

Jessica Good, Student Participant
Interstate 35 High School
Truro, Iowa

Looking Ahead: Sustainable Paths Toward Food And Nutrition Security Food Security in Thailand

The tropical world has been provided with an abundance of sunlight, high rainfall, varied elevations, vast arable area, and a wide bio-diversity in vegetable crops to grow; yet the world faces a major problem with food security. Thailand is a tropical country that has been provided with all of these things. They have the potential to produce very large amounts of food, yet there are so many restraints holding them back.

Thailand is located in Southeast Asia, east of Myanmar (formerly known as Burma) and the Andaman Sea and west of Laos and Cambodia. The country has approximately sixty-three and a half million people. (thailandoutlook.com) Twenty-five percent of these people are under the age of fifteen. This puts them at a higher risk for malnutrition. Thirty out of every thousand children in Thailand under the age of five will die, many due to malnutrition. (fhi.net) In America only six out of every thousand children die before the age of five, and malnutrition is not a listed cause of those deaths. (paho.org)

There is more than one reason for the epidemic of hunger in this country. The first is because there is simply not enough food. The population is growing quickly. Farmland is becoming somewhat limited. Many farmers face problems growing on the land there is. Another reason for the hunger is the fact that the food these people eat is not nutritionally complete. They lack many key elements that are needed to live healthy and whole lives. A third reason for the famine is many families cannot afford enough food. The average household in Thailand makes a mere two thousand US dollars a year. (fhi.net) Because of this, many children are forced to work instead of go to school. This also poses a problem. If a child is working all day, they need food for energy and to stay healthy, but they cannot afford it.

The Wikipedia Encyclopedia describes food security as “a situation in which people do not live in hunger or fear of starvation.” Today there are over eight hundred and forty million people suffering debilitating effects caused by malnutrition. Malnutrition affects one in every three people living in the world today. (usinfo.com) Most of those people are concentrated in small countries. In order to get the world to a healthy state of food security, we need to get not only those eight hundred and forty million people adequate food supply, but also, we need to feed the hundreds of people who are hungry but may not suffer the serious or debilitating effects caused by malnutrition.

“Recent economic problems in Asia, including Thailand, have emphasized the critical role of agriculture on the road to economic recovery. There is an increased pressure on domestic food production and supply to meet the needs of growing populations. Our current and achievable challenge, therefore, is to build upon and accelerate the progress registered in Thailand to ensure safe, secure, and nutritious food in the next millennium.” (Prem Nath, Assistant Director-General and Regional Representative for Asia and the Pacific)

One of the most important aims of people working in Southeast Asia is to produce adequate food supply. They not only need to produce a high enough quantity of food, but they also need to

produce food of good quality. This needs to be done in order to maintain the well being of the regions rapidly growing population.

Because of the lack of adequate food in Thailand, most of the population's diets lack essential nutrients such as calcium and protein. Many older people in this region suffer greatly because of the lack of these components in their diets. Osteoporosis is one of the most common diseases seen in older women in Thailand.

Over sixty eight percent of Thai people work on, or have worked on a rice farm. It is a main crop in the region. There are many conditions that effect how large of a crop is produced, and also, how good the quality of the crop is. Many problems these farmers face can ruin an entire crop, leaving farmers without an income and people without food. Some of the constraints and issues affecting sustainable production are as follows:

- Drought stresses and floods in large areas under rainfed conditions.
- Acid-saline soil in southern coastal areas.
- Lack of inputs and credits, with the possible exceptions of the central regions.
- Saline soil in rainfed lowland rice in northeastern regions.
- Blast and bacterial leaf blight.
- Acid sulfate soil in rainfed and deepwater rice in the Central Plains.
- Brown plant hoppers and stem borers.

Steps need to be taken to help control these factors on rice farms. Many governments are notorious for only helping the wealthy of their country. The problem is that small and poorer farms are statistically proven to yield better crops. Not only do the crops on smaller farms prove to hold more nutritional value, but also there is a higher percent yield rating. The government needs to facilitate ownership of these small farms. Many farms do not have access to healthy and clean water supply during a drought. The government needs to help farmers irrigate the farms. If the government helped irrigate five out of every ten farms they could possibly increase yields during the drought season by fifty percent. A fifty percent increase in crop yield in a time of need, could mean the difference life or death of hundreds of children.

Also, the farmers need help purifying the water that the crop is being grown in. If the water is purified it will lower acid-saline levels. Saline soil is caused by a large amount of limestone in the water being used to grow the crops. Saline can help grow rice, but only if the plants receive fresh water after being exposed to the saline. If the crop does not receive fresh water after the exposure to saline, the plant emergence can be significantly depressed. All farmers have got to have access to fresh water. It is absolutely necessary if they want to increase their yields enough to make a difference in world food security.

Soil with high acid level can have a number of harmful effects on crops. The acid soil problem is associated with poor establishment and persistence of lucerne and phalaris. The damages of acid soil are as follows:

- Aluminum toxicity
- Manganese toxicity
- Molybdenum deficiency
- Legume nodulation failures
- Increased plant disease
- Calcium deficiency
- Magnesium deficiency

With the diets of Thai people lacking important nutritional element, they cannot afford to grow crops with deficiencies and toxicities. In Thailand, the ph level can easily be raised to drop high acid levels. Sodium is a source used to lower acid levels in soil. Seashells can be ground up and mixed to the water as a sodium fertilizer. Seaweed also has high levels of sodium; it can be used as a fertilizer in crops too. Seashells and seaweed are both found in abundance in and around Thailand, yet farmers cannot get access to these because they do not have the funds. We need to make fertilizers like these easily accessible to farmers. If the acid levels in the soil of these farms were dropped the yield on a small farm can be increased sufficiently.

Farmers not only need to increase yields, but they also need to increase the nutritional value of the rice. Since rice is the main dish in Thailand, it is usually eaten in all three meals of the day. There is no distinction between breakfast, lunch, and dinner in this culture. If rice is what the poorer and possibly underfed can afford, we need to make it hold more nutritional value. Protein is a major component missing in the diets of Thais. If the crop can be genetically altered to contain protein, the diet of the people would not have to be changed; yet it will be healthier and more complete. All the technology is there to slightly change the DNA of this crop. There are agronomist all over the world who are willing to devote there time to find ways of genetically altering crops to give them a richer nutritional value. All they need is the funding and the opportunity.

Rice is not the only crop that can be genetically altered. Every crop can be altered to contain more nutritional value. Also, crops can be altered to last longer without preservatives. If a farmer has an abundant yield one year but predicts a drought the next, he needs to be able to save crop from one year to the next. A lot of the food produced today is lost because it cannot stay fresh. If a breed of every crop was made resistant to the effects of time, we could grow an abundance of food when we can but be prepared when there is a droughts or a swarm of crop eating bugs.

World food security is an issue affecting every country in existence today. Therefore, every country needs to be willing to help change what is happening now to make this world a more secure place, both agriculturally and nutritionally. People worldwide need to be educated in what food security is and how our everyday lives affect it. A lot of people may not realize there is such a

large problem with food security in the world today. This kind of ignorance is part of the reason it has taken so long to start fixing this problem. If we do not get a state of security established now, the problem is going to get worse. It is absolutely necessary that we, as a world population in whole, work towards a state of complete food security.

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