

HAITIAN RESOURCE DEVELOPMENT FOUNDATION
Willingness, Know-How, Resources

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“From the mountains to the sea, from charity to development”



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**“BACK TO THE SOURCE” AND “NO HAITIAN LEFT BEHIND” –
STRATEGY TO END HUNGER IN HAITI
PART ONE: PROTEINS AND AMINO ACIDS**

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INTRODUCTION TO HAITI'S CRISIS OF HUNGER AND STARVATION

It has common knowledge throughout the world that many Haitians are starving. Likely, half of the whole population is chronically hungry if not perilously starving, at risk of their lives. This despite Haiti's conducive climate and neotropical location in the Caribbean Sea, its plentiful land, water, and unemployed workers. This despite in recent years, hundreds of millions of dollars in foreign aid, equipment, and expertise are invested in food and agriculture relief and development systems. This also despite cabinet-level government ministries of agriculture, health and planning that are staffed, budgeted, and mandated to care for the well-being of a population of twelve million - with approximately 250,000 babies born every year - and to make sure everyone has enough food to eat.

Food is basic to national survival. Without it, there is no strength and motivation to work, or to study, or to protect the streets, cities, and countryside. On websites of Haiti-support organizations, there are photos of starving babies, photos of school children with emergency bowls of white rice and a few beans. These websites and newsletters also describe the excessive cost of food in stores and markets, and the loss from thieves who routinely steal food from warehouses and trucks. Agencies and charities try to make contracts with Haitian farmers but are not meeting their goals. Every day, physicians and nurses see widespread examples of starvation, anemia, and protein deficiency, along with high blood pressure and diabetes. I also see this during my monthly trips to Haiti. Among previous generations, these diseases would be seldom seen. Distinct from malaria and cholera, they are what scientists call "non-communicable" diseases. In actuality, they are social and cultural diseases that are as deadly as bites from swarms of infected mosquitoes.

The indications are that the Haiti's once customary and well-balanced "National Diet" has become extinct, driven out of existence by a combination of occupational, economic, educational, and cultural forces that, together are destroying rather than maintaining the nation's health. Said another way, it appears that the historic

Haitian diet consisting of a great variety and sufficient quantity of local-grown grains, beans, corn, nuts, fruits, vegetables, fish, poultry, meat and dairy products has been driven out of existence, and almost forgotten. The danger is that when societies lose their nutritional memories and capabilities, they eventually fade and collapse. This seems to be happening in Haiti.

A fact of life is that every human body needs a Minimum Daily Requirement [MDR] of nutrients - proteins, vitamins, minerals, calories, carbohydrates, fats, oils, fiber and other essentials. For Haiti, if you multiply this by the number of Haitians, then you get the total amount of nutrients that must be available and affordable to everyone in the country. This number then establishes the minimum that Haitian farmers, food processors and merchants must provide just for basic national survival. This suggests a new strategy and policy to end hunger in Haiti. It can be summed up in two ways: "Back To The Source" and "No Haitian Left Behind."

"Back to the source" - In a country of worsening poverty such as Haiti, it is of great importance for people to spend what little money they have on the most nutritious food available for a well-balanced diet. Selections have to be made carefully, otherwise money will be wasted, and health will deteriorate. Because there is great pressure and advertising to buy things to eat that are not nutritious and detrimental to health, this requires public education - lessons in schools, posters in marketplaces, newspaper articles, text messages, radio, and television programs, plays, songs and speeches, tours of farms, help with making gardens, food and nutrition fairs and celebrations, more jobs in agriculture, food processing and commerce.

Nutritional education requires both a good understanding of what the body needs to stay alive, and a memory of Haiti's traditional diet from the days when hunger and starvation were rare. The goal is to achieve Minimum Daily Requirements with the lowest expenditure of money, and to supplement that with "home grown" food. We are talking about intelligent organic community farming and personal gardening in every communal section, with durable tools and good seeds. Today, each country must learn to feed itself by projecting itself forward towards food independence.

"No Haitian Left Behind" - Democracy and universal human rights dictate that all governments protect its citizens equally, including with food sufficiency. This means that the essential variety of food for public consumption needs to be plentiful, nutritious, and affordable to everyone, even if they are jobless. We are not talking about food luxuries or delicacies or expensive imported exotic items, we are just talking about meeting Minimum Daily Requirements, such as what was once recognized as the well-balanced Haitian National Diet.

While the government and its foreign agriculture partners have a good history of documents, plans and promises for food sufficiency, these commitments have not been fulfilled. Just the opposite. More Haitians are hungry and starving today than when the first sweeping promises were made about thirty years ago. Why?

