

National Responses to Food Insecurity
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Introduction:

“The diligent farmer plants trees, of which he himself will never see the fruit”- Tullius Cicero
The life of a farmer is heartless. They live in rural areas, where access to most facilities is nowhere to be found. The rising sun reveals each morning, through shadows, how intensely farmers work and how poor their living conditions are. With the weight of the world on their shoulders, everyone depending on them to have food on their plates the next morning, they themselves, rarely have enough food to survive.

Peru- a country full of biodiversity, exquisiteness and stunning landscapes, hides under a mask, the truth of itself. At first sight, you would only see how splendid the mountains of the Andes are and how alluring the landscapes of the Amazonian forest fauna are. However, a second glance will reveal you the forgotten: the people. Furthermore, reflected in their faces is only one word: misery. About 8 departments in Peru live in extreme poverty (25% of population). This means that they have an average illiteracy rate of <24%, malnutrition of <45% and are currently living under US\$ 1 per day. The other 53% of the population lives under US\$ 50 per month. The “lucky” 10% left earns around 54% of the nation’s income (US department of State 7). These are mainly consequences of inequitable distribution of income, wealth and poor education in rural areas. Moreover, the worst part of all is that the future does not seem any more promising for rural Peruvian inhabitants.

A problem facing today’s society is population and urbanization. With an expected population growth of 30% by 2050 in Peru (ISRIC), solutions regarding food security are needed urgently. Firstly, although most of the productive land is already in use, there is pressure for this ground to become more productive. A combination between poor production and higher costs may lead tons of poor farmers to migrate to cities in look for a better work. Consequently, cities expand across productive land, pushing food production further away from consumers, and costs of all activities related to agriculture (transportation, production and tools) has increased. As a result, a decrease in food security has taken place in rural areas. Now, the question is: Why farmers were unable to approach these events instead of running away? The answer: due to their lack of education.

Secondly, another problem is that practically the entire population who remains living in rural areas turns to subsistence farming. This is a hazard since them, possessing or lacking education and knowledge on agriculture, still proceed to work under these conditions as they see farming as the only job which promises survival. Plus, education and facilities in these areas is hard to find. There is virtually no access to schools, clinics and markets, which makes their chances towards success diminishing. However, with the increasing population of Peru and migrations of farmers, we are forced to find short and long term solutions to alleviate hazards of food security in Peru immediately.

Yet, this warning is not only for Peru, but for the world. We will need to increase the food demand between 2.5 to 3.5 times (50% more) by 2050 and resolutions to tackle this international food security crisis are still unknown. Food aid may be a provisional solution to the problem, but it will surely not eradicate food insecurity for third world countries. However, there is one solution with a promising result which has, throughout history, proven to be the absolute preminent: education.

Current status of factor:

Peru’s education system has been recognized as one of the poorest in quality in Latin America. Although statistics like: “90% of the 5-10 years old attend school” may blindfold the public eyes making them think that their country is progressing, we persist in trying to make them face reality now, the “knowledge” which this kids engage with is worthless, as the quality of the education given is poor. Improving the education will impact the small scale subsistence family farmers and inhabitants all over Peru as, after all, “knowledge is power”. Furthermore, increase in food production

depends on a better integration of knowledge with research (such as improving farming practices using technology). Education will increase the output from current lands in production, put in practice environmentally friendly practices and decrease the loss of fertile lands.

Small scale farmers and education:

There are 1.4 billion smallholder farmers who support almost 2 billion people in the world. Nine out of ten inhabitants in rural areas are small scale farmers who depend on plots of land which are less than two hectares big for their food production. In Peru, small-scale farmers produce 51 % of the maize, 77% of the beans and 61% of the potatoes for domestic consumption. And how do we treat them? The consideration we give them is none to minimum. Unfair trade and unsustainable farming practices have left small scale farmers out in the cold. Most of them are excluded from export markets as they do not produce standardized crops and, as well, lack in use of machine based production processes. An efficient education to upcoming farmers could lead to them becoming part of the export market. New technology and processes could be implemented in their traditional practices, allowing them to create a higher profit as a result and conduct their way into export markets.

