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Economic Programs to Combat Poverty in the South American Tropical Region

Despite the giant strides that the world has made towards increasing food production, hunger is still an everyday occurrence to millions of people around the world. As the situation stands now the problem will only grow worse. Only with our help can world hunger be eradicated. To do this each area of the world must be addressed separately due to the fact that each region has different issues that cause their high level of poverty. The South American Tropical region (SATR) is one of these regions that must be helped. The SATR is a geographical region fraught with poverty and hunger. SAT countries often have a population of fifty percent or more of poor families. However the SATR is also an area of extreme wealth. Some of the strongest economies in South America are in the SATR. This seeming contradiction of poverty amongst wealth is caused by one of the highest rates of income inequality in the world. This inequality is most prevalent in the rural areas of the SATR where poverty is the norm. Brazil, the worst offender in the SATR, is an important industrial power yet fifty percent of its population lives below the poverty line. Brazil is second in the world for income inequality. (Brazil 1) This inequality is also evident in Bolivia, where there is enough food in the country to feed the entire population, but inequality leaves the poor with nothing to eat. Sixty-three percent of Bolivians do not cover their daily minimum caloric intake requirements. (Bolivia 1) The inequality in Peru is exemplified in their life expectancy. People born in Peru's cities can expect to live 20 years longer than those born in the rural areas. (Peru 1) This economic inequality is caused by many factors. The biggest of these factors are a failure to use their water properly and a lack of access to education and markets. These issues are all covered under the title of economic programs. The first step needed is to teach them how to properly use water through irrigation in a way that will increase yield but not harm the environment. The next step is to educate them on advanced farming techniques and basic education on living a healthier lifestyle. The final step is providing them with access to both local and global markets. However before these factors can be understood in any detail the average poor rural SAT family must first be defined.

Rural families have many things in common no matter where they live in the SATR. The first common attribute is that the families are often large. This is usually due to the belief that a lot of children will help them climb out of poverty or not understanding family planning. The high level of child birth often strains the already limited food resources of the family and ends with the children going to work at a very young age. They also have little to no access to health care, education, farming technologies and markets to sell their crops. Their diet, what they manage to produce, is often less than what they need to lead an active life. Another common factor among the SATR poor is that they are often ethnic minorities or female headed. The above factors create a family that on average survives on sixty-three dollars a month. They live on either very small plots of land where they produce basic subsistence crops or are landless and subsist on the little income they can make from working for the large wealthy land owners. The crops that they produce vary greatly. On the subsistence level farmers often produce potatoes and beans. While for cash crops they grow cocoa, coffee, fruit, and tobacco. (Venezuela 1) However the poor very rarely have the resources to produce those crops and they often end up working for the wealthy farmers that grow those crops. The practices that the subsistence farmers use to produce these crops would be considered medieval by our standards. They use the most basic of practices simply because they do not know how to do it any other way. They do not even use irrigation in most of the fields. In countries like Venezuela only one tenth of the land is irrigated and this is all owned by the wealthy. (1) Even if the poor are able to produce enough crops with these basic practices they have very few ways to sell the crops. Market access for the rural poor is limited or non-existent.

Lack of water is a major cause of poverty and hunger throughout the world. This is especially true in the SATR where there is only sixteen million hectares of land irrigated and this land is almost exclusively controlled by the wealthy. (Water 2) The subsistence farmers are forced to depend on highly variable rainfalls to water their crops. To offset this problem farmers often use crops that are low yielding but drought resistant. This means one of two things for them. Either they do not produce enough and go hungry or they find more land. Finding more land often becomes a major environmental issue in that these farmers are finding land is by tearing down the precious forests that surround them. However there is a solution. With irrigation these farmers would no longer be rain dependent and could use high yielding crops that are expected to could increase their yields by one hundred to four hundred percent. Subsequently farmers would no longer need more land to survive and could subsist on the land that they have without encroaching on the forests. While large scale irrigation practices are beyond the capacities of these farmers. There are many small-scale methods that can still produce a dramatic increase in their yields. The easiest methods for the farmers to use would be water harvesting, low-lift pumps, and treadle pumps. (Water 4) Water harvesting is a method of collecting rain on one part of their land and storing it to use during times of drought. Studies in Africa have shown that this method can triple farmer's yields. (4) The next type, low-lift pumps, is more expensive due to the need for fuel and would be more useful as a communal type of irrigation for a whole village or as an upgrade for the farmers once they have bettered their economic status using the other methods. The final type is treadle pumps. These pumps are very inexpensive and are operated by simply walking. These have been tested in Asia and proved to be simple and very effective in semi-arid regions such as those in the North-East region of Brazil where the single largest concentration of rural poor in Latin America live. (Brazil 1) All three of these irrigation systems are simple and within the reach of many subsistence farmers. All they need is the education on how to implement these techniques and access to the tools.

