

Abby Van Der Beek, Student Participant
Hoover High School
Des Moines, Iowa

Hope for Nigeria

Nigeria is an African country that is rich in tradition, but struggling to survive. Food security issues in rural areas of Nigeria have paralyzed modernization in farming techniques. Low literacy rates have given a sense of lost hope to the programs being created. Rural Nigeria struggles with poverty for many reasons. According to International Fund for Agricultural Development (IFAD), the rural infrastructure in Nigeria has long been neglected, while investments in health, education and water supply have begun in the cities, but have not yet reached the rural areas. As a result, the rural population has limited access to services such as schools and health centers, and about half of the Nigerian population does not have access to safe drinking water. Limited education opportunities and poor health keep from breaking the poverty cycle. Neglect of rural infrastructure has also reduced the profitability of producing for the markets. Most Nigerians live in rural areas and grow food solely for the table or for local markets, but the crops are not sold in large amounts regionally or internationally. One of the least developed rural road networks lies in Nigeria. This causes the poor who live in isolated villages to be totally shut off from the cities during the rainy season which lasts in the Southern region of Nigeria from March until July. The limited accessibility that farmers face causes them to be cut off from sources of inputs, equipment, and new technology. Little access to fertilizer worsens the strain of family farming due to the diminishing soil fertility many farmers are dealing with. To add another factor, many farmers have access to only small parcels of land for cultivation. Environmental problems such as land degradation and drought have put increased pressure on diminishing resources. Land degradation is rising at a record pace due to extensive agriculture, deforestation, and overgrazing in rural areas. The north suffers from droughts and the south and southeast have too much of what the north needs: heavy rains and floods. The south and southeast also are dealing with oil pollution (IFAD). With the help of the Nigerian government and international aid, agricultural productivity and improved food security can be achieved through the building of agricultural extension programs offering education and advisory services to family farmers for implementing technologies and practices from research development efforts.

Nigerians eat many different kinds of food, depending on where they live. The Yoruba, who live in the rainy southwest, mainly eat yams and cassavas, which are similar to carrots. The Igbo eat fresh fish and citrus fruit, which are common in the wet climate of the southeast. The Hausa eat mostly grains. The Fulani cattle herders of northern Nigeria drink fresh milk and use fresh butter. Suya is a favorite snack everywhere. A high portion of rural people suffer from malnutrition and other diseases related to poor nutrition (IFAD). The average literacy rate in Nigeria is around sixty-eight percent. The average number of school years attended is eight. The country of Nigeria has around a \$2,000 per capita income (CIA). That number includes the wealthiest of the country. The small scale farmers are the poorest of the country and will have a per capita income of significantly lower numbers. In the South, where the rainfall is the heaviest, root crops are grown, such as cassava, yams, taro, and sweet potatoes. Cacao, from which cocoa is made, grows mostly in the southwest. The northern regions of Nigeria, which experience a five to seven month dry season, produce millet, cowpeas, and drought-resistant variety of sorghum known as guinea corn. Corn, as well as rice, is cultivated in suitable lowland areas. The north's commercial crops include cotton and groundnuts (Crops).

In many developing countries, including Nigeria, the lack appropriate technological and scientific knowledge application limits agricultural and economic progress. The need for

continuous research in food production and efficient extension services is extremely high at this time in Nigeria (Odebode). Without research and the developing programs, hope for improving family production and increased income will be forgotten without a fight. The technology that has reached Nigeria has made significant and successful progress with agricultural development, but stopping now would only leave the majority of families that are still struggling, helpless. Many family farmers are still farming using old methods such as hand picking and the use of hand tools. Small farmers, who use simple production techniques and bush-fallow cultivation and cultivate areas of one-half to two hectares each, contribute two-thirds of farm production (Crops). These methods were effective when only growing enough food for single families was sufficient, but that is no longer the case. Selling crops is now essential for rural farmers in order to take care of their families. In order to sell excess crops, farmers must be producing more, and that is where the need for extension programs comes in. These programs inform family farmers of more efficient ways to plant and harvest crop for larger production. Old methods are not able to produce enough crops to be sold for a decent profit. There are many new technologies to boost food production on the small scale farms from extensive research being done, but without extension programs, they are useless. The extensive research and development efforts create much hope for the Nigerian rural farmers, but extension programs must be in place to reach these struggling farmers and families who are in desperate need of help.

Over the past five to ten years extension programs have been created in order to reach Nigerian farmers, but until ever farm family has been reached, Nigeria should not give up. The situation is quite severe. A few extension programs have reached out to a small minority of rural farmers, but the majority who are without the benefit of an extension program are still struggling to keep food on the table for their family. More workers need to be trained to help carry out extension measures because at this time farmers outnumber available extension workers with the ratio of 1:3000 (Ozowa).

