The Pumpkin Village and the Harvest:

Utilizing the Resources of Traditional Health Beliefs and Food Practices

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Abstract

It is important to contextualize traditional health beliefs, diets, and food practices in community development. Traditional beliefs and practices are valid within their environment and support the health of the community. Furthermore, displacing or dismissing traditional diets harms community health and does not help further development, especially as there are many misconceptions about the benefits of Western nutrition. There are practical ways to discover traditional health beliefs and food practices in a community and to utilize traditional diets as part of development. By incorporating traditional diets into development work, development practitioners can expect a more sustainable and empowering health system within the community. Traditional food and health beliefs are valid health systems that must be integrated into community development practices.

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Introduction

"Which value is there in this thing?" Local Chairman Topher asked me through a translator in the little village of Kyakitanga, Uganda. He was talking about the humble pumpkin. I told him about the pumpkin's value of blood sugar maintenance, vision health, immune-boosting properties, and its contribution to a healthy diet for long-term health. In the little shack shop built from ill-fitting boards, chickens ran afoot and customers occasionally interrupted, purchasing cooking oil, snacks, or sweets. I couldn't help but feel my Western nutrition training was out of context. I wished I had a way to summarize the pumpkin in a more relevant way.

But Topher was gracious with my answer anyway. "I will now pull my pumpkins out of the garden," he stated. My translator explained to me that, although people plant pumpkins, they often leave them in the garden because of its stigma as a "poor man's food."

That bothered me, so I shared, "I think it's important to know that when God made the plants, He said, 'It is good.' Just like God doesn't look at a poor person as nothing, so it is with 'poor man's food.' It is also valuable, just as all people are valuable." Topher said he understood, although I felt my words did little to change the pumpkin's poor reputation.

The sad story of the pumpkin's reputation in Kyakitanga stung deep in my soul as I thought about God's creation—the pumpkin—stigmatized or deemed valueless. After all,

Kyakitanga was named after *entanga*, a pumpkin-like vegetable that grows throughout the local region. I reflected on the metaphor of this village profoundly symbolized in its namesake pumpkin, too unworthy to be harvested for its treasures. Would the lowly pumpkin and the lowly village remain buried deep in the ground along with their treasures and values, too stigmatized to be worthy of harvest?

Topher's pumpkin question neared the end of my six-week stay in the village, during which I learned about food and the local diet. In my last week in the village, a small team from Seattle, Washington hosted a medical and evangelism outreach together with Ugandan doctors and ministers. To kick off the outreach, we started off with a day of basic deworming and tooth fluoridation for all 500 children in the local school.

I helped with the fluoridation process for part of the day. It was the same with nearly every child: broken or missing permanent teeth, voracious cavities, and severe gingivitis. Many children approached the fluoridation process with fear in their eyes, uncertain if the fluoride application would be painful. By the end of the day I had gone from being nauseated by tooth decay to being incensed about the rampant dental problems in the village. If teeth are supposed to last us for a lifetime, why were these children already experiencing extreme tooth decay, never to have the complete dentition set that God designed them to have?

As it turns out, the poor man's food and tooth decay were narratives of chronic food injustice in Kyakitanga, and really Africa to a greater extent. The tooth decay was a physical indicator of an imbalanced and deficient diet, whereas the pumpkin symbolized a demeaning perspective of what it means to be from Africa and eat the food of it soil. Undeniably, the

injustices of tooth decay and the unjust stigma of the buried pumpkin are linked together at a core issue: the disappearance of traditional diets. Community developers can choose to look at food injustice in one of two ways. They can look at the traditional diet as the cause of the problems—or as the solution. Traditional food and health beliefs are valid health systems that must be integrated into community development practices.

Through a non-critical eye, malnourishment in Kyakitanga seems to confirm that their beliefs about food and health are wrong or ill-informed. Despite the fluoridation experience I wasn't convinced that tooth decay was proof of inferior ways of the people in Kyakitanga. In the 1930s, Dr. Weston Price (2008), a dentist, traveled the world in search of peoples who had not succumbed to the same health degeneration seen in the US, using dental and skull health and formation as a guide. He hypothesized that degeneration had more to do with what was absent from modern life than a presence of something causing harm. He found that people who consumed modern, industrialized diets had malformed facial and dental structures and teeth that were more susceptible to decay. He compared people from the same ethnic groups in both a traditional setting and a Westernized setting, such as missionary compounds and urban areas. In his study of a Ugandan tribe in the same general region as Kyakitanga, he found no tooth decay or dental caries in 1,040 teeth in 37 people, averaging out to a full set of teeth for every person. Given the decline in dental health from the perfect teeth in adults that Price saw to the rotting teeth in children I saw just 80 years, it begs the questions of what has changed in such a short time.

As people are taught imported ideas about nutrients and food groups, local food beliefs soon become mere anthropological curiosities in the zoo of indigenous beliefs, placed inside safe cages for people to muse over, out of context, and with nominal purpose. Once placed in the confines of arbitrary cultural practices, traditional beliefs are reduced to National Geographic spreads and History channel showings, resulting in traditional diets and food practices being taken as seriously as ancient mythology. And because malnourishment is rampant in the developing world, often their diets are looked at as indicators of a lack of understanding of how to feed themselves.

That could not be further from the truth, and I do not stand for this as a nutritionist. I have found that poor diets have far more to do with poverty and poverty-related barriers than a lack of knowledge. The field of nutrition is more about who controls the knowledge than whose diet merits worth. In the time I've spent in Africa, I have come to hold strong beliefs about food justice, one of which is the protection of traditional diets. Because God says much is expected to whom much is given (Luke 12:48), I feel compelled toward nothing less than the highest responsibility to promote right food systems within community development because God has given me the opportunity to be a voice for this need. I will not let the riches of Africa be buried in a garden, never to be harvested because they are deemed poor, improper, or valueless.

I came to the field of community development with a background in nutrition. Through my training at Bastyr University, I learned more than simple food groups and a list of nutritional benefits of a healthy diet. My eyes were opened to a world of food that is *beyond* food—one

where politics, personal agendas, and poor science have all contributed to what we hold dearly as truth in nutrition. Most importantly, I learned how to determine what is right and wrong about food beliefs, practices, systems, and policies. Like almost everyone who graduates with a health-related degree, I thought I had all the answers and was ready to tell everyone how to have the right answers, too. But as I traveled, especially spending over two years in South Africa, my eyes were opened to a bigger world, one in which foreign foods were not for a smorgasbord of wonderment, quaint ways, and pictures and stories for a retirement memoir, but one that truly held innate knowledge—the type of knowledge I paid to have.

In this paper I will make a case for the validity of traditional beliefs in their context and the innate knowledge held within traditional diets. I will discuss the consequences of failing to incorporate traditional beliefs into community development. From there I will discuss practical ways to unveil and utilize traditional beliefs in development. Finally, I will talk about the reward of development work that embraces traditional health beliefs. It should be noted that the principles and applications of this type of approach—called contextualization—is not limited to food; in fact, contextualization is making gains in community development as practitioners recognize the importance of incorporating local input and knowledge and the consideration that not all solutions are equivalent across the globe. Development, including nutrition, must be considered within the context of the community and culture.

Before we begin, some definitions are in order. Although we are familiar with many food and health terms, it is important to note that they have technical definitions. In development work, hunger is typically defined in terms of a state of nourishment rather than

an instantaneous feeling. Hunger can be in the form of protein-energy malnourishment (also called kwashiorkor), which is a diet that is adequate in calories but insufficient in protein, or in the form of caloric insufficiency, which is simply an inadequate food intake (ole-MoiYoi, 2010). Hunger includes two major categories: undernourishment and malnourishment. While undernourishment refers to a diet that is overall deficient in many critical nutrients, malnourishment refers to a diet that is adequate for sustaining life but marginal to poor in some nutrients (World Food Programme, 2014). Typically vitamin A, iodine, iron, and zinc are common nutrients that are deficient in diets and are at the center of malnourishment.

In the field of nutrition, nutrients are divided into two basic categories: macronutrients and micronutrients. Macronutrients include all of the nutrients we derive energy, or calories, from and include protein, fat, and carbohydrate. Micronutrients are vitamins and minerals, which do not add caloric value to the diet, but are necessary for metabolic functions and must be acquired through food because the body cannot manufacture them.

I will use the phrases traditional health beliefs, traditional diets, and traditional food practices, all of which have particular distinctions and are used with care. Health beliefs encompass all that is known about health, both including and beyond food. Traditional diets are the whole of what has been consumed by a group of people for generations prior to globalization, while food practices are specific activities surrounding food that are consistently seen within a cultural group.

This journey begins with such food and health traditions. Just within the United States we have many philosophies about diet and health, and taking a look outside of this society can

render even more beliefs about food and diet. What exactly do these beliefs behold, and is there a common thread of value within them?

Validity in Traditional Health Beliefs and Food Practices

As I sat with villagers in the little church on the hill in Kyakitanga, discussing food, I carefully recorded what the villagers told me about their food beliefs. We had finished talking about their beliefs about healthy foods and diets when I asked them, "Do you feel you are eating the way you believe is healthy?" No one volunteered a raised hand. This prompted the discussion of what they felt was keeping them from eating healthy.

Each person listed similar problems: low income, difficulty in accessing a variety of foods, small plots for growing food, poor soil quality, and too many family members to feed. I carefully recorded these insights, none of which were a surprise to me. Anyone who works with nutrition in developing countries knows that these are common barriers for communities.

After the meeting, I reviewed my notes and tried to uncover any further meaning. What were they communicating by what they *weren't* saying? Then I found it: not one person felt that they had a poor diet because they did not know how to eat. Interestingly, the way the villagers viewed themselves was far different than the view many outsiders hold regarding their health. As we look at malnourishment, we tend to look at the world from a deficit point of view—including the capabilities and knowledge of the people.