There are some dangers with irrigation if it is not done properly. When irrigation is not managed properly it can lead to water shortages, the spread of waterborne diseases, and land degradation. Latin America is for the most part not irrigated so these issues have not been a major problem yet. These are an issue for the rest of the world and will probably manifest themselves in Latin America if steps are not taken to prevent them. Water shortages are often the product of over pumping, such as in India, where the water table has lowered by twenty-five to thirty meters in only a decade. (Water 3) Using proper irrigation techniques can help prevent this. Often only forty percent of the water withdrawn for irrigation ever reaches the crops. This water is lost because of poor irrigation techniques that lead to canal leakage, evaporation, infiltration, and spillage. (3) Poor drainage is a major issue as well because it leads to land degradation. This is most often in the form of water logging and land salinization which can devastate the subsistence farmer. Nearly fifty percent of the worlds irrigated fields are affected by land degradation. (3) Luckily these have yet to become major issue in the SATR because of how little land is irrigated, but to protect the farmers they must be educated on proper techniques and the importance of the water table and not overusing their resources.

Educating the populace is a major step. The first area that needs to be educated is the farmers on proper farming techniques. At the moment, extension workers are used to teach these poor farmers these techniques. However this program fails to meet the demand of the farmers. There are only thirty-four extension workers for every one hundred thousand farmers in Latin America. (Knowledge 2) Because of this shortage they can only help those farmers that they feel will provide the biggest impact on the economy. This means that the subsistence farmers are often left behind. This has left these farmers using the most basic of techniques that often lead to soil degradation and water pollution. Even worse then their access to the male heads of the subsistence families is the access to females and young farmers. Only seven percent of extension work is devoted to young farmers and only six percent is devoted to women. (1) The extension system is not a lost cause though. If it were only able to increase its outreach to women, it is projected that farm yields would rise by between seven and twenty-two percent. (Gender 1) Not only would this increase their yields but it would also help the environment because many of the

jobs that have a large affect on the environment are done by women. However at the moment reaching more people is highly unlikely due to a major lack of funding for the extension system. Most developing countries only devote one half of a percent of their agriculture domestic product, while it is recommended that they invest one to two percent of their agriculture domestic product. (Knowledge 1) This leaves two options, either these countries start devoting more of their money to help their poor or new ways must be created to reach the poor. Some other ways they could be reached include radio broadcasts and delivery of informational pamphlets about farming techniques.

Proper farming techniques are only the tip of the iceberg for the goal of educating the people. Another important step would be to create a literate population. Illiteracy makes it nearly impossible for the poor to better their situation. This is especially true of the indigenous people and women, such as in Ecuador where the illiteracy rate is thirty-six percent for indigenous women. (Ecuador 1) Without the ability to read it is near impossible for them to obtain credit, manage their finances, or hold any job higher than the most basic of manual labor. They also have no chance of learning anything through books. This means the only way they will ever learn any farming techniques is through what people tell them and as has already been pointed out the extension system, which as outlined earlier is deeply flawed. In Latin America there are about forty-two million illiterate adults. (Education 2) This is a major issue to educating the poor because nearly all of those illiterates are the subsistence farmers that most desperately need the education that is being offered. If these people could be taught to read the results would be immeasurable. Instead of paying millions of dollars to have an extension worker teach every one of them the farming techniques all that would need to be done is to have one worker go into a village with pamphlets and pass them out. The worker could then give a demonstration of the techniques to the whole village at once then let them read over the pamphlet and figure it out for themselves. This could also be extended to non-farming related things such as health care, proper sanitation, and financial planning. Not only would the farmer be able to increase his yields from the new farming techniques but he would also be open to a whole new range of jobs that would elevate him from a purely physical laborer. The final advantage that would be obtained from learning to read is that it would open the farmer to the world that he lives in. No longer would he live in ignorance of the events around him. The first step to ending that is an informed public, and for the public to be informed they must first learn to read about the world that surrounds them.