The environment is taking a beating in Nigeria. They have the world's highest deforestation rate, coming in at a -3.4%. This rising deforestation rate and environmental degradation is costing the country over \$6 billion a year, which can and should be used to help alleviate the growing poverty rate in Nigeria (Butler). Many extension programs with a funding need could be funded by this money. In addition to the rapid deforestation rate, the government faces problems with the soil degradation, urban air and water pollution, loss of the arable land, and the rapid urbanization of the cities in Nigeria. In 2005, the amount of arable land in Nigeria was 33.02% (CIA). The soil is being quickly degraded because of the intensive farming being done. According to the Rural Poverty Portal, women and households headed by women are frequently the more chronically poor within the rural communities. Women have lower social status than men and consequently less access to schooling and training, particularly in childcare and health practices. Small family farms are struggling in the first place, and to add to that, the households run by women are even worse off (IFAD).

Added to the struggle with producing enough food, when that can be accomplished, is the constant need for improved marketing. There is a major transportation problem due to the bad road connection and the absence of rural-urban roads. There is an inadequate market infrastructure in Nigeria. There is also inadequate funding for the markets, a shortage of processing, handling, and packaging facilities, and problems with the seasonality and perishability of food produce without enough storage facilities. Another unfortunate happening is the lack of uniform measure leading to exploitation by the long chain of distributors. Most of the issues going along with marketing are that the rural family farmers have little idea this is going on, and if they did, would have little way to solve the problem themselves. According to a case study done by Raphael Babatunde and Eniola Oyatoye, their conclusion poses a few solutions to

the marketing problems in Nigeria. They state “to eliminate this problem requires the construction of a good road network and provision of basic market facilities such as secure stalls, storage, processing, and packaging facilities” (Babatunde). Extension programs in Nigeria that include the information about marketing issues and how to solve them along with supplies for better storage would benefit the rural farmers and help work on some of the marketing issues.

The lack of information based on current research in agriculture modernization to the Nigerians hurts rural farmers. The proper funding of extension services intended to spread such information would directly benefit struggling farms. An article dated January 2, 2008, written by Emeka Ezekiel, talks about how Nigeria can use the Information and Communication Technology (ICT) to boost food production. Within the past few years, ICT has introduced programs into the agricultural sector. With the increased agricultural production goal in mind, Emmanuel Ekuwen, National President of the Association of Telecommunication Companies of Nigeria (ATCON), and his organization have developed a new agro-based ICT program that would enable farmers to have easy access to planting, harvesting, and storage information. This program will provide farmers with vital information such as planting and harvesting dates for different types of crops, storage conditions, and the best means of transportation for every type of crop. Since most farmers have used the trial and error method of farming in the past, they will no longer have to rely on that outdated method. They will be applying modern scientific technique to bring out the best yield from their farm. According to Ekuwen “In every farm there will be an automatic weather station that captures the relevant meteorological data such as the intensity of rainfall, soil moisture, radiation, wind direction and atmospheric pressure, temperature, and other agro-meteorological data. This data will be collated and then transmitted to a central collation facility in the National Weather Center.” Literacy rates are astonishingly low for females at 60.6%, while males are at 75.7%. Not all farmers age 15 and over can read and write, which gives a twist into the whole reaching out progress. All of the information will be useless if the farmers cannot understand and interpret the data, but there is a solution for that through the ICT program. Where the farmers are illiterate, there will be agricultural extension officers who will explain all the data to the farmer in their local languages. The instructor who is an agriculture extension officer will have received the Agrovision training on how to interpret the information to the farmer. We have also made adequate provision to establish an Agrovision centre all the local government areas where there is heavy presence of farmers. The main objective of the Agrovision initiative “is to leverage the ICT revolution in Nigeria and channel more towards increased agricultural and food production because we (Association of Telecommunication Companies of Nigeria) have proven evidence of the potentials of the program as a veritable catalyst for boosting agricultural and food production in Nigeria” (Ezekiel).

The financial and hands on help from countries is vital to the funding and promoting of extension programs in Nigeria, considering their present suffering state in the rural areas. The Chinese, even though sometimes for selfish reasons (oil), have reached out to help Nigerians with increased food security. Back in March 2003, China Nigeria and FAO signed a \$22.7 million agreement to share knowledge and experience between developing countries under a program of South-South Cooperation. China agreed to work with the Government of Nigeria, providing 20 experts and over 500 field technicians to work alongside Nigerian experts over a four year period. The costs were paid in full by the Nigerian government. That is a positive sign that the government is on board with funding these programs to help the farmers. The activities aimed at safeguarding food security include water control projects, production systems to boost crops, and the diversification of production. The Chinese will live in the rural communities in which they are working. This will give the Nigerians better and more efficient ways to learn how to improve their own farms. The other perk of the agreement with the Chinese is that the program spans all

36 states and touches almost 23,000 rural households. That is exactly what Nigeria needs to take a step in the right direction towards progress in food security (Riddle).