Traditional diets and food practices have sustained peoples across the globe for thousands of years. As we shall see, movement away from such diets has contributed to

degradation in health, despite advancements in technology. Traditional diets have little to do with malnourishment, whereas other influences such as poverty are more likely to contribute to hunger or a low quality of life. The validity of traditional beliefs can be found in a case study of Kyakitanga, consideration of contextualization of traditional diets, examination of the symbiosis of genes and food, and a look at some of the causes of malnutrition.

A Case Study in Kyakitanga, Uganda

I spent almost two months in the small village of Kyakitanga, Uganda in the summer of 2013. I came to the village with the hypothesis that the people in the village understood how to have a healthy diet, so my main purpose was to look at food beliefs and practices in the village as a way of affirmation and encouragement about what they were already doing right. Of course, I also knew that malnourishment was common in the village, so my secondary purpose was to begin a discussion on what they perceived as barriers that kept them from eating the healthiest diet. I knew I couldn't change anything single-handedly, but I had high hopes for opening the discussion about a way forward.

I hadn't even started my first day in the village when I was already clued in to what would turn out to be the exploration of a well-developed health belief system. Over morning tea, I explained my general purpose to the pastor of the church in Kyakitanga. He agreed that nutrition was very important in the village setting. "Just last week I had to visit a child in the hospital. He had lost too much blood," Pastor Julius Muwanguzi told me (Personal communication, July 1, 2013). Immediately I sensed that this blood loss was not literal, as he

had associated it with nutrition rather than trauma or injury. I highlighted it in my notes and listened for more references to blood as I talked to people about health and food.

I got to know more about food by working in gardens with villagers and cooking meals with them, using this interaction as a means to ask a lot of the questions I had. As I met with more people, working in their gardens and talking to them about food, I heard similar remarks about blood and health. People told me about the problem of blood loss and about the foods that build blood. The more I heard, the clearer it became that their view of health was directly related to blood. Certain foods help build blood, and certain factors contribute to blood loss. Blood loss led to illness, which could be recovered by eating foods that build blood (see Appendix A). As I studied more about this, I couldn't believe the way it unfolded in my research. This health belief system had tapped into the same truths that Western nutritionists had concluded, but from a blood-centered system rather than a reductionist system.

Corroboration with Western nutrition. What had at first seemed like a vague connection of food to blood turned out to be a perspective of nutrition I hadn't encountered much in my studies. Although I knew about micronutrients and the blood, I hadn't previously considered them through the lens of blood building (see Appendix B for foods available in Kyakitanga and their correlation to blood building from a Western biomedical view).

Blood building in Western nutrition. In Kyakitanga, meats, organs, and egg yolks were all identified as blood-building foods. These, along with beans, were referred to as "sauce" and were considered an important part of a balanced meal. These foods are also directly related to blood in Western nutrition as they are high in iron, vitamins B6 and B12, and vitamin A. Iron

and B6 are critical for hemoglobin and heme synthesis, respectively, which are major components of blood and contain iron that is necessary for transporting oxygen in the blood. Incidentally, iron, vitamin B6 and vitamin B12 also prevent anemia. Vitamin A is a critical antioxidant that is necessary for protecting blood vessels from damage. Potatoes, for example, were identified as a blood-building food and are high in vitamin B6 as well and thus play a direct role in heme synthesis.

Vitamin K is another vitamin that has its major role in the blood as part of the blood clotting cascade. Vitamin K deficiency can leave a person at high risk of hemorrhaging. Of course, vitamin K is also found in the same foods identified as blood building, such as green vegetables, organ meats, and egg yolk.

Finally, folate is another well-known vitamin in Western nutrition. Known for its necessity in creating red blood cells, folate deficiency can lead to anemia. Folate is frequently found in green vegetables and some beans. Folate also reduces homocysteine levels in the body, which can cause heart damage and cardiovascular disease, although research has indicated that this may be more important for Europeans than for Africans (Nabhan, 2004).

Blood sugar regulation. Although all fruits and vegetables and most starchy foods were considered blood building, certain foods in the diet show a greater impact on blood from a Western standpoint. In particular, pumpkin, corn (maize), avocado, and millet all help regulate blood sugar levels. This is due to high amounts of soluble fiber that help slowly release glucose into the blood. Avocado in particular also has a high fat content which helps with slow release.

Interestingly, some of the common starches that composed a majority of the meal were not listed as blood building foods; they were also not considered to cause blood loss, so I assumed that this meant they were considered neutral. These were sweet potatoes, cassava, and plantains, all of which are typically eaten in large amounts to compensate for an otherwise calorically insufficient diet. When eaten in high amounts (common in poverty), they can burden the body with high blood sugar levels. Thus, they may have blood-building components until they are eaten in excess, which would then contribute to blood loss instead of building blood.

Blood mineral balance and blood pressure. The body has a very specific level required of blood minerals to maintain homeostasis. Without this, blood pressure may spike (causing damage to blood vessels as a chronic condition), bones grow weaker as the body pulls minerals out of bones to maintain balance in the blood, and hormones work overtime to keep everything in balance. Vegetables, as well as animal products (and milk in particular), are a great source of such minerals, and diets high in mineral-rich foods help the body maintain blood mineral balance without causing the body to have to overwork to maintain homeostasis.

Antioxidants. Much of the theory behind cardiovascular disease has to do with the initiating factor of vessel damage. Blood vessels succumb to a lot of damage from pollution, processed foods, smoking, and stress. Antioxidants help prevent damage before it starts. Vitamins A, C, and E are all antioxidants that protect blood vessels, cells, and cell membranes. They are highest in fruits and vegetables, with vitamin A particularly high in animal fats. All of these foods were identified by Ugandans as blood building.

The importance of blood in Western medicine. Furthermore, imported Western medicine (also called biomedicine) has continued to validate the Ugandan belief that blood is central to health. Some of the major illnesses that the community faces, like malaria and HIV, are directly related to the blood. When someone has a health concern important enough to make the trek to a nearby hospital, doctors frequently take blood tests because of what the blood reveals about the health of the body. Finally, some of the common emergency remedies that they encounter at the hospital also focus on building blood, either through IV saline solution or the more drastic measure of blood transfusions.

Corroboration with Chinese medicine. Chinese medicine has even more to say about building blood and also considers blood to be central to health. The blood nourishes every organ, and when organs are deficient in blood or have blood stagnation, the body presents specific symptoms; eventually it will affect all organs. The heart governs blood, the spleen makes it, and the liver stores it for nourishing the body (T. Cameron, personal communication, December 10, 2013).

Chinese medicine practitioners consider eggplant and onion to help move blood to overcome stagnation, both of which are frequently used in the Ugandan diet. Also, beef, bone marrow, leafy greens, eggs, and some beans are blood tonics, all of which are also recognized by Ugandans as blood building foods.

Causes of blood loss. Ugandans identified several factors that lead to blood loss: dehydration, strong illness, malarial and parasitic illnesses, lack of variety or a monotonous diet, lack of sauce (protein), and lack of vegetables. It is no surprise that Western nutrition has

shown similar indicators of ill-health. Dehydration affects blood volume and blood pressure, weakening the blood's ability to oxygenate and nourish cells. Illnesses require large amounts of nutrients for full recovery; unless a person constantly nourishes their body during illness, they will get more and more ill as they are depleted of nutrients called upon for recovery. In severe cases, this causes NAIDS—nutritionally acquired immune deficiency syndrome—similar to AIDS but acquired through malnutrition rather than HIV. In fact, NAIDS kills more people yearly than AIDS has killed in total, at a rate of about 15 million per year (Beisel, 2002). Similarly, malaria and parasites also drain the body of nutrients found in the blood and can be fatal.

The remaining sources of blood loss are directly related to the diet. Lack of variety, imbalance, and a monotonous diet all contribute to an incomplete nutrient profile and lead to malnutrition. Protein sources have key minerals for blood, as discussed above, and a lack of vegetables further contributes to an insufficient diet. People had identified hair discoloration as a classic sign of blood loss; Western doctors identify this hair discoloration as a sign of kwashiorkor.

Built-in understanding of treatment and prevention. The concept of building and losing blood takes into account both prevention and treatment. Frequently, African peoples are viewed as having little concept of preventative care, but this is simply not the case. Biomedicine concentrates largely on medical tests for "prevention," but these are not preventative care; rather, they are early detection or diagnostic tools. A tuberculosis test can lead to diagnosis and treatment, but the test itself does not prevent tuberculosis bacteria from invading the body. Because of the focus on biomedical diagnostics and early detection as

prevention, it is no wonder that Africans appear to not understand prevention, as Western medicine has a different take on what prevention is. While Western medicine has been teased out into separate categories, in the Ugandan understanding of blood building, prevention, maintenance, and treatment are not separate and exclusive categories of health care.

Traditional Diets in Context

Dr. Weston Price's travels across the world came at a critical time in early globalization. Price was convinced that traditional peoples did not experience the decline of health seen in the industrialized world. The Industrial Revolution left no corner of life untouched, including food. The explosion of processed foods that had longer shelf lives and heavy refining processes, created with little understanding of the components of food that make it nourishing, all contributed to an unprecedented shift in food habits. As industrialized parts of the world embraced refined flours, added sugars, and other highly processed foods that replaced traditionally nourishing foods, missionaries, explorers, and plantation owners slowly introduced these new-fangled foods to unchartered territories.

Dr. Price (2008) had the perfect opportunity to compare people who had stayed in their indigenous environments to their ethnic counterparts who had moved to cities, missionary compounds, and plantations. Those who continued to eat their traditional diets, whether Eskimo, Polynesian, African, or Australian Aborigine, had significantly better health over those who had moved to Western diets introduced by Westerners (see Appendix C for pictorial comparisons of indigenous and modernized Africans).

The health disparity between the traditional and globalized diets was not just a matter of white flour and large amounts of sugar, although those were significant contributing factors. It was also the matter of lacking something more: healthy fats. Peoples all across the globe traditionally strove to find good sources of animal fats, whether through herding, hunting, or trading. Not only did this provide saturated fat and cholesterol (which build the immune system), but also the more crucial fat-soluble vitamins A, D, E, and K. Despite consumption of plenty of full-fat animal products, very few indigenous people suffered chronic heart disease or cancer.

