Emma Schwarck Spencer High School/Iowa State University Spencer, Iowa/Ames, Iowa Comoros, Malnutrition/Education

Comoros: The Relationship Between Malnutrition and Education

Introduction:

Education allows societies to flourish economically, politically, and socially. In the United States, nutrition education is implemented in school curriculum assisting development of healthy eating habits while obesity presents a nationwide issue. In developing countries, such as Comoros, malnutrition runs rampant, and simply funding a project to grow more crops where education is sparse lacks sustainability. Henceforth, solutions must be developed for universal progress.

Comoros Living:

Comoros is a country comprised of small volcanic islands, Mayotte, Anjouan, Moheli, and Grand Comore (the largest), lying between Madagascar and Africa. Geography on the islands varies greatly as beaches envelope the coastal areas and mountainous volcanoes erupt from the hills. Volcanic activity is prevalent as, "Karthals on Grand Comore Island last erupted in 2007; a 2005 eruption forced thousands of people to be evacuated and produced a large ash cloud" (CIA World Factbook). Between each island great differences become prevalent. Soils can range from fertile and sustainable for forests to eroded and non-arable. Being a tropical island, the climate is generally warm and humid year round; however, there is, "a cooler, dry period between May and October and a warmer, humid season between November and April" (Britannica Online Encyclopedia). Because of the climate, exotic spices are heavily grown for trade and export income relies on the small industry.

Comoros is home to 808,080 people who lack many first-world amenities. Materials used to build homes are commonly natural and rather inexpensive. "Housing in Comoros varies from two-room structures covered with palm leaves to multilevel buildings made of stone and coral." Not only are homes rather primitive, but infrastructure is as well. Out of the entire population, only 69% have access to electricity and 35% have access to sanitation facilities (CIA World Factbook). Because of polygamy, families in Comoros are typically large. Since agriculture offers the most economic opportunity, rural areas allow the most family employment. Within the family, the men hold more power religiously, though the women have more power in the home. At home, meals are often, "a mix of East African root-based stews and Indian Ocean rice-based curry dishes" (Ottenheimer and Ottenheimer). Meals are rather inconsistent and has resulted in widespread malnutrition amongst Comorian youth. Hunger plagues Comoros while government officials scramble to save a dying healthcare system.

Healthcare is poor as facility numbers run short of population requirements; therefore, traditional medicines are popular for less serious ailments. Due to lack of medical care, illnesses such as, "malaria, cholera, tuberculosis, and, to a lesser extent, leprosy and AIDS," are of great concern for the Comorian people. A chronic problem within the country also lies within education. Public systems are based on French schools; however, the efficacy of public schools is uncertain as they close when teachers go on strike.

Current situation and Setbacks/ Barriers:

Malnutrition is prevalent throughout Comoros, and especially in young children. In 2015, "more than 42 percent of Comorian children age five and under suffer from chronic malnutrition, and one out of every five children suffer from severe malnutrition" (Sabones). Malnutrition in young children stunts growth and the constant pain of hunger distracts from already uncertain education. Additionally, malnutrition suppresses immune systems, leading to greater risks of illness and infection in a country lacking proper medical treatment facilities. "As of 2008, diet-related non communicable diseases were highly prevalent: ... raised blood pressure, ... raised blood cholesterol, ... [and] raised blood glucose" (Cazen). In other words, hunger's effects on the body is not only limited to the immune system, but also raises concerns about body regulation.

A poor economy contributes to the hunger crisis in Comoros. "As of 2004, 65 percent of the population was living on approximately \$2 a day." With little personal funding, purchasing food is nearly impossible, especially with the average family being rather large. Though agriculture is a major sector of the economy, 70% of food is imported (CIA World Factbook). Meaning, prices for groceries are much more expensive than if produce was grown at home.

Along with malnutrition, education is an area requiring great improvement. People lack knowledge of malnutrition's consequences without proper education. In Comoros, education is sparse because children work rather than attend school (Ottenheimer and Ottenheimer). Without knowing proper nutritional care, malnutrition is essentially inevitable.

Solutions:

The main issue prohibiting the Comorians from eating a healthy diet, is lacking knowledge of beneficial dietary behaviors. Through the implementation of nutrition education in schools and in villages, better eating habits arise.

Utilizing school curriculum for nutrition education allows youth to bring behaviors learned in the classroom home to the family. In Zambia, a study looked at how nutrition education improves healthy behaviors amongst primary school children. The curriculum used various materials including student workbooks with homework and a teacher's book to inform the teachers on how to instruct the class. Every source was written in the native language in order to increase effectiveness. The study showed the schools' efforts went beyond the classroom into the students' homes. "Schools reported that parents' response had been 'overwhelming.' Parents were providing food to take to school, encouraging hand washing, digging rubbish pits, and even building latrines" (Sherman and Muehlhoff). Meaning parents learned alongside the students, realizing the importance of proper diets and sanitary practices. The new behaviors not only improve home life, but also improve school life by having a meal to feed the developing brain. Furthermore, children's behaviors altered as "homework kept children busy, children's reading and writing improved, they were motivated to go to school, they now willingly ate vegetables, and other family members learned through pupils' homework" (Sherman and Muehlhoff). This exemplifies education promotes better dietary behaviors. Children learned about the healthy foods in

schools, and applied the knowledge to their daily lives. Moreover, the homework sparked a conversation among the family, further assisting in the application of beneficial habits. Although there were numerous improvements due to the study, some limitations arose, for example, "children were unable to carry out some of the advice in lessons." (Sherman and Muehlhoff). Because some nutritious foods were more expensive or less available, families in poverty could not apply the habits; therefore, curriculum must be specifically designed to meet the needs of families in any financial situation.

