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Cambodia: A Country Rebuilding

*They tell us everything's all right
And we just go along
How can we fall asleep at night
When something's clearly wrong
When we could feed a starving world
With what we throw away
But all we serve are empty words
That always taste the same*

-excerpt from *When We Stand Together* by Nickelback

The country of Cambodia lies in southeastern Asia along the Gulf of Thailand and is bordered by the countries of Thailand, Vietnam, and Laos. Cambodia is in an area of southeast Asia containing countries referred to as the Greater Mekong Sub-region. A history of Communist rule, extensive bombing by the United States during the Vietnam War, and devastation by the Khmer Rouge in the 1970's, resulted in almost total destruction of the country. During this time farming reverted to a more primitive style and slowed almost to a halt in some areas. Urban workers were forced out of their houses and sent to farms to work in concentration camps without any knowledge of how to survive rural life. The people were starved and many killed, decreasing the population by almost half. During the terror of the Communists, the dead were buried in mass graves. Other horrific events such as this were part of the country's destruction and devastation. It was difficult for the people to move on after the horrific events since the ruler at the time, Pol Pot, did not step down from power until the early 1990's. Rebuilding began soon after, but huge problems remain. While the country has just recently begun keeping records with many of the earliest available only reaching back as far as the early 1990s, the agricultural system has also experienced a resurgence. While there is positive growth in agriculture, a lack of support from other economic and government systems has led to the need for many important changes. The main problems Cambodia faces today are in its infrastructure, educational system, unequal gender opportunities, and of course, an inadequate agricultural system that results in a low standard of living for families involved in agriculture and malnutrition among the population. During this time of rebuilding the agricultural needs have not always been a priority in the government's eyes.

Cambodia reached a per capita income of \$500 U.S. dollars in 2008, while surrounding countries reached that economic goal much sooner, with China in 1993 and Thailand in 1970. The literacy rate for females

15 years of age and older in Cambodia is 70%. In 2008, the mortality rate for an infant under 5 years of age was 90 in 1000. These statistics often prove to be key in determining the status of nutrition in a country. While substantially more than half the women are literate in Cambodia, the high mortality rate of infants is a red flag to a nutrition problem. If children are malnourished, older generations are most likely not consuming adequate nutrition to support themselves either.

Agriculture in Cambodia accounts for 35% of GDP and is a major part of the economy. Yet the agricultural community struggles to get its products to market and to grow crops that are high enough in nutritional value to support the population. With the main diet consisting of rice, the protein levels and other important nutrients are missing in the diets of an average Cambodian. Malnourishment leaves people at a higher risk of disease and decreases a person's overall health. Poverty and malnourishment affect more than one quarter (30%) of the population of Cambodia today. The markets are often unfairly priced and are difficult to reach because of China's impact on the country. China closes trade routes frequently and prices are set only by the middleman buyers for most exports.

Overall, the main issues affecting agriculture in Cambodia are: a lack of seed varieties, a lack of extension services, unfair pricing, lack of education, high interest rates, and workers leaving for better wages in neighboring countries. These disadvantages create large problems for a country already struggling to recover from communist rule and basically having to rebuild its entire structure of government.

In a typical agricultural family, the women do much of the farming and prepare meals as well as go to the market in nearby cities to purchase or sell items. The men do much of the business side such as taking out loans or managing expenses. The average farm family has three to four children while urban families tend to have two to three. In some areas, statistics show that on average only 27 out of every 1000 women achieve the equivalent of a United States high school education. This shows the unequal opportunity that the women have to better their education to be successful in all aspects of life. Girls not attending school often reach the level of education where they are considered literate, however many do not continue past that point and thus educational statistics can give a false sense of the depth of their educational training.

In Cambodia, the cultivation of rice is the major source of farm income. Rice is grown on 90% of the total agricultural area. Rice fields occupy some 2 million hectares (ha). In 2003, rice production was estimated at 4.3 million tons, with average yields of slightly more than 2 tons/ha. As early as 1995, the Cambodian government reported self-sufficiency in rice production and was already exporting small amounts.

Rice cultivation in Cambodia is divided into four major types: rain-fed lowlands (which includes areas that require supplementary irrigation), rain-fed uplands, areas of deepwater or floating cultivation, and dry season irrigated land. Rain-fed lowland ecologies account for about 58 percent of the rice harvested while 32 percent comes from deepwater ecologies. Often farmers will plant several rice varieties in the same field but in separate plots to reduce risks and distribute labor. During the dry season 70 to 80 percent of the areas are under cultivation of high yielding varieties. The International Rice Research Institute (IRRI)

has supported research and development efforts aimed at increasing productivity through the development of improved varieties, water use, pest control, more efficient use of fertilizer, and better cropping systems.

Two other main crops that Cambodia produces are rubber trees and cassava. Cassava producers need lots of workers to help raise their crop. However, in the west especially, there is a shortage of workers available because they migrate to Thailand for better wages. Cambodian producers are unable to afford the high cost of salaries to keep workers in their country and cannot take out loans because the price of credit is too high. Lower interest rates would help farmers retain more of the profit from their crop and would boost the agricultural economy. If agricultural workers could be regulated from leaving the country, it would result in a better labor situation.

If Cambodia is to make a full recovery, then it must instigate some significant changes to their agricultural system. The first change that the country, as a whole, must do is to incorporate agriculture into the education system. Creating an environment where agriculture is stressed in the classroom will better expose the children to knowing how and where they get their food. Children would be more likely to become interested in an agriculture-related career if they were introduced to it at an earlier age.