Even in remote Kyakitanga, some signs of the Western diet have crept in through cheap bags of generic cooking oil, white bread, and brand-named sodas. An American teacher who had come to Kyakitanga while I was there had remarked, "Coca-Cola once stated that their mission was to make sure everyone in the world was within five minutes of a bottle of coke. I think this may be the only place they haven't yet reached." I shook my head. "Actually, they have," I responded. "You can find them in Topher's shop."

Although I did not conduct a formal research study that included health measurements, food frequency questionnaires, or any other standardized ways to compare families in Kyakitanga, informal observation showed that the effects of poverty have mimicked the same effects as the industrialized diet—that is, the absence of nourishing foods, like Price hypothesized had happened during industrialization. Kyakitanga is its own melting pot of sorts, home to four local tribal groups, with the largest groups being Bayankole and Buganda. The Bayankole are traditionally herders; not only does this mean they have easy access to animal

products such as meat and dairy, but it also means they have more money. Buganda, however, are traditionally farmers. In fact, many Bayankole hire Buganda farmers to work the land for them, as Bayankole generally do not have the farming skills that Buganda have.

The differences in health between the two were quite evident. Bayankole were taller and had beautiful teeth, while Buganda were shorter, had missing teeth, and some were even overweight despite eating a very lean, nearly vegetarian diet. Of course, both diet and income level factor into each population's physical health; Bayankole are more likely to be able to afford a better balanced diet than Buganda, as well as hospital care when necessary. Kyakitanga seemed to hold within itself evidence that diets with even some level of animal products was more supportive of health than those without, which was directly related to relative wealth.

Food Practices and Processing

There is much more to food than the food itself, as the way food is prepared also determines its nutritional value. Food processing is anything done to a plant after harvesting or an animal after slaughter. This could be as simple as cutting the green tops off of carrots or as industrially complex as making canola oil. Traditional food processing methods frequently enhance nutritional value, while modern processing typically depletes nutrition value.

Cooking is the most basic and common method of food processing. I have heard much criticism about African cooking, which is frequently described as "cooking vegetables to death." Cooking is considered the best for blood building in Chinese medicine, as well-cooked food is pre-digested and easier for the spleen and stomach to separate out Food-Qi (T. Cameron,

personal communication, December 10, 2013). Furthermore, cooking vegetables actually increases mineral bioavailability, as cell walls are broken down after a long period of simmering. Cooking vegetables for a long time can actually be better for digestion as well as assimilation of nutrients. "Over-cooked" vegetables may just be a matter of acquired tastes or of Western romanticism of raw salads.

Freezing and frying (in vegetables oils) are more modern methods of food processing. According to Ugandans, foods die and lose their blood-building properties when fried or frozen. Today's fried foods are frequently fried in vegetable oils that cannot handle such high heat and contribute to cardiovascular disease. Freezing foods was not even an option not too long ago all across the globe, and even in Kyakitanga today there are no refrigerators or freezers. According to Chinese medicine, cold food directly damages the spleen, thus impairing its ability to make blood (T. Cameron, personal communication, December 10, 2013).

Culturing, especially dairy products, is another form of food processing. The herders I met did not just drink milk or eat meat, but also processed dairy products even further. They cultured milk into yogurt, which not only acts as a preservative in the absence of refrigeration, but also strengthens the digestive system, and in turn the immune system. Although people collected buttermilk (a fermented byproduct of making butter), they typically did not consume it themselves but gave it to their children. They also insisted that heating buttermilk "kills" it.

These traditional food practices exemplify the value of traditional food preparation over modern, industrialized food processing. Indeed, these are not "primitive" practices in the

absence of greater technology, but are ways of relating to food that sustain the health of communities across the globe.

Genes, Culture, Food, and Guts

Nutrigenomics—the study of nutrient interaction with genes—is a bustling field used primarily to determine how people can eat to favorably influence their genes. As another aspect of nutrigenomics, Nabhan (2004) discussed how genes have interacted with local foods in ways that are uniquely beneficial to particular populations, and that removal of these foods can be detrimental to their health.

Some ethnic groups do not have the genetic capacity to consume foods that have been introduced through globalization. This is evident in the rates of chronic disease amongst Native Americans as their traditional diets were wiped out and replaced with diets high in sugar and refined grains. Traditionally, desert peoples of North America consumed native plants like cacti, desert beans, and century plants (also called agave). These foods have unusually high levels of soluble fiber in order to conserve water during droughts; incidentally, this also helps slow sugar digestion and keep blood sugar levels steady (Nabhan, 2004). Without these foods that support their genetic makeup, they suffer very high levels of diabetes and heart disease.

Nabhan (2004) stated that selections of varying foods in different environments "served to foster cultural diversity, as distinctive food foraging and cultivation traditions emerged that set various ethnic populations on very different evolutionary trajectories" (p. 4). Essentially, people adapted to their environments and eventually became interdependent on local foods, sometimes far beyond the superficial level of nutrients.

Another quickly developing field is the study of the gut microbiota, which considers the role that gut bacteria play in health, chronic disease, and immunity. Microbiologists have found that cultural groups consuming a traditional, non-industrial diet had far more bacterial diversity compared to Americans who typically consume an industrialized diet. Greater gut bacteria diversity is associated with greater resistance to chronic diseases such as type 2 diabetes, cancer, and heart disease (Pollan, 2013). Traditional diets, although sometimes simple in nature and also without the cuisine variety we have at any given strip mall, continue to be the best protectors of health and the best preventative care.

So Why Are So Many Africans Malnourished?

Certainly there is a disconnection between traditional food practices and *actual* food practices. In fact, it is this dichotomy that often disguises the innate knowledge that indigenous people have about food and health. It is easy for the development practitioner to overlook traditional beliefs because they cannot find any evidence of it in the face of malnourishment. Thus, it is helpful to discuss larger factors that lead to hunger. Malnourishment is obviously most immediately caused by a lack of food, but there are many complex factors that contribute to it, such as poverty, ecosystem constraints, food markets and global systems, and the globalization of the industrial diet.

Immediate causes. The most direct causes of malnourishment are related to inadequate intake, including limited access, monotonous diets, and the disease-malnourishment cycle (reminiscent of the blood loss cycle). Hunger can also be related to household buying power, such as household income, monetary control in the household, and

ever-increasing food prices (Boyle & Holben, 2006; Herforth, 2010; ole-MoiYoi, 2010). Such combinations leave households with few food choices, and they frequently eat the familiar starch-and-beans diet associated with the developing world.

Ecosystem constraints. Environmental decline has affected every aspect of farming, including biodiversity, soil and water quality and quantity, and destruction of delicate ecosystems (Herforth, 2010). Furthermore, overpopulation and accelerated population growth put a further burden on ecosystems to produce enough food (Boyle & Holben, 2006).

Global food system and markets. Worldwide, enough food is grown to feed every man, woman, and child 3000-4000 calories per *day*—enough to make each one of us obese (Kloubec, 2009). Even with such caloric abundance, the complex global food system does not equally distribute resources, leaving some of us obese and some of us hungry. Large, complex systems of international trade and debt, rising inflation, and high interest rates to developing nations trap countries in poverty, affecting citizens (Boyle & Holben, 2006).

Industrialized diets. Globally, the human diet is making rapid and dramatic shifts due to industrialization. Globalization, large scale capitalism, rising affluence in developing nations, and new migration patterns are all contributing to a homogenous global diet (Menzel & D'Alusio, 2005). As cash crops for export become favored over local crop diversity, humans all across the globe today eat more similarly than we ever have before, relying on a relatively small amount of plant species to feed us (Khoury et al., 2014).

Many of the benefits of traditional diets have disappeared due to poverty, decreased biodiversity, and lack of access to traditional foods. With these difficulties, is it even worth

pursuing traditional diets? As globalization affects even further reaches of the earth, would it just be easier to have one global diet? And if it works for us, can't it work for them?

Consequences of Dismissing Traditional Diets

Globalization has been touted as a global good because of a new ubiquity of knowledge and ideas. We must consider, however, from where the sources of knowledge and ideas originate in globalization. Shiva (2012) argued that globalization is not an equal cross-cultural exchange, but rather it is the domination of one culture over others. This is global culture, which is perceived synonymously with Western culture, and is the primary source of shared knowledge. Yet Sen (2012) argued that it is not accurate to label globalization as Western imposition. While this argument may be true in that non-Western cultures have not been annihilated, it does not mean that Western culture is not an influence on other cultures, especially in the realm of health and nutrition.

While it is true that globalization has brought benefits, such as vaccinations, many of the benefits are at the expense of losing traditional healing systems, including traditional diets. In global culture, Western medicine is considered the only answer for healing, and indigenous healing systems are given a nod to, if only for political correctness. Indigenous healing systems are rarely taken seriously by biomedicine. We find that Western medicine permeates cultures and clinics worldwide, but the ideas of indigenous healing systems do not enjoy the same knowledge exchange benefits of globalization.

It is disheartening to see traditional diets, and the innate knowledge they hold, disappearing in favor of a diet from places in the world where heart disease, diabetes, and

cancer are the top killers. Ignoring traditional health beliefs and food practices leads to treating the symptoms, displacing knowledge for Western nutrition that has its own pitfalls, poorly planned farming practices, exploitation of indigenous foods, and fixing chasms between development practitioners and communities.

Education as a Treatment of Symptoms

As we can see from the previously mentioned causes of malnourishment, imbalanced diets are frequently a symptom of larger problems. No one is really stating that a lack of knowledge about food is a cause of hunger or malnourishment, yet that is almost always the approach taken at a community level. The nutrition gap in community development is not from a lack of understanding in the community, but in the development practitioner.

Typically, nutrition classes are taught from a Western perspective, incorporating teachings about macronutrients and micronutrients and easy ways to divide foods into categories. At a basic level, many programs will at least try to substitute local foods into their teaching curriculum, often believing that they have satisfied the requirements for cultural sensitivity—and also leading to the assumption that training in Western nutrition will help solve malnourishment issues.