Through applying school-based nutrition education in Comoros, children can initiate the application of healthy behaviors. Customizing curriculum to the means of different populations within the country makes habits pertinent. Additionally, the utilization of homework is key to the connection between school and home. The main con of the school-based program is the issue of public school closures in Comoros. This creates difficulties ensuring students attend school often enough to absorb the importance of new behaviors. Furthermore, this raises the question of whether the family receives insights as a result.

Another possible solution involves education within entire villages. In Malawi, researchers studied the utilization of community education in areas with high prevalence of malnutrition. Specifically, the study looked at results in young children (under five years old). Research showed that, "in addition to home visits, conducting group meetings of caregivers and community leaders, providing education twice a week and use of cooking demonstrations have shown that they produce highly significant findings" (Majamanda, et al.). Meaning the communication between community leaders and those taking care of children showed positive results when combined with consistent education. Furthermore, benefits also emerge with cooking demonstrations. This is because people will know what to feed children, especially infants who lack nutrients not found in breastmilk. The researchers suggest, "poor feeding practices are associated with caregivers poor knowledge, lack of information and their being restricted by tractional beliefs" (Majamanda, et al.). Therefore, the most important people receiving nutrition information are those providing family meals, as well as any medical personnel. The most efficient way to engage nourishing habits, is to directly approach those in charge of current problematic diets. Prevention practices require more attention by the individual as healthcare workers are forced to focus on more serious cases. This is mainly due to the severely low numbers of doctors and healthcare facilities in developing countries (Majamanda, et al.). Overall, this study reveals the caregivers must learn how to apply health education in order to begin overcoming malnutrition.

Because of the insufficient attention on malnutrition by health officials, Comoros would benefit from community-based education. The ongoing healthcare crisis forces families to decide when an illness has degraded enough to require a hospital visit. This means the Comorian doctors must focus on extremely ill patients before the thousands in need of a steady diet. However, through educating caregivers in each village, enhanced behaviors result. Village learning offers an alternative to schooling in a country where education presents uncertainties.

Leadership and Funding:

Either of the solutions above could be lead by UNESCO, the United Nations Educational, Scientific, and Cultural Organization. UNESCO utilizes funding in order to ensure every citizen, "has access to quality education... [and] can fully benefit from scientific advances" (UNESCO). In other words, UNESCO could be interested in funding nutritional education in Comoros based on the deprivation of scientific

knowledge. In general, Comoros has not benefited from well-known dietary research which can be seen in the extensive malnutrition predicament.

Global Partnership for Education (GPE) is another organization that leads international education projects. According to GPE, it, "is one of the largest funders of basic education in low-income countries." Meaning Comoros' high level of poverty would push the pursuit of this education project. Moreover, GPE, "focuses on reaching the children that are most marginalized and vulnerable including girls, children with disabilities, and those who live in countries that are characterized by extreme poverty and/or conflict" (Global Partnership for Education). Comoros parallels with these focus areas as poverty plagues the entire country, and conflict between government and citizens occurs every day. GPE possess the ability to fund educational projects within Comoros to not only improve nutritional habits, but also the overall population education level.

Sustainability and Effects of Education:

Sustainability of this project is found in information's passage. For village programs, once public leaders and adult community members are taught nutritional needs and how these can be met within the population's means, the behaviors can be passed down to younger leaders in order to continue progress. As for school programs, the simple yet effective methods carry information from the classroom to the home. The simplicity of the concepts allows children to lead the way for applicable behaviors in the home. Because students are young, they will be able to carry new practices throughout life and pass onto future generations.

The enhancement of education allows families to focus more on the importance of progressing within food security. With nutrition education, citizens learn the purpose of a balanced diet and what crops currently grown meet standards. Additionally, people discover children's need for food. Through feeding youth out of hunger, more curriculum can be absorbed in school, and through implementation of nutrition programs more behaviors can be applied outside the classroom. Because citizens will know the necessary types of foods, nutrition education furthers potential of future agriculture projects in Comoros.

Conclusion:

Comoros is a small country with social and economic issues; however, the most prevalent is malnutrition. Through school and community-based education plans, positive dietary habits result, henceforth decreasing levels of malnourishment. Teaching positive nutrition behaviors will therefore increase effectivity of future agricultural projects.

Works Cited

- "About Us." *Global Partnership for Education*, <u>www.globalpartnership.org/about-us. Accessed March 14 2018</u>.
- Chazen, Emily. "Hunger in Comoros: In Need of Repair." *The Borgen Project*, 27 Oct. 2017, borgenproject.org/hunger-in-comoros/. Accessed 12 March 2018.
- "Comoros." *Central Intelligence Agency*, <u>www.cia.gov/library/publications/the-world-factbook/geos/cn.html</u>. Accessed 11 March 2018.
- "Introducing UNESCO." *UNESCO*, en.unesco.org/about-us/introducing-unesco. Accessed March 14 2018.
- Majamanda, J., et al. "The Effectiveness of Community-Based Nutrition Education on the Nutrition Status of Under-five Children in Developing Countries. A Systematic Review." *Malawi Medical Journal*, vol. 26, no. 4, Dec. 2014, pp. 115-118.
- Ottenheimer, Martin, and Harriet J. Ottenheimer. "Comoros." *Britannica Online Encyclopedia*, www.britannica.com/place/Comoros. Accessed 12 March 2018.
- Sabones, Lin. "Malnutrition in Comoros." *Borgen Magazine*, 1 July 2015, www.borgenmagazine.com/malnutrition-in-comoros/. Accessed 13 March 2018.
- Sherman, Jane and Ellen Muehlhoff. "Developing a Nutrition and HEalth Education Program for Primary Schools in Zambia." *Journal of Nutrition Education and Behavior*, vol. 39, no. 6, 2007, pp. 335-342.