Even more, we simply cannot afford to ignore them in any possible degree as, small scale farmers, deliver the food that feeds a third of the humanity in a sustainable way. Furthermore, if we manage to educate them, farmers could provide sustainable livelihoods for themselves, their families and a sustainable environment for future generations.

Outline of a typical household. Case Study of Cañete:

As the case study of this essay, I used Cañete. This valley is irrigated by the "Cañete River" all year round. Out of 152, 379 population, 41,000 people are directly involved in agricultural production. Due to this, Cañete is one of the main influential agricultural areas in Peru and, as well, is the main source of income of the province. The average household of a farmer is of an outstanding 7 members (although it can range from 1-15). Most of the residents living in Cañete are below the international standards of nutrition, health, housing and services. Plus, they can only afford eating 70% of the daily caloric intake suggested and have an unbalance diet which is based in carbohydrates

Cañete has a transport system which consists of 4 main roads in total and several secondary dirt paths. Still, 1/10 of Peru's food produce is transported by these routes. Regarding producers, almost all of the small scale farmers in Cañete are "born farmers" or have simply lived in other regions and due to soil infertility, had to relocate. As Cañete has an economy based in agriculture, farmers have a great deal of responsibilities. To secure a sustainable agricultural produce, we must make sure that farmers have the sufficient knowledge about the practices, technology and potential hazards related to farming.

Outline of Major Crops and Small Vs. Large scale farmers in Cañete:

Large and medium farmers have more than 12 ha of land and earn an annual income of US\$ 6, 090. They control 20% of the land in Cañete and consist of about 260 farmers (most of them being White, Hispanic or Japanese). This is pretty remarkable; however, we must not forget the other side of the coin. Parcel and small farmers consist of 5,000 individuals in total, have control of 80% of the total agricultural land in the Cañete Valley live under less 12 ha of land and earn a total income of US\$ 1, 220 per year (emphasis: income to be used in feeding 7 individuals). Their houses (150-200sq, ft) consist of only the basic water and electricity services. Plus, Parcel farmers are normally "mestizo", which is a mix between Hispanic and natives and their produce is based in potato, cocoa and maize.

Formal education in Cañete:

Formal education is extremely important for Cañete's rural population. Educated people are considerate "the only citizens with a future in Peru". The government, therefore, has created public schools among all over the country. However, as they are unevenly distributed, the effect was the opposite of the desired. As many small scale farmers have massive amounts of members in their houses, cost of transportation to schools resulted extremely expensive, for what only the first male son would attend school while the other sons would work day and night in a farm (although they lack of

knowledge on how to proceed with the practices). Plus, at times, due to the low quality of education, which leads to poor amounts of knowledge obtained, parents were forced to take their child out of school (as their perspective of school is that it is a waste of money). This can be appreciated with a statistic that shows that only 0.3% of the population in Cañete completes college or university studies

The worst part of all is that the young citizens who manage to complete or partially complete their education in Valle Grande, (the location in Cañete with the highest rate of educated children) are interested in careers such as serving in the military or in other governmental constitutions. This is due to them thinking of agriculture as a not-so-prestigious career (Major cause: migration due to failure of farmers who were familiars). This is definitely a major challenge for educators, since the only souls they manage to pass their knowledge regarding to agricultural practices, do not even consider being farmers in the future. We need to change this pattern of thinking, before little to none farmers are left in the next generation to come.

Women and education:

“Because I am a woman, I must make unusual efforts to succeed. If I fail, no one will say, “She doesn't have what it takes.” They will say, “Women don't have what it takes.”” - Clare Boothe. Gender equality is a prerequisite for the eradication of poverty and hunger. Women have always played a vital role in providing the necessary food and nutrition for their families. As well, throughout the history, we can highlight their roles as food producers, processors, traders and income earners. However, their lower social and economic status limits their access to education, training, land ownership, decision making and credit. Consequently, their ability to improve the access to food for their family decreases. Food utilization can greatly improve if we acknowledge the outstanding role which women play in today's society and let them be educated about illnesses prevention, food safety and nutrition as they deserve. Plus, increasing their involvement in decision making and access to land and credit will ensure improvement in food security (as women will be capable of using and investing in fertilizers, better seeds, labor saving tools, irrigation and land care systems).