Even in more culturally aware teachings, food is always handled with Western ideas of nutrition. Werner and Bower (2005) said much about incorporating traditional health beliefs into community health programs. Werner had many brilliant examples of how to communicate cross-culturally, draw out what people know, and develop problem-solving within the community. The brief section on food is disappointingly out of sync with these methods.

Although Werner and Bower addressed using pictures and words of local foods, they spoke of simple ways to categorize foods—something that Westerners really love to do. When we feel the need to educate using our own models, we are subtly communicating that people cannot be trusted with food knowledge—with eating—even though it is one of the most fundamental establishments of societies. Although education is important, it is imperative that it is approached in a properly contextualized manner, which will be discussed later.

Western Nutrition out of Context

Indeed, biomedicine has made powerful contributions to the understanding of how the body interacts with food at the molecular level. Casimir Funk, who discovered the first essential nutrient, thiamine, and other scientists who soon followed with vitamin discoveries, played a critical role in helping humanity overcome malnourishment (Gropper, Smith, & Groff, 2005). The field of nutrition continues to grow as scientists uncover other nutritive compounds beyond vitamins and minerals that have crucial roles in prevention and healing. Unfortunately not all information has been accurate, and more importantly, not all of it is applicable to all populations, especially those of non-European descent.

Physical degeneration. There are some fundamental problems with the Western understanding of nutrition, but the implications of this can be even more devastating when Western nutrition is taken to other cultures. When community developers, health educators, or nutritionists champion the wonders of the Western diet, protective traditional diets are dismissed in favor of imported nutrition.

One of the hallmarks of Western nutrition is the espousal of a low-fat diet, which is at odds with many traditional diets around the world. The widely accepted lipid hypothesis states that saturated fats and cholesterol (found in animal foods) cause heart disease, and polyunsaturated fats (found in plant foods) protect against heart disease. In fact, the opposite is true. Polyunsaturated oils must be highly processed with harsh chemicals to draw them out of plants, and are quick to go rancid, both of which contribute to oxidation in the body and damage to blood vessels (Boutcher, 2007). Cell membranes require saturated fat for stabilization, so when a person switches to a diet low in saturated fat, they often see an immediate decline in cholesterol levels, leading to the assumption they did well by reducing saturated fats. This is because cholesterol is forced to make up for the loss of saturated fat in cell membranes in order to remain stable, as an unstable cell membrane can let anything in—including viruses and bacteria (Joiner-Bey, 2009).

Cholesterol is not even the "enemy" it is purported to be. Cholesterol has an integral role in the immune system and has a role in cleaning up damage, particularly in the blood vessels. Calling cholesterol "bad" is like calling the ambulance bad because it was found at the scene of the crime. Cholesterol levels dramatically spike after surgeries precisely because of its role in repair, healing, and immunity. Furthermore, cholesterol is critical for nerve impulses in the brain. Between its role in immunity and its critical role in transmitting signals in the brain, the last thing that people should do is incessantly focus on lowering levels to as little as humanly possible.

Traditional cultures innately knew the value of these foods without knowing the biochemistry behind it. In many cultures (in the absence of poverty or other barriers), fats make up 40 percent or more of the caloric intake, with a diet heavily emphasizing saturated fats and very little polyunsaturated fats (Fallon & Enig, 2001). Seemingly ironic in the eyes of the biomedicine community, many of these traditional diets have been shown to be protective against heart disease and stroke. But because traditional diets don't minimize fat consumption, doctors and nutritionists alike try to enlighten people from other other cultures of the "good news" of low-fat diets. Slowly, traditional diets are being edged out in favor of the "right" Western diets, which is further exacerbated as Western food corporations set up shop throughout the world, both in the form of restaurants and processed foods.

One day after a nutrition meeting at the church in Kyakitanga, I stopped at a woman's house to visit her after someone had told me she had just received bad news from the hospital. At age 37, she had been diagnosed with heart disease and had one artery already blocked. This mother of four was facing the likely prospects of early death. I knew what this woman's daily diet consisted of, and my heart sank as I connected her diet to her health. It was built almost entirely on starch and some vegetables. Other than protein deficiency, it was the type of diet that would earn praise from low-fat crowds. She had a chronic disease that is said to be caused by a nutrient nearly devoid in her diet—saturated fat.

Limitations in nutritional research. Research can sometimes be a shortcoming in nutritional science that can put indigenous foods at risk of annihilation. Focusing on a scientific context of nutrition may displace local foods because they have not been tested for specific

nutrients and therefore are not recognized as nourishing. Limitations in profitability, funding, or interest in foods that are not major crops can lead to a lack of research for these foods, despite local acknowledgement of their value. As one of the indicators used for determining malnourishment in a country or region is a lack of access to nourishing foods (Herforth, 2010), it is critical to note that foods that are considered "nourishing" are those that have been researched and have nutrient profiles. This can cause traditional foods to be left out of nutrition education and development in programs created by outsiders, as they know little about the nutrient value of such foods. This is especially true in remote areas of the world, as research on a single plant that feeds a handful of villages is not very useful to the larger body of nutrition knowledge.

This happens even in the Pacific Northwest where I live. There are many wild foods that have gone largely unnoticed in mainstream research, especially as part of a healthy and cheap diet for locals. Interestingly, non-cultivated plants tend to have higher nutritional profiles than cultivated plants, in which nutrition is compromised for taste, yield, or appearance. Plants that are considered weeds, such as chickweed, dandelion, and shepherd's purse, have beneficial nutritional properties as well as medicinal properties. Even nettle, which grows wildly throughout the globe, is a powerful food; as it typically is high in iron, calcium, vitamin K, and carotenoids, it is more nutritionally potent than kale, spinach, and other hailed green leafy vegetables (Adler, 2008).

With such gaps in Western nutrition, community developers must take precautions when introducing Western ideas into a community. Misinformation, inaccurate science, and

lack of research all contribute to the displacement of traditional health beliefs with new beliefs that might include misleading, irrelevant, or misused information.

Exploitation of Indigenous Foods

In 2010 I traveled through Lesotho, the mountain kingdom locked inside South Africa, with a friend who had spent much time documenting the Basotho culture for a publishing project. As we passed through Ts'ehlanyane he stopped to point out an otherwise indistinguishable bush. "The Basotho say that this bush cures cancer," he explained. "Everyone uses it. That's why they don't have cancer here." Pausing to finish a drag of his cigarette and flick it by the road side, he continued, "It's a shame that they aren't doing anything to market this stuff."

While I don't know about a specific focus on the cancer-curing bush in Lesotho, I do know that research and marketing is constantly happening all across the earth. Studies range from the benefits of traditional diets and obscure foods to the medicinal uses of plants. Most often these studies are done for the benefit of Western knowledge and marketplaces rather than for the benefit of the community beholding the knowledge. At the height of arrogance in the Western medicine community, we are seeing an alarming trend of "biopiracy" when drug corporations work alongside indigenous healers solely for the purpose of gaining access to their knowledge to turn herbal remedies into patented drugs (Stiglitz, 2012).

But even without a patent at stake, research for the sake of the Western community can have consequences for local communities. In an American market constantly hungry for foods that don't have any health strings attached, exotic foods are heavily promoted as alternatives

to the old staples in the US. With the introduction of "new" foods to health-conscious middle-class American families, local communities suffer the consequences of their staple foods being exposed to a sudden high demand. The story of quinoa is a recent example. Like seafood was once poor man's food and is now a food for the rich, "Quinoa was always *comida para los indios* [food for the Indians]. Today it's food for the world's richest" (B. Huarachi, as cited in Friedman-Rudovsky, 2012, para. 1). Because the price of quinoa rose due to demand, locals have difficulty affording it. Also, as a newly lucrative business, the delicate ecosystem balanced on llama herding and soil fertilization is collapsing as more fields are turned over for quinoa production (Friedman-Rudovsky, 2012).

Bad Crop, Good Crop

The effects of the market have led not just to mass exploitation of indigenous foods, but also the introduction of crops that may not be ideal for the particular environment. This has been evidenced by two major crops that were introduced to Africa centuries ago: corn (maize) and rice.

Because of the emphasis on food security in the 1970s and 1980s as a means of aid, caloric adequacy through starchy crops like corn and rice have been the primary focus. This has come at the expense of indigenous crops that sustained people for generations, as governments focused on larger crops that had more value for export over maintaining a diverse diet for the people. Because of the value of export crops, governments have not made an effort to protect indigenous crops (Herforth, 2010).

The heavy favor of corn and rice affects communities at a larger scale than just nutrition. In order to grow rice, traditional lands are flooded to create the swamps that rice needs to survive (Pearce, 2013). Swamp land is prime breeding ground for mosquitos, including those that harbor malaria. In areas where rice is not commonly grown, corn is typically grown instead. Although corn does not need swampland like rice does, mosquito larvae thrive on corn pollen that falls in the water, creating yet another prime breeding ground for malaria-carrying mosquitos (ole-MoiYoi, 2010). Incidentally, Africa is one of the heaviest hit areas for malaria, with 91% of the world's 655,000 malaria deaths occurring in Africa (Centers for Disease Control [CDC], 2012). To add to this, malaria can also cause malnutrition as the body is depleted by nutrients necessary for combatting the illness (ole-MoiYoi, 2010). Although there are many contributing factors to malaria, it is crucial to note that such large scale planting of corn and rice may serve to increase malaria proliferation and show an example of the consequences of displacing local ecosystems.

Even in Asia, where rice is native, genetic manipulation of rice has seen little success. Golden Rice, a type of genetically modified rice, was developed to have high levels of beta-carotene (the plant precursor to vitamin A) in order to combat the widespread problem of vitamin A related blindness. Efforts to widely use Golden Rice have failed to be successful, not only because it is not well accepted as it does not have an appealing color, but also because its actual levels of pre-vitamin A are so low that it would take close to fifty bowls of rice to reach the recommended daily allowance—far more food than some simple, brightly colored vegetables (Patel, 2007). Furthermore, as Wright (2006) pointed out, it does nothing to address to the real question of why vitamin A deficiency has become so prevalent across Asia. Has it

always been that way or have there been recent shifts that have caused vitamin A rich foods to go absent in the Asian diet, in particular amongst the poor?

