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Nepal: The Knowledge to Adapt

“The population of Nepal is known for its resilience... Knowing how to survive with limited resources, overcome disappointments such as crop and asset loss due to natural disasters, and deal with the uncertainty of whether or not there will be sufficient food is part of many people’s daily lives,” wrote Dr. Jagadsih Chandra Pokharel when discussing the current situation in Nepal (Food Security Monitoring Task Force). The United Nations most recent index for human development ranked Nepal as 157th out of 187 nations. This sobering fact goes to show that the people of this small country located on the northern border of India have had to endure many hardships during their poverty ridden lives. The fear of lacking enough food to feed their families is a common one in most Nepali households. It is estimated that 40% of the country is vulnerable to hunger (ESAF). From its rugged, snow-capped mountains to its lush rolling hills, Nepal’s people use any and all land for agricultural development that they can in an attempt to feed its population. Sadly, the scenic landscape of this third world country can do little to hide the poverty and starvation that is continuing to affect the majority of its population.

The poverty rate of Nepal has reached an astonishing 31% and this percentage increases when closely examining areas such as the mountains and hills (IFAD). All of the issues present in Nepal such as lack of infrastructure, civil unrest, discrimination, and climate change have been contributing toward the continuance of food insecurity and lack of education within those regions and within the country as a whole for many years. Until 1990, Nepal didn’t have a problem producing enough food to feed its populous. (Food Security Monitoring Task Force). After that year, the birth rate increased to a point where it exceeded the death rate. This resulted in a greater need for food, housing, and other human essentials. When the farmers of Nepal were called upon to produce more crops and failed to fulfill that request, the country was forced to face a startling fact. Traditional Nepali agricultural systems and practices failed under higher expectancies. The country didn’t know how to respond to this problem, and thus food insecurity rates began to rise. In order to one day eliminate the poverty that now affects so much of Nepal’s people, action needs to be taken. Food-for-work programs, development in educational resources and infrastructure, and a more active and stable government could possibly be what this country needs in order to move past the roadblocks that their current difficulties have set in place for the majority of the population. Before anyone can go about correcting the issues that presently plague Nepal, they would need to first examine the typical trials and tribulations of the country’s families.

Within the average household in Nepal, there can be anywhere from 5 to 7 people (ESAF). These numbers can fluctuate during the lean season due to men migrating to the larger cities or India so that they can find work. An estimated 75% of families have men who migrate (Kilpatrick). This can result in a decline of crop output and a change in diet for the family members left behind, due to the fact that the uneducated women are left to care for the farms. The diet of the average family is rich in carbohydrates and low in proteins mainly because of the poor crop harvest and expensive cost of food. Maize, finger millet, and buckwheat are the main foods eaten (ESAF).

As a result of the poor construction of roadways and the remoteness of the people in the hills and mountains, Nepali people have limited access to healthcare and education. Only 62% of Nepali households can access health facilities within half an hour travel and only 14% of those people rate these places as “good” (Food Security Monitoring Task Force). The already low quality of healthcare declines even more in respect to women, whom are viewed as less important and thus receive less care (IFAD). The lack of infrastructure such as roads leading to important cities and markets and the need for workers

on the farmland also adds to a lack of education in children. Most children in Nepal work 4 to 7 hours a day (ESAF). The need for children to work on the farm often takes them away from education. One quarter of the child populous in Nepal is engaged in some form of labor (IFAD). The farmland of Nepal is often difficult to care for and more often than not the farmers do not have the knowledge or instruments needed in order to make the most of the rugged landscape.

Currently, 70% of acreage is rain-fed, leaving crops extremely vulnerable to the droughts that have devastated the country's harvest in recent years (Semerad). According to the Food Security Atlas of Nepal, insufficient and erratic rainfall or droughts are the leading cause of crop loss in Nepal (Food Security Monitoring Task Force). This is mainly due to the fact that the farmers of Nepal have little to no idea how to properly utilize irrigation and other advanced farming equipment properly. Inadequate farming practices have also caused the degradation of soils in the mountains and hills. This degradation has resulted in severe soil erosion which has caused crop outputs to be negatively affected as the situation worsens.

