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## **Establishing Food Security in the Indian Subcontinent through Education and Advisory Services**

### **Introduction**

I peer into my refrigerator at least five times a day, removing the milk carton, returning the Smucker's grape jelly and often removing quantities of meat for seasoning and cooking. However, in the mist of my haste, in order to grab a few eggs for an omelet in the morning, I do think of all those children who are hungry and their mothers who are upset because that they cannot provide food for their child. Hunger is not a problem I'm familiar with, but, I imagine, for those who do know hunger it is a constant internal and mental conflict.

Food is a necessity for human beings. It provides the body with nourishment and energy. However, in the Indian subcontinent that is comprised of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, obtaining food is a constant problem. Unlike the American world which is highly capable of food production and effective distribution to the masses, India lacks a successful food industry. With a population of 1,129,866,154 people India needs food stability fast in order to provide nourishment to its many people. In fact, India's largest problem is its growing population, and by 2050 it is estimated that the population of India will increase by fifty percent (Wikimedia, 2008).

What can possibly be done to alleviate this problem? A solution needs to be found. Education and advisory services can be offered to family farmers, and they can learn to implement technologies and practices from research and development efforts. The action of providing education about agriculture and farming is by far the first step in fighting India's battle with hunger. With the action of spreading knowledge and awareness across the country, people will likely be more able to determine good food producing practices and implement them.

### **India**

India is located in Southern Asia between Burma and Pakistan. This country sits east of the Bay of Bengal and west of the Arabian Sea, while stretching 1,269,117,795 square miles. This country is slightly more than one-third the size of the United States, and it is the world's most populous democracy and second most populous country (CIA, 2008).

However, in India, over 456 million Indians live below the poverty line (\$1.25 per day) and 828 million Indians live on two dollars per day or less. Agriculture in India is the country's largest part of both India's society and economy; it accounts for one-third of the yearly gross domestic product (GDP) and sixty percent of the labour force is employed in some aspect of agriculture. This sector of the economy tops that of industry (12%) and services (28%)(India,2008) So, why aren't the women, men, and children of India eating daily?

India has many problems. There is lack of money and education. There is also severe water and air pollution and ever growing population (India and Pollution, 2008). All of these factors create an environment unsuitable for enhancing agriculture. Funds for fixing the state of India have been mismanaged, misused, and simply missing. Education is non-existent for the poor and an ever growing population leads to more pollution and less land. India is a country which lags behind other countries.

## **Family Farm**

A rural family located in the Indian subcontinent lives simply and meagerly. A description of a rural family farm in this country is generally that of a small, insufficient area of land that is both incapable of producing food for use or for selling. The family that lives on this small plot of land is composed of a mother, father, children and extended family members. The father is the head of the household, while the wife or women tend to domestic life and duties. The Indian diet is composed of rice, wheat, legumes (chickpeas), and tea, and everyone in the house generally eats only one meal a day (India Agriculture, 2008). This diet proves to be insufficient; especially for the children although agriculture holds the primary position of work in the society, these farmers need to find other jobs to make income.

The agricultural output of this small scale farm is generally organic foods used in every day Indian dishes. Crops grown include: rice, wheat, legumes, tea, and spices. If meat is produced, it is small scale, and includes goats and poultry. This family produces these items and hopes for the best; the income that results is limited and less than adequate for survival. However, these people manage by attempting to implement whatever knowledge they possess. Traditional practices are ubiquitous and much of the labor needed for food production is manual. Both men and women tend to their crops and attempt to provide enough food for themselves and possibly others who share their problems. Yet, selling the food produced isn't a promising option because money is not readily available. The major barriers for these families in gaining income for their products, is the lack of education. If these people knew how to raise foods correctly, appropriately price and distribute foods, and manage funds to better implement practices, income would surely increase for these families.

## **Education**

The task of helping India can be completed by providing education. What needs to be done is to create a system in India, which will provide this country assistance in creating a sustainable way of producing food. The work of agricultural extension programs that would offer education and services to the men and women of India seems to be the logical to create change. These programs would offer the teaching of implementing technologies and practices that can create sustainable agriculture. With the knowledge harbored and the ability to do the work, food can be available for the entire Indian population.

## **Sustainable Agriculture in India**

Agriculture is the science and art of farming; be it cultivating soil, producing crops or raising livestock. This is where any form of agricultural education should start. Teaching the basics provides a strong foundation to build upon and building a strong food producing country is the intention.

