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Mexico, Factor 6: Sustainable Agriculture

Poverty is by far the main cause of hunger in the world. Large income differences between groups, poor transportation infrastructure in developing countries, as well as growing populations, conflict, corruption, political instability, and private interests are all factors that lead to poverty. There is enough food production in the world to feed everyone; the World Food Program says that per capita food production has grown from 2220 kcal/person/day in the 1960s to 2790 kcal/person/day in 2006-08. This increase in food availability has helped reduce world hunger in developing countries from 24 percent in the '70s to only 15 percent three decades later. Despite all of this, the United Nations Food and Agriculture Organization estimates that one in nine people (805 million people) are still suffering from chronic undernourishment in 2012-14 (Wfb, web).

In many developing and poor countries, access to resources and high income typically ends up in the hands of a minority that controls military, political, and economic power while the majority of the local population barely survive (2015 World Hunger, web). Giving aid to these countries will often not reach those that need it the most due to internal corruption.

Another growing problem is that many developing countries have promoted commercial agriculture of cash crops for export instead of subsistence agriculture; the income received from exports is then used to import food. These policies do not focus on increasing local food production to feed the country's entire population and instead create food insecurity and dependency on foreign markets, mainly developed nations that have the technology to produce cheap food (Poverty, web).

Using policies that promote sustainable rural development are better solutions to food insecurity and poverty problems. Sustainable rural development is often done by promoting organic agriculture and access to fair trade; organic farming techniques prevent erosion, soil depletion and reduce pesticide/herbicide use (Sustainable Agriculture, web). Sustainable agriculture is growing food using farming techniques that protect the environment, support public health, takes into account the needs of local human communities, and protects wildlife. In this context, the definition of sustainable rural development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Wikipedia, web).

Southern Mexico

Globalization is changing Mexico's economic policies, ending government subsidies for grain production, especially corn and mostly affecting a large percentage of small-scale farmers living in isolated communities, mainly in the southern regions of the country. Southern Mexico has the highest rate of poverty in the nation; it also has one of the largest and most diverse indigenous Mayan populations. The United Nations Human Development program reported in 2010 that 38 percent of Mexico's indigenous population lives in poverty, with 3.3 million indigenous people unable to satisfy their basic nutritional needs.

Even though the state of Chiapas is one of the poorest in Mexico, it is very rich in natural resources with 12 percent of Mexico's natural gas production, 13 percent of corn and 46 percent of the nation's coffee production. Chiapas is also Mexico's leading beef producer and generates nearly half of the country's hydroelectric power. Despite Chiapas' wealth in natural resources, only 1 in 3 houses is hooked up to the electrical grid and fewer than half of the state's population

eat meat, 16.5 percent of the population older than 15 years old have never attended school, 37 percent of the population older than 15 did not finish primary school. The region has the country's highest illiteracy rate, 39 percent. The indigenous region of Chiapas has one of the lowest life expectancy and highest infant mortality rates. There is approximately one doctor for every 1000 people, a figure that is 20 percent less than the national average, mostly because access to medical facilities is difficult due to distance and poor roads. These statistics show the chronic poverty that Chiapas is facing.

Last year my family and I traveled to Chiapas on vacation and I was able to visit a few organic coffee cooperatives created by indigenous Maya farmers that live in remote regions. They primarily depend on subsistence agriculture, define as farming that focuses on growing enough food to feed themselves and their families, they produce a range of crops and animals to feed and clothe themselves within a year (Wikipedia, web). These farmers use the traditional slash and burn method of agriculture which involves cutting all of the trees and plants, burning the remains to create fields where they grow a mix crop cultivation of corn, beans, and/or squash, this is locally known as "milpa" (the basis of their diet), often complemented by a few small farm animals such as chickens (Agriculture, web). These farmers have also adapted coffee plants and other fruits trees to their traditional milpas in order to complement their income. Coffee production allows farmers to get much needed cash. The cooperatives that I visited are: ISMAM, Otilio Montero, Cafe Selva. Farmers in these coops use organic farming techniques to produce high quality coffee, which they sell directly to fair trade markets at a higher price.

Fair trade and sustainable agriculture

Fair trade is a social movement with the goal of helping small-scale farmers in developing countries get better trading conditions and direct access to buyers. Members of this movement support the idea of paying higher prices in order to improve living conditions among poor farmers while protecting the environment. The United Nations sustainable development program believes that "a healthy and dynamic agricultural sector is an important foundation of rural development, generating strong linkages to other economic sectors. Rural livelihoods are improved through the effective participation of people in rural communities in the management of their own social, economic and environmental objectives by empowering them to run local organizations such as cooperatives and by applying the bottom-up approach" (Decisions, web). Fair trade allows farmers to sell their products directly to consumers and therefore get a higher price so that they can better support their families. Fair trade also encourages cooperatives to invest in social programs in their communities such as by providing education, access health programs, or better housing, among others. The organizations in Chiapas that I visited are also helping women get organized to sell crafts and other products.

The fair trade movement believes that in order to improve living among small farmers and promote sustainable rural development, farmers need to protect their environment. Strict environmental standards encourage farmers to protect their ecosystems and reduce the use of harmful chemicals (Why, web). Most of these standards are very compatible with traditional forms of agriculture practiced by local indigenous communities for centuries. Therefore access to fair-trade markets have helped these groups preserve their traditional values while empowering their organizing efforts.

Conclusion:

I strongly believe that food assistance and aid are only temporary solutions to hunger and poverty and do not change the reasons behind it. Real solutions to food insecurity must include sustainable alternatives of food production that include the well being of local populations and the

protection of the environment. The alternatives developed by the indigenous Maya farmers in Chiapas include:

1. Empowering local organizations and supporting them to become self-reliant.
2. Develop Policies that promote local sustainable food production that helps communities become food secure at all times.
3. Provide access to funding opportunities for small-scale subsistence farmers to promote local industries and employment opportunities.
4. Support urban farming in order to empower families to gain control over their own food source.
5. Education is the best weapon against poverty and hunger. It is especially powerful in underdeveloped countries. Education means better opportunity and more access to income and food. Some countries have food-for-education programs where students are given free food for coming to school.
6. Empower women to gain access and control to food sources. There is a direct correlation between hunger and gender inequality.

In conclusion, I believe that fair trade and sustainable agricultural practices allow for a more equal global trade model that reduces poverty in coffee growing communities and creates conditions that allow for sustainability in rural development. I also greatly believe that the indigenous communities in Chiapas that practice organic agriculture and participate in fair trade are examples of a better model to reduce hunger in the world.

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