More than three quarters of the country's households have agriculturally based incomes (Food Security Monitoring Task Force). Because of the low crop outputs, these incomes are normally very low and often not enough to sustain a family throughout a year. The average farm size is only 0.8 hectares (approximately 2 acres) (IFAD). However, 45% of farmers own less than 0.5 hectares (a little more than 1 acre). This fragmentation of farmland becomes increasingly problematic due to the fact that less than one percent of farmers own threshers, tractors or power tillers. The reality that Nepali farming practices are out-of-date is further proven by the fact that only 31% of Nepal's agricultural land is irrigated (Food Security Monitoring Task Force). Many farmers continue to use traditional farming practices that only impede their ability to adapt to global climate change and natural disasters (MSEC). One of these practices is the continued use of the same seeds for generations, causing a lack of resilience to drought and disease (Kilpatrick). Most farmers grow two crops a year using these prone-to-failure seeds (Bartlett, Bharati and Pant). The main crops grown during these times are paddy, maize, wheat, millet, barley, potatoes, and pulses (Food Security Monitoring Task Force). The lack of irrigation, limited farming resources and technology, and poor usage of improved seeds have all contributed to the inability for Nepali farmers to adapt to the climate change and natural disasters that have ravaged their farmland in recent years. This widespread lack of agricultural advances can be attributed to a lack of knowledge within the Nepalese populous.

The lack of education provided for the Nepali people is one of the main reasons why Nepal is struggling as a country. The inability of many farmers to produce enough food to provide for their families is mainly due to the decreased spread of advanced agricultural knowledge in Nepal. In 2001, 44% of the adult population was recorded as being illiterate (Food Security Monitoring Task Force). The widespread illiteracy leads to widespread ignorance of modern and superior farming practices. Continued inexperience in this field has resulted in poor adaptation strategies during times of severe food insecurity brought on by climate change, natural disasters, and other agricultural difficulties. The adaptation of the Nepalese is further undermined when they do not utilize food sources properly due to their lack of education in nutrition and food storage (ESAF). Presently, the factor of education is continuing to worsen within the country of Nepal. While the country's government has made important steps toward advancing educational opportunities for its population, they have not yet put forth enough effort to seriously combat the problem. This shortage of adequate efforts continues to hinder the advancement of Nepalese farmers in the aspects of proper use of irrigation and superior seeds.

The increasing impact of food insecurity and the lack of education are continuing to affect the Nepali women more than the men. Women are extremely disadvantaged within the Nepalese community due to rigid social stigmas that have been in place for centuries. On the Gender-Related Development Index, Nepal is ranked 119 out of 155 countries for gender equality (Food Security Monitoring Task Force). It is

often the case that women are the last to eat in the household. If there is no food left when the men are done, then the women will simply go without food (ESAF). It is rare that women are allowed to voice their opinions when it comes to the matters of the household or the farm. This is a major problem since women constitute more than 60% of the agricultural workforce (IFAD). Women do much of the work that goes into growing the food, yet they are often the last ones to eat it or to have control of how it is handled. This problem worsens further when one views how they are treated in regards to education. Seeing as women are often the last to eat in the household, it should come as no surprise that they are also the last to be enrolled in school. In some areas of Nepal, women's illiteracy rates dominate the men's by over a 20% difference (Food Security Monitoring Task Force). As the world around Nepal advances in educational practices, the Nepali people must look beyond their traditional ways of thinking and allow women to have a voice in their lives and communities if they ever hope to move past food insecurity.

Nevertheless, if education in agricultural practices was to be advanced, food production could increase through the utilization of advanced farming practices. As of now, food prices are continuing to rise due to decreased crop production (Food Security Monitoring Task Force). By using improved farming practices and educational programs, food production would hopefully increase and ensure that top soils would not be eroded away as easily as they have in the past. Poverty would be reduced by allowing families to eat their own food, instead of having to spend 78% of their income on food (Kilpatrick). Farmers would have more crops to sell, thus equaling more profit and thereby stimulating the stagnate economy of Nepal. An increase of the harvest would also equate to women not being forced to go hungry as often as they have in recent years due to a lack of food in the household. Sadly, this not the only problem Nepal faces as a country.