## **Solution and Recommendations to Solve Food Scarcity**

When speaking of agricultural extension programs, the plan is to have capable and willing members of successful agricultural areas teach and display acts that can be modified to fit a specific goal relating to agriculture. For example, if a farmer needs to grow vegetables in an area which has poor soil quality, one can advise him to create an irrigation system or hydroponics application which could alleviate growing vegetables in poor soil with meager results. These committees of agricultural extension specialists would be capable of doing just that. They could extend their knowledge to help gain the skills needed to produce food.

The education and advisory services of this program would also be capable of providing educational assistance for implementing technologies and practices. Allowing the producer of his/her food to understand its production is important in order to create a successful outcome. For example,

assisting a farmer in determining the accurate soil pH or determining crops best suited for the land and water supply would be examples of implementing both technology and practice in agriculture. Furthermore, assistance would contain the basic communication of feedback. Giving feedback to the farmer who will run into obstacles will help to teach agricultural applications to these people. These services would provide reminders. Step by step aid would be given until farmers would be capable of maintaining the crops themselves.

Research and development efforts could provide assistance pertaining specifically to India's foodstuffs and landscape. India's food consists largely of rice and legumes (chickpeas). Providing these people with the ability to learn how these foods grow and the technology used to produce them can also lead to higher food production. It would allow these people to learn under which conditions their food thrives, and would diminish the negative factors in productivity. Certain obstacles such as the lack of ready and available water- a problem in India – can be addressed. Also, growing food pertaining to specific lands such as marshes and dry lands can help farmers produce various different foods. Researching the landscape and developing techniques to make the land fertile and suitable for tillage would be helpful when the farmers are planting in different areas of the country.

In addition, available land must be found. All land both public and private, can be used to produce food. These people hold the ability to create food for the masses and that is the purpose. What is also needed are irrigation systems, reservoirs, and water purifiers. The current state of water availability, health, and climate conditions are known problems and must be identified and given attention. Even the age groups of India must be reorganized. Some people may help do the actual labor while others can help do the teaching. Teachers can teach agriculture practices and technologies. The middle aged group of India is the highest in population, (63 %), followed by young people ages one to fourteen (30 %), and senior citizens (5 %)(CIA, 2008). Direct action upon the middle aged Indian population will be the quickest way to develop a changed landscape in India; these people are most capable of being taught quickly and working effectively.

However, is there available funding for such a large project? There are many farmers in India, and cultivatable land is over 56 % of the country. Can the government pay for the tasks and the necessities that will come with it? The government of India isn't completely unproductive, but simply disorganized and mismanaged.

Possible funds for these projects can be found within its own borders. The country exports a large number of products yearly. In 2006 - 2007 India exported more than they imported. This proves India has funds. However, they aren't being spread to accommodate the needs of hungry people. Services for the Indian people are expensive due to the grand population. Services such as trading, transportation, and real estate are by far the largest funded services. Therefore, funding for implementing agricultural services goes somewhat overlooked.

This action of mishandling funds must be better assessed and implemented. Food is needed, and people are hungry. India's funds for services must be reviewed and fixed in order to create an agricultural based sector of services which will help in producing food and income. Yet, who should be solely responsible for these funds?

India, clearly, needs assistance in order to fund these new practices that would be implemented. Perhaps, the United Kingdom could help, given the close relationship they share based on their colonial influence. Or the United States and European countries could continue to provide India with a location to send their exported goods. Nevertheless, India should be largely responsible for providing the fixing of

the country's agricultural sector. Minimal aid could be provided by other countries but the core of fixing the problem should be the task of India's government. With help from the large sectors that receive most of India's revenue, the country could create money for fixing the food scarcity problem facing the great number of Indians. This would take time. In order to accurately assess funds for this project India's universities, large operators such as banks, and governmental organizations, can help India fully sustain a good agricultural based sector.

## **Conclusion**

Working to feed India is and will be a major task; however, it must be done. This continent is important in providing products to the world. The problem of food scarcity must be solved quickly because the lack of food in India has caused the Indian people pain because they suffer from disease and malnutrition. India needs attention and help. The country cannot succeed on their own, and providing aid to this country would allow its people to eat daily. Every Indian should have three full meals a day, and with the implementation of agricultural education this can be achieved.

The problem has been discovered and a possible answer has been researched. We must now look to determine a new plan and new skill: feeding the mass of Indians. India is capable of creating a country that uses and has an effective form of food production. The man power is there, the want is there and the possible creation of a successful agricultural and general economy can all be met, if action is taken. Education is the best way to begin the passing of plates and the filling of Indian stomachs.

When I peer into my refrigerator and look at the dairy products, condiments, and meats that line the shelves, I cannot help but think of all those people who are somewhere sitting and wondering about how to provide food for themselves and their families. Poverty and hunger is known around the world as a problem, but no one knows better than the people of the Indian subcontinent who are struggling to simply feed themselves.

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