In order to expand extension services, that are already in place, to all of Nigeria, adequate funding is required. In a May 2007 article, by Isiyaku Ahmed, explains the way that the US Agency for International Development (USAID) can and is boosting food production and family income in northern Nigeria. The USAID is helping to improve farmer training. They are also working to increase the amount farmers earn for their crops. Most farmers grow food only for their family or local markets and not internationally. The rural farmers have a lack of information about markets and about training available and financial services. A USAID program, known as Maximizing Agriculture Revenue and Key Enterprises for Target Sites (MARKETS), is helping to train local farmers to produce better crops. The project is expected to train up to half a million farmers. The program is going to help increase demand by linking farmers with buyers from international and local institutions. The farmers, ideally, will eventually become more mechanized and commercialized. In order to do so, the farmers will also learn how to obtain and manage loans from local financial institutions. The 2006 growing season showed results. An overall productivity had increased by almost 150% (Ahmed). This program has shown results on implementing technologies and practices from research and development efforts already under way but a simple problem needs to be pointed out. The north and south are already in a split over religion, and this successful program only reaching the north at this point can potentially cause controversy. That is an unneeded strain on the already growing program. The solution will come when the MARKETS program can reach the southern farmers also.

Once tragedy strikes, the need for extension services becomes even greater within a struggling country. On August 11th, 2008, the United Nations Food and Agriculture Organization (FAO) announced a new strain of avian flu had been identified in Nigeria. This strain has never before been reported in Africa. Scott Newman, International Wildlife Coordinator of FAO's Animal Health services is suspicious as to whether or not the strain was brought to Nigeria through such ways as international trade of illegal poultry and unreported movement of them. This could escalate into a larger problem than it should be due to the gap in communication on the small farms the flu is affecting and also almost all rural households raise poultry. The programs for increased communication and education are much needed for instances such as this (Nigeria). A few ways to help this problem include strict procedures to prevent the disease from entering their farm but disinfecting all materials coming on to the property, prevent contact between poultry and wild birds and new poultry rearing. All these prevention ideas are valuable, but first Nigeria needs the cooperation between public veterinary services and private industry. FAO is increasing its technology support in expert advice, supplies and equipment to help bring the disease under control. The European Union has also contributed by launching an active disease surveillance program (Northoff). The contributions made by both the FAO and the European Union show an example that not one person can solve a problem alone, but better hope comes with much outside help.

Extension services aimed to develop agriculture in Nigeria are appropriate for the rural farms, but the problem will be less in the future if the children are well-educated in school on the grade level curriculum and also receive training pertaining to farming and managing time and money to support a family. The schooling system in rural areas of Nigeria is weak to nonexistent. Increased availability of education for young children will help them be more productive in their family and thus in the community also. School in rural areas could focus on the basics plus modern agricultural techniques and managing time and money. This way children are formally educated on modern farming techniques as well as other school subjects.

Affordable healthcare is also a need in Nigeria and extension services need to be in place that are geared toward affordable and decent healthcare for all Nigerians, especially in rural areas. Living on mere pocket change for daily meals and expenses, leaves little to no funds for healthcare. Programs are reaching out to increase the income of the family thus creating money for added healthcare, but until the family farmers begin seeing major results, healthcare will not be on their budget. Healthcare clinics with affordable rates in the rural communities would increase life expectancy and give hope to the sick and dying. Healthcare funds paid by the government would help to boost the results of extension services in the sense that healthy farmers are more apt to learn effectively and be able to use these methods to enhance their harvests.