Several other issues are continuing to contribute toward the persistence of food insecurity in Nepal's people. Climate change in Nepal is an ongoing dilemma that is only worsening as time passes and hardly anything is being done to adapt to it. Currently, it is difficult to measure climate change due to the lack of the Nepalese government collecting data and the uncertainty in the climate models (Bartlett, Bharati and Pant). However, it is easily discerned that the circumstances of climate change are changing. Global Circulation Models (GCMs) project that temperatures will increase between 0.5 degrees Celsius and 2.0 degrees Celsius by the 2030's. GCMs also predict a wide range of precipitation changes by the 2030's (Dixit). In 2009, consecutive winter droughts and poor monsoon seasons resulted in 3.4 million Nepalese needing food aides (Kilpatrick). In this current year of 2012, monsoon rains were more than a month late in some areas of Nepal, leaving farmers with burnt out crops and useless vegetation (Semerad). A rural farming family in Nepal does not presently have an easygoing future ahead of them. Due to climate causing a decrease in crop production, food prices are rising, poverty is increasing, and their overall situation is degrading at an alarming rate.

Lack of adequate infrastructure is another of these tribulations that are adding toward the country's uneasy state. Approximately one third of the country's total land area is occupied by hills and mountains (MSEC). This causes a large amount of difficulty in the construction and maintenance of the transportation systems in these regions. On average, it takes at least two hours for a person from a rural household to reach the nearest market. Moreover, there are still about 10 districts that are not connected by any form of motorable road (Food Security Monitoring Task Force). This state of isolation for the hill and mountain Nepalese people is worsening their condition by increasing food prices due to the difficulties in transporting to their regions. For rice, transportation alone costs twice the price of the actual food product (Kilpatrick).

Civil unrest in Nepal has seriously affected the country's infrastructure. In 2006, Nepal emerged from a 10 year civil war (Semerad). Since then, the government has been attempting to recover and mostly succeeding. The main problem with the civil unrest in Nepal is the bandhs. Bandhs are when the people close down everything: markets, roads, and any other public places. Those who are not in accordance

with these strikes will have their land vandalized and their lives threatened. The bandhs and other strikes have caused the destruction of irrigation systems and agricultural systems and stalled efforts to develop extension thereby hindering the adaptation of farmers to climate change (Food Security Monitoring Task Force). The government was further thrown into chaos earlier this year when Prime Minister Baburam Bhattarai suspended the country's democratically elected assembly (Semerad).

Lack of governmental control is not the only problem that the public faces when it comes to personal security in Nepal. In the 1990 Nepalese Constitution, the caste system was outlawed. The caste system is a common practice in Buddhist countries and entails natural born classes that a person can be identified in by their last name. Though it has been outlawed in Nepal, many citizens still abide by its rules and regulations. One in five Nepalese citizens are members of the Dalit grouping, the lowest class of the caste system. These people only had a per capita income of US\$39 in 1991 compared to the national average of US\$210. Two thirds of these Dalit continue to live in poverty to this day. The prejudice that haunts this minority has even caused some Nepalese to go as far as changing their last name so that they are no longer associated with the caste group (Food Security Monitoring Task Force). If the people of Nepal were to be educated on the topic of acceptance, perhaps this problem could be eased. However, families facing this prejudice currently are having difficulties improving their food security due to the lack of willingness to aide them in their times of crisis.