Fixing Chasms

As I was preparing for nutrition talks in Kyakitanga, my translator and cultural broker, Smart Kakooza, asked me about nutrition from my perspective. He understood I wanted to use their own knowledge of food and health, but he was curious what I had to say. I told him about the intricacies of balancing protein, fat, and carbohydrate and how to take a quick look at your plate for indicators of balance. When I finished speaking, he reflected on what he understood: "So proteins are the foods like maize, *matooke* (plantains), and sweet potato?" I explained the sources of protein in the local diet and that the foods he listed were starches. He commented that, because he had never heard of protein, he just made up in his mind what type of food that would be (S. Kakooza, personal communication, July 14, 2013).

This is an example of what could go wrong when speaking outside of the local context. Misconceptions and misunderstandings are easy when we assume commonality of basic terminology and understanding of food. Even though I had given protein examples, it was still not clear to Smart what I was talking about. Even worse, this may lead a development practitioner to believe that the community knows nothing about food and health, merely because they did not connect to the terminology, food groups, or concepts presented.

Even simple words, such as "food," can lead to large misunderstandings, as I found in Kyakitanga. The word for food—*mere*—not only means all things that are eaten, but also refers specifically to starchy foods. When I talked about eating food, it was indiscernible if I was

referring to all foods or just starches. I had quite a runaround with my translator about distinguishing the two only to find that there truly was no way to know the difference. I would have to illustrate my use of the word "food" every time I talked about it. If I hadn't learned that food and starches were synonymous, my message would have been very ineffective.

Without careful consideration about the nuances of the food culture within a community, a development practitioner may quickly fix a chasm between themselves and the community. Community developers must take the time to find out which foods are appropriate, to whom, and when; this may be a matter of nutrition knowledge inherent in the community, or simply a matter of etiquette. For example, in Kyakitanga, raw vegetables are strictly for animal feed. Suggesting this for human consumption is an insult; a community developer would do well to not insist on salads to meet vegetable needs. A community developer who forgoes careful research may think that people in Kyakitanga will happily consume fish because they see a few people eating it. Upon closer inspection, the Kinyarwanda refuse to eat fish, as fish are associated with the mass burials of people in the lake during the 1994 Rwandan genocide.

Unintended damage is one of the drawbacks of ignoring traditional health beliefs. But as we saw, we can feel assured that traditional diets offer a lot for a community if they are respected and upheld in development.

The Practice of Diet Development

Once we have determined the need to incorporate traditional diets and food practices into development, we need to approach it in a strategic manner. This is what I call the practice

of diet development, which is the way in which we work with and within a community to uplift food sovereignty and build healthier communities. To do this, we must build on community assets and limit our roles to those that put development into the hands of the people.

Building on Community Assets

Asset-based community development (ABCD) is an approach to development that "starts by asking the materially poor how they can be stewards of their own gifts and resources, seeking to restore individuals and communities to being what God has created them to be from the very start of the relationship" (Corbett & Fikkert, 2012, p. 120). Asset-based community development is an approach that involves a paradigm shift for community development workers because it places the burden of knowledge, action, and planning largely on the community. This is one of the most rewarding ways to do development, and it is also applicable to nutrition. Asset-based development requires internal focus instead of reliance on outside resources and control (Kretzmann & McKnight, 1993).

To start with an internal focus, development practitioners can better understand a community's present reality by examining their history (Myers, 2011). This can revolutionize our understandings of the community and shed light on what doesn't make sense to us. By applying Myers' principle of understanding history, we reveal the fuller story of Kyakitanga. People did not start arriving in Kyakitanga until the 1950s (E. Turyomurugyeno, personal

communication, April 3, 2013)[1]. People came to Kyakitanga for various reasons, such as the account of a herder named Eric who settled in the area because there was no more land available in his native land in western Uganda. Kyakitanga has poor soil and little water, which is likely the reason it had been previously unoccupied. People in Kyakitanga are highly skilled in organic, closed-system farming and herding, but they have little success because it is a resource-strapped area. Without this investigation into the past and without studying the value of their farming and herding knowledge, it would be easy to conclude that they struggle because they do not understand how to farm. Their story of farming and herding illustrates another powerful point that Myers (2011) made: people have already figured out how to survive. When looking at community assets, survival is the most valuable assets of all!

Although a community developer who researches traditional health beliefs and food practices in a community may find it to be scientifically sound when compared to Western nutrition, effectiveness is more than just confirming validity. It is also about incorporating traditional beliefs into the work that is being done. Myers (2011) stated, "As long as the facilitator assumes that taboos, myths, and related ethnic values and concepts of the community have no value, they will have nothing to offer the development process" (p. 213). Acceptance and utilization of traditional food practices is critical to establishing relationship, credibility, and good intention in a community.

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[1] 1. Original text was hand-written in English by E. Turyomurugyeno and typed by J. Secrist for electronic distribution.

Limiting "Us" in Community Development

Perhaps the harder task is limiting our own involvement. Sometimes NGO workers may feel threatened by the prospect of not being "needed." The need to be needed sometimes results in knowledge paternalism, which is "when we assume that we have all the best ideas about how to do things" (Corbett & Fikkert, 2012, p. 110). Knowledge paternalism is at the heart of many of the injustices done regarding traditional food beliefs and practices; outsiders, sincerely believing that they have superior knowledge, see nutrition as black-and-white truth. Traditional beliefs are at risk of being devalued because of a need to control knowledge and therefore be needed by the community.

At this point, we have established that communities have valuable assets, and when it comes to traditional health beliefs and food practices, there is strong evidence suggesting that these are valuable assets, too. Lupton (2007) stated that practitioners, or anyone who wants to help, should never do for others what they can do for themselves, which also applies to nutrition. Otherwise, we are removing power and assets from them by stepping in to solve their food problems, reinforcing that they don't know how to take care of themselves.

Removing power and reinforcing the assumption that they know little is rarely the intent of a community developer. Yet it is an unintended consequence of choices we make about programs. Lupton (2007) cautioned us to consider unintended consequences, which can include dependency on the West, treating symptoms, and supplanting local knowledge, many of which we have already explored.

What *Can* We Do?

But before we pack our bags and leave because we have concluded we are no longer necessary, there are key roles for development practitioners who want to work on improving nutrition in a community. We can help determine the type of work (and partnership) that is healthiest, support traditional values, facilitate discussion and action, and synthesize traditional knowledge with Western medicine.

Firstly, we can determine if present nutrition need stems from either a crisis or a chronic situation (Lupton, 2007). Are we looking at a case that needs true relief, or is it development work? Corbett and Fikkert (2012) stated that relief work is necessary when there is an urgent crisis, such as natural disasters, civil strife, or other major events in which a lot of resources are lost by a community. Food and clean water are essential at this point for basic survival. Most circumstances, however, are not crises but are chronic conditions, often exacerbated by poverty. Development work should focus on chronic situations, and community developers should strive to stay away from taking relief actions when the situation is not dire. Development practitioners who recognize the difference can help determine if the problem is crisis or chronic and then develop the appropriate partnership for the context.

The situation in Kyakitanga was clearly a chronic situation, even if individual stories seemed more like a crisis, such as a malnourished child or a woman with heart disease. Their barriers to nutrition included poverty, farming difficulties, and lack of access, all of which are long-term; the village had not moved into poverty overnight or had a catastrophe that was blocking access to food. According to Corbett and Fikkert (2012) and Lupton (2007), this

situation is perfect for bringing alongside assets they already have, as they are stable—albeit marginally—and are capable of creating solutions for themselves.

We can also bring the value of reiteration of traditional health beliefs and reflection on current problems and solutions. Sometimes it takes just one person to spark the conversation. After all the nutrition meetings in Kyakitanga, Pastor Julius told me that he heard people talking about a renewed determination to find ways to eat more blood-building vegetables; our discussion brought to the forefront the reminder of what they know about the value of vegetables. I didn't tell them how to eat, but by bringing people together to talk about food, I helped ignite a conversation about what can be done, just by acknowledging a problem existed. Corbett and Fikkert (2012) stated, "Change begins when something triggers the individual or group to reflect upon the current situation and think about a possible future situation they would prefer" (p. 207-208).

Through triggering discussion, we best play the role of facilitator. While a teacher gives students information that they presumably do not know, a facilitator instead works to draw out knowledge from the students for them to critically apply to their own situation (Werner & Bower, 2005). This gives up control of knowledge and puts learning and development in the hands of the people. A good facilitator will ask questions that encourage critical thinking and will use local, relevant models and examples for instruction. They help guide discussion without imposing their own agenda.

We may also be in a position to identify positive deviance, which could contain solutions to malnutrition. Positive deviance is the benefit that comes out of an individual or household

that deviates from the norm (Myers, 2011). This could be mothers who have different practices in child rearing that their children benefit from or a special way of growing vegetables that yields larger crops. By looking at families that seem to be healthier and better nourished than others in the area, one might find that they are doing something different than everyone else.

Finally, we can help synthesize information. Western nutrition often complements and explains traditional beliefs at a micronutrient level (with the exception of the contested lipid hypothesis), and it is likely that people have already been exposed to Western concepts and interventions. If not, it is inevitable that they will be exposed to it soon enough through globalization. Before traveling too far down either the road of supplanting their beliefs or pretending that Western beliefs are not valid or useful, those who understand both systems can work on ways to synthesize the material. The two can be taught alongside each other to show the value in both. This is especially critical in schools where children are taught Western ways of thinking and of understanding their world.

What Does Diet Development Look Like?

We need to get to a place where traditional beliefs can be used for health development. In order to this, a development practitioner needs to have several tools to help understand the context and work with the community to develop their own health programs and solutions that are based on local knowledge.

The right talk. To start a discussion about food, the development practitioner must find the right people to talk to. There may be cultural norms that guide which people are appropriate to talk to about certain subjects. Community leaders might be appropriate, but

community meetings or individual interviews may also be appropriate. Also, local experts are great resources, especially in the field of health, as there likely are recognized leaders or experts in the community who have traditional or Western training in health. There may be issues of power distance when a development practitioner talks to people, as they may be afraid to say anything contrary to what they know Westerners believe.