Extension services in the United States participate in community activities such as local fairs or farm seminars to help with education and agricultural involvement among the younger generations. In Cambodia there is a lack of what we know as extension services. An excellent model would be the Farmer Field Schools in Indonesia. The school provides step by step, specific instructions and encouraging statements on how to organize a local farmers group to learn more efficient agricultural practices (Gallagher). Such an extension service would be an inexpensive way to help farmers that are already in the business have access to help or advice from a local agricultural expert. Timely information about crop disease or pest control could be given to local farmers.

Farmers do not currently have help in many areas such as knowing what chemicals to apply to the crops. This leaves farmers and producers uneducated about services, technology, or chemicals that could benefit their crop production, or that may be hazardous to their health. "We can say that 95 percent (of chemicals) are labeled in a foreign language. So it is difficult for the farmer to know what kind of pesticide that they use, and also the directions for the safe use of pesticides," says Keam Makarady, an agronomist and pesticides expert at the Cambodian agricultural organization, CEDAC.

Chemical regulations need to become more strict for the agricultural system to be able to grow to its full potential. Currently there are laws in place that regulate the language on the labels and potency of the chemicals being used on crops. However, these laws are not enforced due to lack of manpower and a limited understanding of potential dangers. For example, according to a local vegetable farmer near Phnom Penh named Srey Kuot, the salesman at the market sells her pesticides with labels in only Thai and Vietnamese. The salesperson tells her how to use the chemical and how strong it is. She knows that the studies have shown ingesting food with such chemicals has proven to be fatal in some cases, but she

also knows that she could not make a living without the crop she raises each year. This shows that farmers are often unaware of what they are applying to the crops and the risks involved with using it, or they are somewhat aware and have not yet been given a better alternative to the situation. Another problem is that illegal chemicals that are smuggled into the country have become a popular method of committing suicide because their availability is not regulated. Government jobs need to be created to check local markets for illegal chemicals. Extension services as well could help monitor chemical traffic. A safer alternative to these dangerous substances would be to seek more natural methods of pest and weed control. Plenty of companies and farmers in the United States have tested many products to find natural alternatives for their organic or certified natural crops. For example, in some areas vinegar-based solutions have been shown to control weeds with safe and effective results. Making your own weed repellent product is a cheaper alternative to buying it in a market where a farmer is unsure of the chemical they have purchased or the potency.

A lack of seed varieties available for certain types of crops are a problem facing rural Cambodians who make their living in the fields. When certain types of crop don't grow as well in the different soils they need variations to maximize yields, quantity, and variety. Expanding the extension services would allow information of new seeds to reach local farmers as well as allow them choose the best crop for their soil. This knowledge and stricter chemical regulations would also help when testing new seeds. For example, for farmers living in dry areas or during drought years a combination of weed/pest resistant plants would be pared with a liquid fertilizer. While in adequate moisture years a dry mix can be applied. A farmer would be able to find the package pairing a chemical or a fertilizer along with the matching seed that would give them the best crop for their type of soil.

Another solution to some of the problems in agriculture in Cambodia would be to encourage the promotion of micro loans with low interest rates to small farmers. These would be smaller loans than the ones they are currently offered from private lenders. In 2009 following the Ketsana typhoon, VisionFund offered "Express Loans" ranging from US \$1 to \$250. These loans require no collateral and low interest rates (VisionFund Cambodia). Such loans would be easier to pay off and would allow farmers to establish better credit and improve their overall financial records. This would give farmers an opportunity to pay workers higher salaries to keep them in the country without cutting so deeply into crop profits. Over 1 million Cambodians choose micro credit options like these. Workers currently going out of the country for better wages could also be monitored by having them apply for a permit to leave. This may encourage them to stay in their own country and would increase the availability of workers, especially if a boss was able to compensate them financially.

Although these solutions will significantly help the country of Cambodia to move forward in the development of its agricultural and economic systems, maximum potential for the country cannot be reached through internal efforts alone. Cambodia is often treated as the forgotten younger sibling of the Greater Mekong Sub-region family. For a family to thrive, all members must provide equal contributions as well as allow other members to have an input on family matters. Often older, more successful, and

accomplished siblings can take needed attention away from a younger child. In the case of the southeast Asian countries, China often has closed trade routes and blocked Cambodia's exports without cause or warning. As stated previously, Thailand is a country that workers in the west migrate to for better wages, depleting the available labor in Cambodia. Siblings can also be encouraging when a younger family member is reaching new goals or making progress in difficult areas. These countries could make the family much stronger if they expanded the agricultural infrastructure between them to increase trade throughout the region and eventually move into more global trade efforts. Until the cooperation from other countries is achieved, Cambodia can work to improve the agricultural economy by creating more seed varieties, by placing more emphasis in promoting agriculture in education, by providing micro loans with lower interest rates to struggling families, and by enforcing stricter chemical regulations.

Cambodia is a country rebuilding against incredible odds and is challenged with many issues. At the rate at which it has begun to rebuild, it should not take long for them to implement some of these changes. A strong and persevering people have survived through this broken and demolished history. The people of Cambodia can accomplish their goals and can overcome their hardships. The main problems the country still faces today are in its infrastructure, educational system, unequal gender opportunities, and of course, an inadequate agricultural system that results in a low standard of living for families involved in farming and malnutrition among the general population.

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