in participation in the agricultural projects.

Another example of a PID is the “Farmer Field Schools (12) which are an extension approach based on experiential learning and understanding of agro-ecological principles.” (12) A Farmer Field School lasts for a whole crop cycle. Personal pride becomes an incentive in this program. It is through implementation of a PID or Farmer Field Schools that “poverty also implies the possibility to engage in a creative struggle to construct life along alternative ways that require a great deal of ingenuity and cleverness to overcome adversity. “ (11)

The question then is will these revamped extension programs directly benefit the population in poverty? There are many different points on this issue of which I will offer four. Through the economic benefits of improved agriculture and governmental control of illegal drugs the rural population will improve their status. Second, increased education of the father and/or mother will be reflected in their ability to provide. Third, this increase in education will also include the children. Technology advancement companies are currently providing lap top computers to the children of Colombia to introduce change in their approach to living. Fourth, improved practices should promote an increase in agricultural production and environmental sustainability.

An example of increased agricultural production and environmental sustainability is the eco-friendly processes that the Earth University of Costa Rica has developed in their sustainable banana plantation. “The university's innovative, hands-on curriculum focuses on creative, economically viable uses for the natural resources of the humid tropics. Students are recruited from towns and villages in 19 countries across Latin America. Each university student is required to develop and run his or her own private enterprise in order to graduate.” (1) Several United States Agricultural Universities and extension personnel have been participants in this sustainability project. If the knowledge can be shared, transferred, expanded and utilized in the food crops of Colombia through the extension services rural farmers' lives would greatly benefit financially.

## **Conclusion**

In summary, improvement in the status of the rural farmer in Colombia, South America, will take dedication to the solution:

- Conclusion of civil war in the country; drastic reduction in production of coca for illegal drugs; financial stability in the country.
- Social inequality must be addressed and resolution instituted; improvement in health care and nutritional access
- Increased and improved educational opportunities for rural population
- Transformation of the agricultural sector and developing its commodity and food markets
- Extension program based on the integrity, honesty, humility and inclusion of the poor themselves
- Funding for Farmer-to-Farmer programs must be a unification of financial support from Colombian government, World Bank, United Nations, Food and Agriculture Organization, non-profit humanitarian organizations and faith-based organizations

- Utilization of eco-friendly environmental programs such as the Earth University's Sustainable Banana plantation

Colombia has many problems that need to be addressed. I believe that with the above solution points a change can occur in Colombia. The rural poor population that is three times larger than the urban citizens will be drastically reduced. The population's income will rise without continued destruction of the environment. Agricultural revitalization will occur once humanitarians and scientist in coordination with international governments dedicate their efforts to the poor.

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