Resolutions: -1. Extension programs:

Extension programs may be a great short term solutions to alleviate education needs. Plus, they do not need to be gigantic, since families, once they have successfully mastered the concepts, could diffuse their knowledge to other family members and local people. Even more, getting the food to those who need it the most would not be a problem any more since, if more food is grown locally, transportation will no longer be a major issue, “food is being grown where demand exists”. Plus, an increase in yield of production will result in more goods and therefore more profit. This will enable the Peruvian government to spend more money in improvement of health and nutrition structures for rural families. From extension programming, there could be 34, 000 farmers beneficiaries and 7,000 indirect laborer beneficiaries (in Cañete only). This implementation could reach a high peak of succeed throughout the country if effectively applied.

Some lessons which could be taught are the following:

1. Traditional crop management: pest control, fertilizer application, weeds control
2. Adoption of new or improved crops: New crops with economic advantage over traditional ones. They could be genetically altered for a higher yielding (e.g: resistant to diseases)
3. Commercial marketing: Analyze how to obtain higher incomes by marketing their products
4. Farm management and farming association: Know how to follow basic and complex production process as well as knowing how to undertake common goals related to: labor efficiency, marketing, financial resources, labor efficiency and food purchase by scale. Safety and quality security in crops leads to a higher demand for small scale farmers in export markets, just what they need.
5. Pesticide use and environmental conservation: Decrease dependence upon chemical pesticides and incorporate pest management practices

A popular program (used in the “Tikapapa research paper, CIP) is “Improvement of traditional crop management by education”. This program has helped farmers to manage crops adequately and enabled them a fair return. The program focuses on farmers which earn an annual income of US\$800

or less, to ease the major problems in Peru first. According to research, small farmers could yield 20 tons of sweet potato, while, with a complete 10 year education, they can yield 10% more (CIP). The goal is to provide growers information about: pesticides application, weed control, pest control and fertilizer applications. This could be done by radio courses for crop management, seminars, workshops, tools applications and courses on plant nutrition. Some of these activities could include lectures, visits, practices, demonstrations and laboratory work. Other major programs include credit administration, marketing, management techniques and education on agricultural legal issues and how to organize farmers in strong associations for better cooperation.

Even more, teaching about how the different crops adapt to various environments in Peru could be a very profitable idea. For example, in Cañete, maize and sweet potato are high risk crops due to pests and prices. Therefore, it would be more sensible for small farmers to adopt different crops in order for them to improve their income. They could instead produce *lúcuma*, tomato, cotton, maize and potato.

3. Increase education quality and public school quantity:

This is an outrageously important factor. Being the base of Peru's wealth, we must highlight that to provide education, we need to ensure quality and quantity first. As mentioned, some children in Peru cannot afford the luxury of transportation to reach their school. Therefore, if we have a school for every thirty kilometers or less (depending in the population and means of transportation available), have road maintenance every 2 years and include free transportation to and from schools, a higher percentage of the Peruvian population could be cultured. Plus, possible establishments of "Trade schools", which is where children have their parents choosing one category they will major in (for example agriculture), could help them to have a more promising future.

As well, quality of education has not had a good reputation for Peruvians. There is a widespread of corruption in Peru's educational system. For example, it is said (World Bank 2009) that they found a nomadic "teacher", which was interviewed in Peru, who was actually a housemaid with political connections. She, and many others "teachers" in Peruvian schools, have not got the sufficient professionalism and intellect to teach children, which leads to an overall low educational quality in Peru. Plus, we need to get well rounded, professional and stationary teachers. The worst part of all is that the government claims that they are not taking action since "the population is happy". And yes, indeed they are. Many say that the school system is "better than 10 years ago", which is not true. The truth is that yes, there are more schools; however, they quality is the same as before. Therefore, spread of this reasoning should be diffused among citizens if we want the government to take action again.

Education can be reached by a stable unity in a country. For example, "multi-stakeholder platforms" are defined as a space where different stakeholders interact to understand each other better. They normally exchange ideas about learning and developing shared priorities, defining roles and agreeing on joint actions. This has (Devaux, et al. 2005) become a necessary component for sustainability. If farmers integrate the idea of "Farmers associations", they will be able to negotiate costs, prices, obtain technical assistance, fight crime and receive mutual benefits. As well, they will be able to build a sustainable community through development of common values, norms and rules without affecting their rights to freedom and expression.