Not everyone in a community has the same motives to work on community development; some people will show up to just about anything and give any answer they believe will give them some benefit (Forbes, 2014). People may be inclined to try to determine what the "correct" answer is or may have enough exposure to Western nutrition to use those responses. Also, they may not want to be forthright in local knowledge because of suspicion of what is done the information they give or because they don't believe their knowledge is valuable. One person thought I was going to report him to his boss because I asked him about the food he was giving to school children for lunch. Also, it is likely that they will expect the Western practitioner to come with all the knowledge and will have expectations that they will be taught in a formal setting. This is why it is so important to learn what they know, as reflecting it back to them is empowering, encouraging, and more engaging.

The right questions are just as important as the right people and right approach. Merriam (2009) stated that the best questions are open and elicit detailed responses. Questions about experiences, daily practices, opinions, knowledge, and feelings can help a development practitioner dig deeper into the experience of health and food in a community. Questions should not lead people in a direction that indicates a "right" answer. Werner and

Bower (2005) cautioned against starting off with surveys that could cause suspicion. Open conversations without taking notes are the best way to establish trust and credibility.

Detecting key words. Development practitioners must have an ear for understanding key health words that tap into a broader health belief system. This will help with the development of good questions, too. Narrative analysis is also helpful for uncovering key words, which is a research technique that collects data through stories (Merriam, 2009). Some data is not conveyed well through surveys or through blunt questions, but is better understood through the use of stories. Even nutrition research can benefit from narrative analysis; although nutrition may seem like a linear, scientific topic, I found out a lot about how people viewed food by listening to their stories of health and illness.

As important as detecting key words is listening to what is not being said (Lupton, 2007). This can especially ring true in appreciation (Howe, 2012). If the people express thankfulness, what do they specifically mention, and what have they left out? Development practitioners will have to put together several pieces of information, look for congruency, and look for what is continuously left out (Lupton, 2007). It was critical for me to pick up that the people in the village were not saying they did not know how to eat. This helped channel my focus to what they already knew and opened the doors for communication and understanding.

Live their life with them. Chances are that we just can't do a good enough job by swooping in for two weeks, pummeling people with questions and meetings, and flying back out. Not only does it not build a trusting relationship, but there will be so much that is not

seen. There is no substitute for extended periods of time of just being, doing, asking, and reflecting.

By living with them and doing life with them, a development practitioner can find out so much about the "why" behind what they do. Health practices are rarely arbitrary, and if something is not understood it is because it hasn't been explored deep enough. Finding "why" helps us treat problems instead of symptoms. For example, we may wonder why women frequently use too much salt on meat and consider teaching them about hypertension. But on further examination, we find that they use salt as a preservative because they do not have refrigeration. This form of learning, called participant observation, enables an outsider to learn through participating in community activities at a deeper level than strictly as an observational role (Merriam, 2009).

Careful observation (without reading into words and actions) is one of the greatest teachers, as even watching mundane tasks like garbage disposal can tell a lot about food and health beliefs. Merriam (2009) suggested that key observations to make include the people involved, activities taking place, conversations, and subtler cues such as body language, symbolism, and even what is absent.

The Final Product

Ultimately this work should be honored in the greatest way: using it to foster community development, in particular health development. To take this information home to place in a book, a study, or a presentation would be doing the community a disservice if that is the only extent of usefulness of the information.

Ideally a finished "product" would help everyone involved see what has been accomplished. This could look like contextualized handouts about health and food (see Appendix D as an example of an educational handout about building blood) and tools that teachers, health care workers, and community members can use to teach about food and health. Also, a finished guidebook for development practitioners and other non-community members will help with understanding the context and how to utilize it to make progress in development, much like a sports team has a playbook specific to them so they can work within it. This is a much better way to teach nutrition education, as it relies on their understanding of the diet's connection to health. In this way, it isn't as tempting to consider nutrition education as a treatment of the symptom, but as part of the process of diet and health development.

Nutrition development should result in the community feeling encouraged about what they believe and inspired to pursue better health for their families. Development will happen through their lens of health and from within the community's context, which will likely be more efficient than energy-intense measures of bringing in outside resources. It allows local knowledge to be vantage point for understanding what needs to happen next. For Kyakitanga, this started with reassessing the need to eat more vegetables and what can be done to overcome these barriers.

To integrate traditional knowledge into development, schools are a great place to work through. Children can bring home knowledge to their parents. Involving teachers and students with creating local and Western nutrition models helps reconcile both systems and show that

local beliefs are still valid. Not only do they learn how to integrate both systems, but they recognize the language, ideas, and practices at home are taught in formal education, too.

Community health initiatives and classes can also be taught with an integration model in mind, or with working strictly with traditional beliefs. Just as community classes in Western societies teach about Western nutrition, community classes in a local context can be designed in the same way. These can also lead directly into discussion about community problems and solutions for health.

Reaping the Riches of the Pumpkin Harvest

At this point all of our efforts to incorporate traditional health beliefs and food practices, to minimize ourselves and unintended consequences, and to bring forth health development using local knowledge, have come to the final harvest. The pumpkin's reputation symbolized God's creation being of questionable value. At this point in development, it is time to see the harvest of both the nourishing riches of the pumpkin as well as what is gained beyond nourishment: overcoming the question of worthiness. Indeed, this harvest includes healed identities, community sustainability, and exposing new solutions to health.

Overcoming Devalued Identities

Myers (2011) addressed the marred identities of the poor, stating that "the poor come to believe they are and were always meant to be without value and without contribution" (p. 127). This is a huge contribution to the rapid loss of traditional diets, as people believe that what they eat or what they know about food is not valuable compared to those they view to be

in power, including development workers. I saw this in one of the top teachers in the school in Kyakitanga; when I asked for his advice on the best models for teaching about the local food beliefs, he said the best approach was to sidestep traditional food beliefs and teach about Western nutrition instead. With the introduction of Western education, including health and nutrition education, community members begin to look down on their health beliefs as inferior or even incorrect.

In one of my nutrition meetings in Kyakitanga, we each took turns sharing what our perfect, healthy meal would look like. Each person shared a similar idea that resembled balanced servings of protein, vegetables, and starches. After carefully taking down notes on what each person said, I started to move on to the next exercise. Topher, the Local Chairman, said, "Before we move on, we want to hear what *your* perfect diet would be." I started dreaming of meals far different from what I had been eating for the past month in the village. A moment of silence fell over the group until Topher spoke again: "So how can we ever be healthy if we can't afford the food of the rich people?" It is an automatic assumption that the choice foods of Westerners are the answer to health.

Through the course of nutrition discussions and eventually into farming practices, led by another American, we were able to reconcile the two worlds. Through group activities they came to see that the community as a whole had an entire body of knowledge regarding health and food. In an exercise about farming practices, they identified that they wanted farming improvements to be traditional and come from Ugandans, emphasizing that they were not interested in what the "English" had to say about farming. Although it is unlikely that this

simple exercise resolved all identity issues, especially as marred identities have been built over a long period of time, it was truly the beginning of a paradigm shift that they are valuable precisely *because* they are Ugandan. Kyakitanga is a work in progress, and we will see even more of these epiphany moments of identity if we continue to uplift their knowledge and solutions.

Sustainability

Sustainability is achievable with the use of ABCD. Kretzmann and McKnight (1993) wrote that "it is increasingly futile to wait for significant help to arrive from outside the community" (p. 4). Sustainability is a critical piece of ABCD, because internal assets are more sustainable than continually looking outside for resources. Lupton (2007) stated that we need to consider sustainability as our primary evaluative tool. Outside resources of nutrition training, supplementation, farming projects, or other food programs are rarely sustainable endeavors, as a repeated act is a strong indicator that the work is not sustainable. As sustainability becomes more of a standard approach to programs and projects, a development practitioner has no alternative than to look at assets within the community to create true sustainability. Myers (2011) stated:

> Sustainability also means people who are able to manage their own health care to the greatest extent possible. This means a community based approach in which people are empowered to do what they can for themselves, utilizing local indigenous knowledge and traditional sources of health care, with minimal dependence on the high-cost, expensive healthcare systems we are dependent upon in the West. (p. 194)

Wright (2006) stated that "the Bible is careful to avoid the arrogant human assumption that the earth exists solely for our use and enjoyment" (p. 399). Sustainable development does not focus on changing from primitive to modern but in developing an appreciation for simplicity in life and in nature (Groody, 2007).

Indeed, when we trust in local knowledge, we will find that many of their practices are already sustainable; if their practices were not sustainable, then neither would their generations be sustained! As I saw in Kyakitanga, farmers already used many sustainable methods, including several ways of composting, planting on ant hills (as ants naturally transport soil nutrients), intercropping, and utilizing pest-resistant planting methods.

Solutions for Health

Traditional health beliefs and food practices can do well to fill the gap we see in community development, and is critical to address if we are to build the healthiest communities we can. As the measure of food security is derived from national caloric availability, which is derived from foods that are known to Western nutrition, a focus on indigenous foods and protection of wild foods and habitats could be part of the missing piece of solving malnutrition (Herforth, 2010).

Solutions to malnutrition could also be found in positive deviance. Positive deviance is the benefit that comes out of an individual or household that deviates from the "norm" (Myers, 2011). This could be seen as mothers who have different practices in child rearing that their children benefit from or a special way of growing vegetables that yields larger crops. By looking

at families that seem to be healthier and better nourished than others in the area, one might find that they are doing something different than everyone else.

Some cultural groups have already seen success in going back to traditional diets, such as the case of Native Hawaiians. In 2000, half of the Native Hawaiian population was obese, and one in five had diabetes (Nabhan, 2004, p. 193). Like the Native Americans, they were even more susceptible to mortality rates associated with chronic disease than the general US population. While undergoing a rough transition into US territory and eventually statehood, the native diet slowly disappeared in favor of an imported American diet. Eventually some Hawaiians who had tired of seeing their people destroyed by modern diets banded together to promote a traditional Hawaiian diet that focused on native plants and animals, especially those that helped Hawaiian genes combat diabetes. The results were astounding as Native Hawaiians shed excess weight and saw a dramatic reduction in their triglyceride and blood sugar levels. Nabhan (2004) stated, "I can only hope that the rest of the world will learn to listen as fully to what the Hawaiians, and many other ethnic communities, are telling us" (p. 210).