Extension programs are flourishing in Nigeria and showing slight success in rural farm areas. Even though extension services are in place, they cannot function without proper funding. This proper funding in addition to hands on help is vital in the training and modernizing of Nigerian rural farmers and their farms. These programs are based on years of research and development. Minor tweaks in location and the reaching out of these programs could cause a flurry in improved family living. The families cannot depend on their own knowledge and therefore need the government's help and help from other countries to learn how to farm better and, consequently, raise their standard of living. Getting out of the trend of generations of failure is crucial for the success of the country as a whole. The typical diet of Nigerians includes most food groups, but the rural families have to give up meat and other nutrients in order to survive. Increased income and agricultural production will help to properly feed Nigerians. Families using outdated farming methods and small sized farms need the latest research to improve agriculture in Nigeria. The old methods are retarding production; new methods would result in a larger family income and also a boost in market activity. Many programs such as MARKETS reach out to rural farmers, but only in parts of the country. This creates a split in the country, already made by religious issues, that is unnecessary. The extension of these programs throughout the country would create a sense of unity within Nigeria and would also help the spread of new knowledge throughout the rural communities with less need of outside help. Neighbors are able to help neighbors, but not when they are hundreds of miles away. Each program does not need to and essentially cannot reach every farm, but the more evenly dispersed the programs and workers are, the easier it is to spread farm to farm and community to community. This also helps with community building and the rebuilding of the almost completely failed state that Nigeria has become. The land is being torn apart by the current farming methods being used, and that is why not just increased income is needed, but also ways to save and restore the land. Nigeria is not going to be conquering any new land soon, so maintaining what land the country has is necessary. Resulting from many farms growing only food for the table is the lack of knowledge for the markets. Many rural Nigerian farmers are oblivious to how these markets work and how they can help them, so they are either not using them, or using them inefficiently and are taken advantage of. The suggestions in the research of Raphael Babatunde and Eniola Oyatoye (an improved road network, secure stalls, storage, processing, and packaging facilities) are possible solutions for the marketing issues inside Nigeria. The extension programs underway are a start to rebuilding the rural farm systems of Nigeria; the continuing and expanding of these extension services along with proper funding will continue to benefit the country as long as the partnership of the government and the people continue to stay positive.

Works Cited

- Ahmed, Isiyaku. "USAID Boosts Food Production and Income in Northern Nigeria." Voice of America. 27 May 2007. Voice of America. 11 Sept. 2008 <<http://www.voanews.com/english/archive/2007-05/2007-05-27-voa3.cfm?CFID=35779201&CFTOKEN=43126133>>.
- Babatunde, Raphael, and Eniola Oyatoye. "Food Security and Marketing Problems in Nigeria:." Tropentag 2008. Aug. 2008. 11 Sept. 2008 <<http://www.tropentag.de/2005/abstracts/posters/102.pdf>>.
- Butler, Rhett A. "Nigeria." Mongabay.com. 4 Feb. 2006. 10 Sept. 2008 <<http://rainforests.mongabay.com/20nigeria.htm>>.
- Central Intelligence Agency (CIA). "Nigeria." The World Fact Book. 4 Sept. 2008. The Central Intelligence Agency. 8 Sept. 2008 <<https://www.cia.gov/library/publications/the-world-factbook/geos/ni.html>>.
- "Crops." Nigeria. Library of Congress. 10 Sept. 2008 <<http://countrystudies.us/nigeria/58.htm>>.
- Ezekiel, Emeka. "How Nigeria Can Use ICT to Boost Food Production." E-Agriculture. 2 Jan. 2008. FAO. 10 Sept. 2008 <http://www.e-agriculture.org/19.html?&no_cache=1&tx_ttnews%5Btt_news%5D=473&tx_ttnews%5BbackPid%5D=96&Hash=50cab57bc8>.
- IFAD. "Rural Poverty in Nigeria." Rural Poverty Portal. 7 Mar. 2007. IFAD. 8 Sept. 2008 <<http://www.ruralpovertyportal.org/english/regions/africa/nga/index.htm>>.
- "Nigeria: New Bird Flu Strain Detected, says UN Agriculture Agency." UN News Centre. 11 Aug. 2008. UN. 12 Sept. 2008 <<http://www.un.org/apps/news/story.asp?NewsID=27668&Cr=bird&Cr1=flu>>.
- Northoff, Erwin. "FAO Urges Nigeria to Increase Bird Flu Control Measures." FAO Newsroom. 20 Feb. 2007. FAO. 11 Sept. 2008 <<http://www.fao.org/newsroom/en/news/2007/1000499/index.html>>.
- Odebode, Stella O. "Appropriate Technology for Cassava Processing in Nigeria: User's Point of View." Bridgewater State College. May 2008. 8 Sept. 2008 <<http://www.bridgew.edu/SoAS/JIWS/May08/Cassava.pdf>>.
- Ozowa, Vincent Nnamdi. "Information Needs of Small Scale Farmers in Africa: The Nigerian Example." Consultative Group on International Agricultural Research. 8 Sept. 2008 <<http://www.worldbank.org/html/cgiar/newsletter/june97/9nigeria.html>>.
- Riddle, John. "Over 520 Chinese to Work With Nigeria on Food Security." Food and Agriculture Organization of the United Nations. 6 Mar. 2003. United Nations. 10 Sept. 2008 <<http://www.fao.org/english/newsroom/news/2003/15085-en.html>>.