Due to the multitude of problems that Nepal currently faces, there are several programs that could be implemented at the same time so that the country can begin to further its people mentally so that they could learn to overcome their various obstacles. A food-for-work program would be just one of the many project implementations that could be expanded to aid the Nepali populous to help the country achieve the eradication of extreme poverty and hunger, as defined as a Millennium Development Goal. Food-for-work is a program that compensates farmers for the work they perform, normally in construction of irrigation systems and roads. This program could be expanded in the hills and mountains of Nepal using vouchers for local merchants instead of directly giving them food. This would provide a stimulus for the economy of Nepal and would aid merchants in the selling of their products, rather than create competition for them. For rural communities who do not have easy access to a market, food could be directly distributed until a time when proper roadways are constructed. The workers in these projects could build irrigation systems, infrastructure, and seed banks. This would provide a vocational learning experience in construction as well as benefit the local farmers. Irrigation systems would help increase crop output, roads would help decrease travel time and aid access to education and healthcare as well as extension services, and the seed banks could be used by the local farmers to help them save seeds of successful plants and hopefully produce higher quality crops. In order for farmers to use these new ideas to the fullest, it would be best to put more support toward extension and educational services.

By advancing extension and educational services in Nepal, the population could work towards the Millennium Development Goals of achieving universal education and promoting gender equality and empowering women. Extension services could be used to educate the entire community, including women, on advanced farming practices and how to select superior seeds to store in the seed banks. These advanced farming practices could focus on irrigation and soil erosion preventatives that would help the Nepalese begin to advance in their adaption to problems present in their country. Selecting seeds will aid in the prevention of mass crop loss due to plants being grown that are resistant to disease and drought. These extension services can also be utilized to educate and encourage interest about agricultural occupations. This will lead to the next generation of farmers being better educated and informed on advanced agricultural services. Special adult classes can be offered through extension services to both men and women about the importance on women in the household and on the farm. Classes could also be open for women to learn how to hold leadership roles and be a voice in their community. All classes provided by the various organizations and the government could provide food-vouchers similar to those referenced earlier in order to provide incentive to attend these courses. Through these educational

services, the people of Nepal could become more knowledgeable on how to adapt to global climate change and many other problems present in the country.

Several organizations would be needed in order to ensure that these programs would be implemented and carried out correctly. The government would need to provide the much needed support to their extension services. It would also be necessary for the government to work with the Nepal Food Corporation so that they may expand their food distribution to more than just rice. Working with the UN and its World Food Program might also assist in the development of these programs. Local involvement from families, farmers, and women would also be needed in order to make the food-for-work program work and assist in the spread of knowledge learned in the educational services. However, until there is some action taken in Nepal, the country will most likely continue to struggle with food insecurity and inadequate education. Currently, the possibility of Nepal meeting the Millennium Development Goals by 2015 are slim due to the lack of focus on furthering agricultural and human development.

As the age old saying by Benjamin Franklin goes, “Give a man a fish, you feed him for a day. Teach a man to fish; he feeds himself for a lifetime.” The multitude of problems within Nepal has been neglected for far too long. Nepalese people are suffering due to a lack of education and a lack of equipment. If they were provided with the knowledge on how to adapt to their country’s various problems that are occurring or may occur in the future, then perhaps their food insecurity can be decreased and further loss of food can be prevented. While Nepal doesn’t have a long history with food insecurity, it appears they may have a long future with it. Unless the people of Nepal receive the knowledge they so desperately need, they will be faced with a future full of food insecurity and poverty. But knowledge is not the only thing they require. They also have need of the tools in which to use this knowledge successfully so that they can produce enough harvest to feed themselves and their families, while still having enough to sell for income.

Nepal is a country filled with beautiful scenic landscapes that do little to hide the suffering and poverty that plagues its people. As these conditions continue, the people continue to suffer along with the country. Nepal is in great need of leadership and knowledge dissemination to lead it towards a time where they will no longer be considered “third-world”. As of now, Nepal’s future is unknown. If actions are not taken to lead the country toward a new age of knowledge and agricultural advancement, then they have the large possibility of falling further into poverty. As Sir Francis Bacon is accredited with saying, “Knowledge is power.” Currently, Nepal’s people hold little of that power. But through educational services and technological advancement, there is hope for the Nepalese to further their “power” and overcome the burden of food insecurity that plagues their country.

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