Perhaps one of the most serendipitous moments during my work in Kyakitanga was the time I stood silently for 45 minutes in front of a group while they helped each other with their health and food questions. It started with a question addressed to me: "When I eat sweet things, I feel weak. What can I do?" Immediately a woman spoke up: "I can answer that!" She

then gave the man a list of dietary treatments, including consumption of sour foods to counteract the weakening effect of sweet foods[2].

After multiple questions and answers, including heated debates about beer consumption and Scriptural references to food, they turned back to me, suddenly recognizing my presence was still in the room. I said, "You see, you came to me to look for answers, but I never answered one of your questions. You answered them all for each other. You have powerful knowledge and you have the answers you need if only you ask each other the questions!" This type of community development—community bonding and unity—is the dream of any development practitioner devoted to the long-term health of a community.

Conclusion

Traditional health beliefs, diets, and food practices are more than just valid and worthy of use. They can be used to address needs in a community that cannot be brought from the outside—especially the need to honor their wisdom and acknowledge that its value is greater than the sum of the food on the plate. Sometimes the best ideas already exist in a community, and this is especially true of traditional health beliefs, diets, and food practices. Although collaboration is important if we are to remove barriers and help communities thrive in health, we must remember to humble ourselves before others and listen to the wisdom they have.

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[2] This understanding resonates with Chinese medicine in that a balance of sweet foods and sour foods keep the liver and spleen in harmony; those with a heavily sweet diet have a weak spleen and thus a weak body (T. Cameron, personal communication, December 11, 2013).

I dream of seeing a world with a diverse diet, with equal weight given to varied nutrition beliefs, and without exploitation intricately linked to diet. This world should be a place where junk food is not the staple diet of the poor because God's food has had too high of a price put on it while man's food is sold at a discount. The world should not have indigenous diets wiped out by industrialization and globalization, where indigenous people are told that they know nothing and should eat the diet of chronically sick Westerners—and when they adopt this diet, we then get the privilege of "rescuing" them from the consequential diet-related diseases by sending short-term trips to build fancy hospitals and be do-gooder healthcare workers. I envision a world flowing with milk and honey, not Coca-Cola and high fructose corn syrup.

Globalization doesn't have to mean an end-all to traditional diets and indigenous healing systems. This is the prime time for medical anthropologists and nutritionists to band together to show the biomedical community the value of traditional health beliefs. If globalization can be an advantage to the spread of Western medicine, then it can also be used to bring awareness of the value and validity of traditional diets and healing systems.

In this way, we will promote justice in community health. No longer will traditional health beliefs and diets be devalued, and no longer will communities be reduced to malnutrition as they break through barriers. What does it looks like in the end? As Lao Tzu stated (Howe, 2013):

> Go to the people. Live with them. Learn from them. Love them. Start with what they know. Build with what they have. But with the best leaders, when the work

is done, the task accomplished, the people will say, “We have done this ourselves.”

When the community has done it themselves, they will reap the greatest harvest. But this harvest will not be one of foreign crops, but that of the simple pumpkin. This harvest will not be done in shame but in exaltation of such a treasure buried in the ground, ready to nourish, for this is exactly the value that God intended for them since the creation of the earth. In this harvest, they will hold high the pumpkin, raising it to the sky as a blessing to God, and proclaim, “We *have* done it ourselves!”

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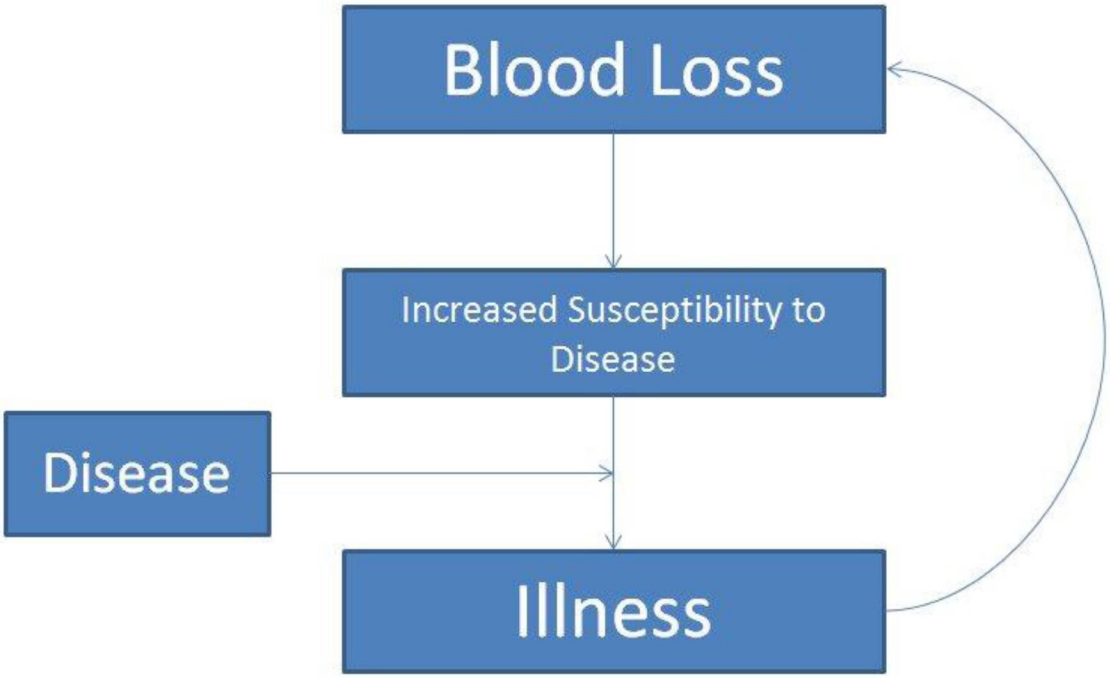
Appendix A: Health Belief Model for Blood-Building System



I derived this flowchart by combining a standard flowchart for undernutrition and traditional health beliefs in Kyakitanga, Uganda. Disease is cyclical as loss of blood makes a person more susceptible to acquiring diseases, and illness draws on the body's resources of blood to overcome illness. This loss of blood from illness leads to more susceptibility, unless the cycle is stopped by incorporating blood-building foods into the diet.

Appendix B: Blood Building Properties of Ugandan Foods

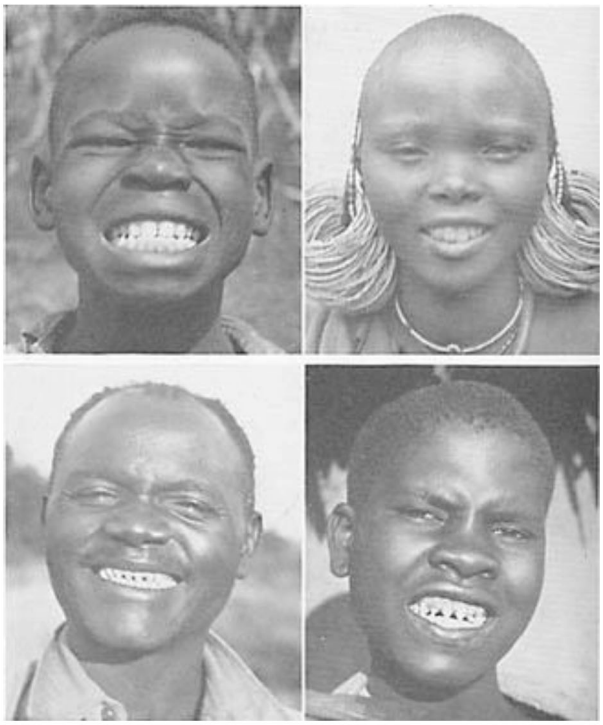
Foods Identified as Blood Building[1]	Blood-Building Properties Synonymous with Western Nutrition[2]
Tomatoes	• Blood pressure balance and maintenance through manganese and potassium • Iron absorption and processing through vitamin C • Collagen synthesis through vitamin C, necessary for strong blood vessels • Antioxidant, blood vessel protection through carotenoids and beta carotene (preformed vitamin A)
Onions	• High in vitamin K, critical for blood clotting • Blood cleansing through detoxification with sulfur compounds
Mango	• Antioxidant, blood vessel protection through carotenoids and beta carotene (preformed vitamin A) • High in vitamin C for heart protection (antioxidant activity) • Heme synthesis (vitamin B6) for oxygen transport in red blood cells • High in folate, which protects against megaloblastic anemia • High in vitamin K, critical for blood clotting • Insulin regulation through copper
Papaya	• Antioxidant, blood vessel protection through carotenoids and beta carotene (preformed vitamin A) • High in vitamin C for heart protection (antioxidant activity) • High in folate, which protects against megaloblastic anemia
Avocadoes	• Regulates blood sugar levels by contributing high fat and high fiber with low carbohydrate, as well as copper (regulates glucose uptake by insulin) • High in vitamin K, critical for blood clotting • High in folate, which protects against megaloblastic anemia • High in vitamins C and E for heart protection and regulating homocysteine (a contributor to heart disease) • Regulates blood pressure through magnesium, potassium, and manganese • Cholesterol synthesis through niacin • Heme synthesis (vitamin B6) for oxygen transport in red blood cells
Potatoes (Irish)	• Blood pressure maintenance through magnesium, potassium, phosphorus, and manganese • High in vitamin K, critical for blood clotting