Latin America is home to some of the worst schooling systems in the world. Latin American students consistently score at the bottom of international tests. (Latin 1) Many of the children are not even students; whether because they lack access to schools or because they are forced to work to supplement the families' income being a student in Latin American can be very difficult. This is why the next step in defeating poverty in the SATR is providing the poor with quality education, specifically their primary schooling system. Only ten percent of Latin American students graduate from the sixth grade without repeating a grade. (1) Having to repeat a grade can be devastating to a family that needs their child in the work force as soon as possible. Statistically Latin American children enter the workforce at a younger age than almost any other children in the world. In Brazil nearly forty percent of children between the ages of ten and fourteen work to supplement their families incomes. (Brazil 1) Education is the key to social equality and this is something that needs to be taught to the parents first and then the children. Once the children are given the desire to go to school then there must be quality schools for them to attend. This is where the governments enter the picture. It is the government's job to provide the schools and for them to be willing to put the money towards creating the schools they must be taught the importance of an educated population and the benefits that this will bring to their country. Besides a lack of schools there is also the problem that the teachers have often not even finished secondary school and are material deprived and unsupported in the classroom. Once provided with the right teachers the rural schools need to gear their classes to a more rural based education. Since their time in school will most often be extremely short, they need to learn things from the onset that are focused on helping them as a farmer or a worker. This should include basic accounting and personal finance, literacy and numeracy

skills, and information on productive and environmentally safe farming techniques. If this were to happen and an entire generation of children were given an education it could completely change the economic landscape of the country. Statistics show that when farmers are given four years of primary education they had an increase in productivity of eight and seven tenths percent, but even more importantly and educated populace tends to make decisions that are more future oriented. These decisions are important because they decide the fate of their country and the fate of our environment.

The final area of education is educating the poor to live a healthier lifestyle. The two main areas for this are nutrition and family planning. Nutrition is a major issue and it is key that people be taught to consume foods that will meet their nutritional requirements. Without an understanding of nutrition a person could buy more than enough food and not receive their daily requirements for all the nutrients, simply because they ate the wrong things. An example of the need for nutrition education is Ecuador where twenty-three percent of children under five years of age have stunted growth due to not receiving the required amount of nutrients. (Ecuador 1) If they knew the right foods to eat then they could also buy a lower quantity of food that is nutritionally higher and still receive the same amount of nutrients. This would lower the burden of the cost of food and would be a great help to the poor. Especially in places like Columbia where on average the poor spend fifty-eight percent of their monthly income on food. (Columbia 1)

Family Planning is another essential part of living a healthy lifestyle that the poor need to learn about. This is key because the high population growth puts stress on an already tight amount of resources. The high numbers of children in the families mean that the parents have to provide food for more people. This is very hard to do at the low income that they have and often means that the children have to enter the workforce at a young age to supplement their families incomes to feed their siblings. Smaller families would mean that they would be able to provide much better care for the few children that they have and it would mean that they would have a higher quality of life for themselves because they would have a lot more time to devote to bettering their life rather than caring for a lot of children. Education has shown to have a major affect on family size in that educated women tend to marry older and give birth to fewer children. (Education 4) Between these two areas a healthier lifestyle is a very important part of the education process and along with better farming practices, literacy, and better primary education is what needs to be taught to the populace to bring them out of poverty. While merely receiving this education will dramatically improve their lives there is much more to be done. They must also be given the tools to take their new yields to somewhere that they can sell them and buy things to improve their lives. That is why increasing their access to both local and global markets is the next step in the three steps to end SATR hunger.