Organizations and their possible enrolments:

An obstacle facing increasing agricultural production is the negative effect of public policies toward agriculture. Frequent recourses to price control foods have hurt agricultural incentives and, as a byproduct, government hold down prices for urban consumers. Government policies favor urban consumers at the expense of rural producers most frequently. As well, their role in the educational system in rural areas is poor. What they need to start doing is focus in the rural areas where extreme poverty exists, rather than the urban ones sectors. After all, urban areas (Lima and Trujillo only) already have 53% of the Nation's wealth, compared to the 5% nation's wealth the extreme poverty areas have. A sensible approach, taken by the government, would be the establishing of trade schools

and the following of the “30km ratio” between each school resolution. Even more, if they could provide free transport to and from schools, more inhabitants could be cultured.

Valle Grande Rural Institute, which promotes rural improvement through extension and education programs, designed for low income farmers, is an example to follow by other organizations. It reaches over 1, 000 small farmers per year. Among other Peruvian agencies, there is the CECOACAM, which reaches over 2, 4000 small farmers in Cañete per year. Other remarkable help was given by “The Promotion of sustainable development of Andean Micro”, which had interventions regarding food-for-safety, adult literacy, nutrition education and AIDS in rural areas of The Andes and the Amazon. Other organizations which would like to start contributing should develop comprehensive strategic food safety plans, which are based only in measurable outcome goals. Some organizations could include companies in Peru with major influential power (e.g: *Wong, Gloria and Vivanda*). After all, what is a country without unity? These resolutions should address key public health, education, resources and management issues regarding to food safety. The plan should consider both short and long term issues, threats and the needs of the population (children, elderly and women). International organizations such as the United Nations, The World Bank, The CIP, could work in helping the government to ease their future expenses in these areas.

Conclusion:

Marvelous Peru is the home of 4 different environments, all of which have the potential to offer vast greater amounts of foods, compared to the current, in order to help eradicate food insecurity. However, the problem which lies with the country is not agro environmental, but rather regarding with education, distribution and inequalities. Currently, 53% of the Peruvian population lives below the national poverty line and 25% live in extreme poverty. In rural areas, 70% of the children under five are chronically undernourished and this statistic has not changed even a single bit over the last decade. The insufficient allocation of public resources like areas of health, education and infrastructure, has limited the availability of farming land and lead to a very low yield of agricultural production in areas higher than 3, 999m above sea level. This makes most of the Andean population extremely vulnerable to food insecurity.

Education is an investment in "human capital". It provides individuals with the general skills to solve problems. Plus, an efficient ten years of education is said to increase yield production by 8.6 percent. (*Tested by CIP Tikapapa research paper*). However, current schools in Peru have got neither the sufficient quality nor quantity needed to fulfill the needs of their nation’s population. Increasing these two factors is immensely important as education is a direct contribution against food safety, environmental protection (slash and burn is commonly used in the Amazon) and improvement of health, illiteracy and poverty rates.

We pursue a better education for farmers in order to secure them from obtaining fair prices for their produce in the market place and of them knowing how to take profitable decisions about their investments and returns when faced. In general, we want them to be capable of having rights and responsibilities in commercial, credit and tax aspect. Even more, with knowledge, they will be able to improve their diet which is directly related to their health. As well, they will be more aware of environmental concerns and conditions. This is, of course, a long term solution, for what short term solutions like food aid provided by third world countries and extension programming would be needed to ease the process. However, although expensive and sure to require hard work and collaboration from tons of organizations, implementation of more schools and increasing the quality in each and every single one of them, would definitely be the most effective approach to tackle food insecurity in the future.

Farmers have the biggest role in this world: provide all the food a hungry humanity needs; they are the constitution of this planet. Therefore, we need to teach them how to use the land they already own effectively before time runs out. After all, we must remember that “The first farmer was the first man, and all historic nobility rests on his possession and use of land.” -Ralph Waldo Emerson

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