	• High in folate, which protects against megaloblastic anemia • Heme synthesis (vitamin B6) for oxygen transport in red blood cells • Insulin regulation through copper and high fiber
Pumpkin	• Collagen synthesis through vitamin C, necessary for strong blood vessels • High in vitamins C and E for heart protection and regulating homocysteine (a contributor to heart disease) • Insulin regulation through copper and high fiber • Blood pressure maintenance through potassium and manganese • Antioxidant, blood vessel protection through carotenoids and beta carotene (preformed vitamin A)
Cabbage	• High in vitamin K, critical for blood clotting • High in vitamin C for heart protection (antioxidant activity)
Ground nuts (peanuts)	• Heart protection with vitamin E and resveratrol • High in folate, which protects against megaloblastic anemia • Insulin regulation through copper
Beans (in general)	• Blood sugar regulation through high fiber content • High in folate, which protects against megaloblastic anemia • High in iron, a critical oxygen-carrying component of blood
Millet	• Maintains blood pressure through magnesium and manganese • Steadies blood sugar with fiber • Decreases triglyceride levels (contributor of heart disease)
Jackfruit	• Antioxidant protection through vitamins A and C • High in vitamin K, critical for blood clotting
Milk	• Maintains blood pressure through calcium and phosphorus • High in vitamin B12, which protects against anemia • High in selenium, which is necessary for vitamin E's antioxidant activities • High in conjugated linoleic acid, which regulates blood sugar and is associated with decreased risk of heart attack • Balanced fatty acid profile of heart-protective fats
Beef (grass fed)	• Balanced fatty acid profile of heart-protective fats • High in vitamin B12, which protects against anemia • Heme synthesis (vitamin B6) for oxygen transport in red blood cells • High in selenium, which is necessary for vitamin E's antioxidant activities • High in iron, a critical oxygen-carrying component of blood • Antioxidant, blood vessel protection through carotenoids and beta carotene (preformed vitamin A)

Chicken (pasture-raised)	• Balanced fatty acid profile of heart-protective fats • High in vitamin B12, which protects against anemia • Heme synthesis (vitamin B6) for oxygen transport in red blood cells • High in selenium, which is necessary for vitamin E's antioxidant activities
Eggs (pasture-raised)	• Balanced fatty acid profile of heart-protective fats • High in vitamin B12, which protects against anemia • High in vitamin E for heart protection and regulating homocysteine (a contributor to heart disease) • High in selenium, which is necessary for vitamin E's antioxidant activities • Antioxidant, blood vessel protection through vitamin A
Organ meats	• Antioxidant, blood vessel protection through vitamin A • High in iron, a critical oxygen-carrying component of blood • Balanced fatty acid profile of heart-protective fats
Goat	• High in iron, a critical oxygen-carrying component of blood • High in vitamin B12, which protects against anemia • High in selenium, which is necessary for vitamin E's antioxidant activities • Blood pressure maintenance through potassium and phosphorus • Insulin regulation through copper

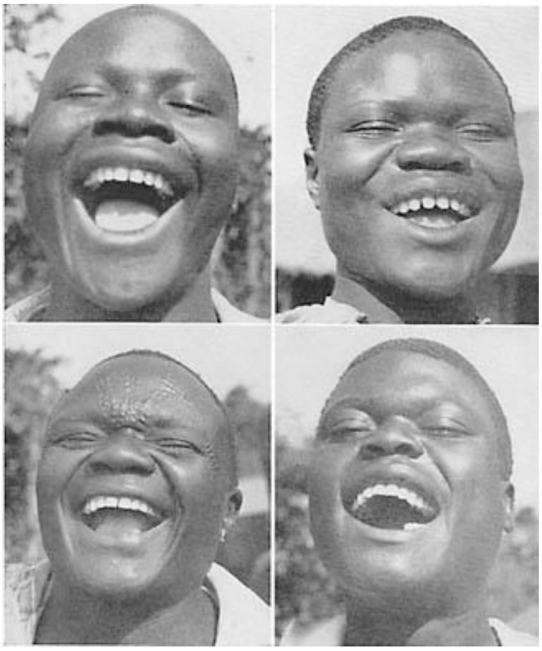
1. Note that these are estimates based on average nutrient amounts for food crops, as determined by the USDA. These foods may have different values in Kyakitanga, especially when homegrown.
2. Foods and nutrients are looked at through the lens of blood for the purpose of this paper, and have other important properties.

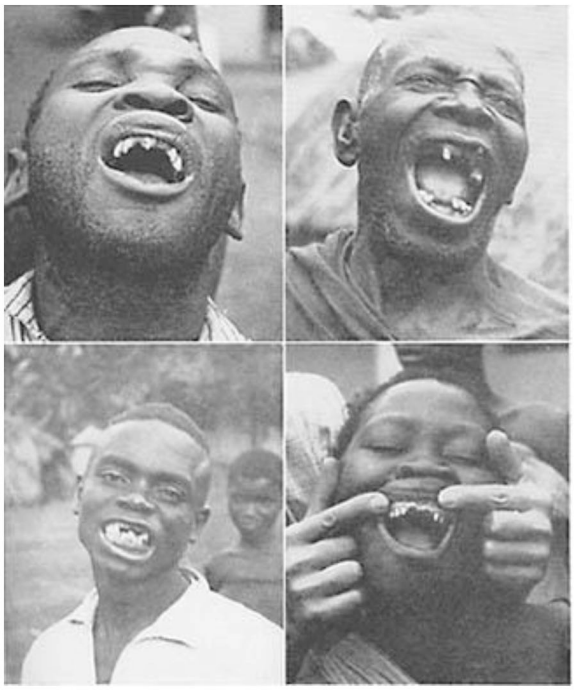
Appendix C: Photos from Weston Price's Journey



(Left) The development of the faces and dental arches in many African tribes is superb. The Wakamba tribe points the teeth as shown. This does not cause tooth decay while they live on their native food.

(Right) The reward of obeying nature's laws of nutrition is illustrated in this west Nile tribe in Belgian Congo. Note the breadth of the dental arches and the finely proportioned features. Their bodies are as well built as their heads. Exceedingly few teeth have been attacked by dental caries while on their native foods.



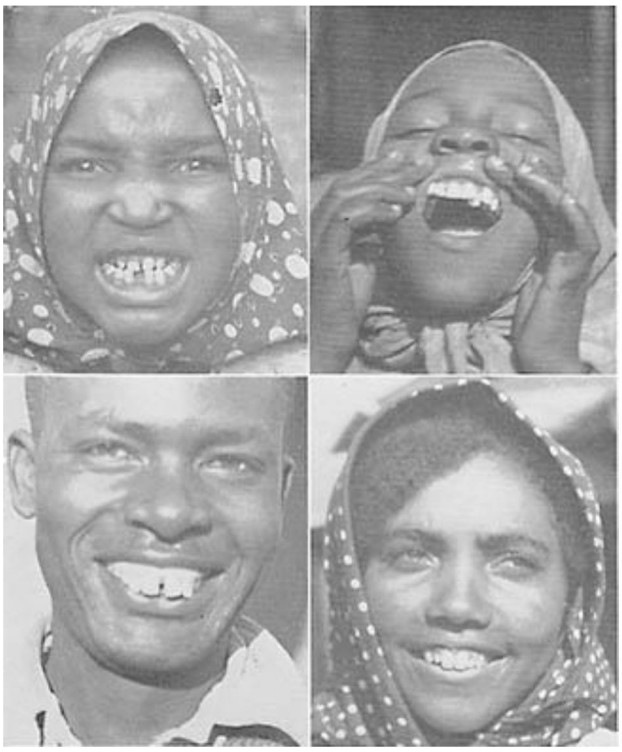


(Left) Wherever the Africans have adopted the foods of modern commerce, dental caries was active, thus destroying large numbers of the teeth and causing great suffering. The cases shown here are typical of workers on plantations which largely use imported foods.

Where the members of the African tribes had attached themselves to coffee plantations and were provided with the imported foods of white flour, sugar, polished rice and canned goods, tooth decay became rampant.

(Right) In the upper left the upper arch is much too small for the lower and nearly goes inside it. The upper right is narrowed with crowding of the teeth. Both lower cases demonstrate an underdevelopment of the mandible of the lower jaw.

Among the deformity patterns a lack of development forward of the middle third of the face or of the lower third of the face often appeared in the more highly modernized groups. An illustration of the former is seen in upper left, and of the latter in lower left and right. In the girl at the upper left, the upper arch tends to go inside the lower arch all around. This girl is of the first generation, in a mission in Nairobi, following the adoption of the modernized foods by the parents.



Note: Reprinted from *Nutrition and physical degeneration* by Weston Price (1939). This book is public domain.

Appendix D: Blood Building Handout

Healthy Blood, Healthy Body!

Blood is central to our health. It is the keeper of our health and it tells us how healthy we are. When we lose too much blood, we are at risk for illness. However, there are many things we can do to build blood and prevent us from getting sick.

How can I know if I have enough blood?

At home you can test blood levels by looking at your fingernails, eyes, and tongue. Your fingernails should still be red at the base when you press on the tip. Eyes should have red coloring on the lower lid, and your tongue should be bright. If any of these are white, you may not have enough blood.

Illness can also be an indicator that you have already lost blood.

Children will have their hair change color and will have jaundice. If your child's hair has gotten lighter in color, they have lost blood.

Doctors can also test blood. At the clinic they can take some blood and look at it to see if you have enough.

What will make me lose blood?

You can lose blood through a poor diet. This could be eating the same thing every day, eating too much of something, or not eating vegetables. You can also lose blood if you do not drink enough water.

You can lose blood even if you are eating healthy. Malaria, parasites, and strong illness can cause you to lose blood. If you are ill, the illness will take more blood from your body, so it especially important that you begin to build blood again so that you can recover.

How can I build blood?

There are many foods that help build blood. Each day make sure you are eating different foods from each category. Try to have as many different foods as you can in your diet. At each meal, you should choose one from each category:

Food

Maize, matooke, sweet potatoes, Irish potatoes, and millet help build blood.

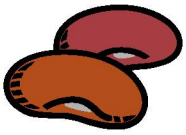




Sauce

Meats, eggs, milk, and beans all help build blood.



Vegetables

All fruits and vegetables help build blood.






Do not fry or freeze these foods, or they will die. Finally, make sure you are drinking enough water in between meals, as dehydration causes blood loss.