Taking their agricultural produce to markets is a major issues for the farmers in the SATR. Local Market access is the first area of market access that needs to be fixed. Lack of access to markets is a major contributor to poverty in Venezuela, Brazil, and Peru. In these countries many of the farmers are producing useful products but lack the ability to transport them to a market where they can make a profit. One difficulty in providing access to local markets is organizing them in the remote parts where these poor people live. Once again the governments help is needed. If the governments could be convinced of the positives of having a strong market infrastructure within their country then they could help with the organization of local markets and transportation of the farmers goods throughout markets in their country. An incentive for the government's could be a tax system within the markets that would be fair towards the poor and would not outweigh the increase they receive from bringing their produce to market. These markets would provide the subsistence farmers with a way to supplement their income by selling their leftover crops. It would also be important to people in areas that do not produce enough of a variety of crops to cover their nutritional requirements such as the poor in the Andean highlands of Peru where they subsist on beans and potatoes which do not have many of the necessary nutrients to live an active life. (Peru 1) If a market system could be set up to bring produce from other parts of the country to their area

they could trade their beans for fruits and other produce to fulfill their nutritional requirements..

Global markets are another major issue and key to not only the subsistence of the poor but also the strengthening of the SATR economy as a whole. Lack of access to the world market has created stagnation within the countries markets and has devastating effects on the subsistence farmers when there is no need for their produce locally. The reason that goods are so difficult to get to the global market is that for the most part the small subsistence farmers neither have the resources nor a high enough volume of goods to reach the global market. However with the development of local markets the flow of produce within the country would be made much easier. Once produce is brought out of the more remote areas of the country. They could be collected in areas where transportation is easier. Business links must then be established between foreign buyers and SAT sellers. Free Trade agreements between countries is key to this step and this is another area that the governments support is key. At the moment USAID is working on the Free Trade Area of the Americas, which lowers trade barriers in the Americas and allow for easier trade between the United States and South American countries. While negotiations are suspended at the moment, USAID is currently assisting Brazil, Paraguay, Guyana, Ecuador, Peru, and Bolivia. (Economic 1) This has helped many of the local farmers find a market for their produce. Such as the farmers they helped find a need for plantains in the U.S. These farmers now provide plantains to USAID who then ship them weekly to the U.S. This project has created an estimated five hundred new local jobs. (1)

If education, irrigation, and markets are all provided in conjunction the problem of hunger in the SATR would be greatly reduced. These may seem like a broad range of issues and it may seem like too big of problem to handle, but there is something very specific that could be done that would bring all of these factors into one easily controlled practice. I believe that it would be advantageous for the governments along with the help of private organizations to set up communal farms for the poor with little to no land. This would organize the poor into groups that would be much easier to watch over and help in all three of the economic programs that have been outlined in this paper. Land could be obtained by collecting the small land owners together to create a large farm and supplementing their land with more land that could be bought through donations from private organizations. There would be many advantages to having a larger farm even if it meant more families on it. With more families on one plot there would be more capital towards using better methods of irrigation on the land. With more land the farmers would be able to grow a wider variety of crops. This would help both their nutrition for themselves as well as provide for better economic stability. Economically the wider variety would be useful because if the prices on one type of crop crashed the farmers would still have their other crops to sell. Having a communal farm would also provide more adults to work the land. Having more adults to do this would help the families in two ways. First the children would have a higher chance of being able to stay in school due to less of a need for their work. Second the families would no longer have the need for lots of children to work the land which would slow the population growth. Communal farms would make the education of the farmers easier as well. Each person on the farm could be assigned a certain job and then be trained in that specific area instead of having to teach each family all the aspects of farming and business. The farmers would also have more resources to put towards transporting their food to the markets. This would open up a larger market for their produce and help in achieving the best price for what they are selling. This idea of communal farms has already been attempted in a small scale. USAID has organized dairy farmers into cooperatives and established milk collection centers. A study of these cooperatives has shown that the farmers that participated increased their incomes by an average of three hundred and forty six percent. (Economic 1) If this were put into effect on a much larger scale the results would be immeasurable. These communal farms would help to resolve all three of the major contributors to SAT poverty, lack of irrigation, lack of education, and lack of access to markets.

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