In the best case, it is because they did not account for Haiti's population increase and worsening poverty, and that they were "supply-driven" (what they wanted to grow) versus "demand driven" (what they needed to grow). If so, a new plan is required that drastically readjusts goals and objectives to meet the demand.

In the worst case, the plans and promises were never calibrated to save all Haitians from hunger, but only a few. If so, this is inhumane and must be immediately corrected. Haitian refugees should not be fleeing the country because they cannot feed themselves and their children. A new humanitarian and biologically-compelling national food policy is needed: "No Haitian Left Behind."

The following information - drawn from authoritative sources used by physicians, nurses, nutritionists, chefs, agronomists, farmers - are the first part of Haitian Resource Development Foundation's (HRDF) recommended strategy for ending hunger in Haiti by educating about the nutrition building blocks of everyone's Minimum Daily Requirements. This part is about proteins and their constituents' amino acids. Future dispatches will be

about other parts of the diet such as vitamins, minerals, calories, fats, fiber, etc. and how they relate to the more balanced diet that Haitians acquired and consumed in the days before rampant hunger and starvation. Your comments and questions are welcomed.

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THE IMPORTANCE OF PROTEINS AND AMINO ACIDS IN FIGHTING HUNGER IN HAITI

Proteins constitute a fundamental basic structure for human life function. After eating a protein, the body breaks it down into amino acids which are organic compounds composed mainly of nitrogen, carbon, hydrogen, and oxygen. The body then processes them to achieve various functions, such as building muscles.

To grow and function properly, the body needs 20 different amino acids:

- ✓ 11 nonessential or dispensable amino acids that the human body can make without coming from a diet: alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, proline, serine, and tyrosine.
- ✓ 9 are essential amino acids that the body cannot make and must come from the diet:
- ✓ histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine.

The best sources of a “complete” source of protein are:

- ✓ animal proteins such as meat, eggs, and poultry.
- ✓ some plant foods, such as soy, and tofu.

Approximatively, between 10 and 35 percent of a human daily calories should come from protein. Accordingly, in a 2,000-calorie diet, between 200 and 700 calories or 50 to 175 grams (0.11 to - 0.386 lb.) need to come from protein.

Neither rice, millet, beans nor corn alone have all 9 essential amino acids.

- ✓ Millet, rice, and corn lack lysine that plays an important role in building up and repairing muscle fibers and promoting the production of neurotransmitters in the brain.
- ✓ Corn is low in tryptophan that regulates mood and hormone levels.

Combining rice, millet, beans and corn with beans or legumes provides a quality protein meal with all 9 essential amino acids to satisfy human nutritional needs.

- ✓ Legumes are a relatively rich source of lysine and tryptophan.
- ✓ Corn has plenty of methionine and cystine.
 - Methionine is also used for increasing the acidity of urine, treating liver disorders, improving wound healing, treating depression, alcoholism, allergies, asthma, copper poisoning, radiation side effects, schizophrenia, drug withdrawal, and Parkinson's disease, and preventing liver damage in acetaminophen poisoning.
 - Cystine provide supports in the treatments of acetaminophen overdose, helicobacter pylori (H. pylori) infections, pulmonary fibrosis, infertility in patients with clomiphene-resistant polycystic ovary syndrome; in helping modulate the immune system; as an adjunct treatment for COVID-19; may help support postoperative recovery, heart health, cognitive functioning, memory and focus, and even reverse hair loss

Highly processed rice

- ✓ lacks the amino acid lysine.

- Lysine is vital for the growth and development of humans. Without lysine uptake, humans will have growth deficiency, and not be able to produce antibodies during an infection.
- ✓ Rich in carbohydrates.
 - stripped of its bran and germ, leaving just the endosperm.
 - instant great source of energy
 - lacks many vitamins and minerals.
- ✓ anti-inflammatory properties
- ✓ help the proper functioning of the nervous system and brain.
- ✓ gluten-free - excellent for people with allergic to gluten or celiac disease
- ✓ high levels of arsenic
- ✓ may increase risk of metabolic syndrome (like increased insulin resistance or high blood pressure)

Millet Grain (“Pitimi” in Haitian Creole, “Petit Mil” in French)

- ✓ Lacks the amino acid lysine.
 - Millets, a staple food grown and consumed in Haiti, are small-seeded round grasses cereal crops, and used in both cooking and baking for breakfast, lunch, and dinner.

Millet contains:

- ✓ vitamins and minerals
 - B vitamins, thiamin, niacin, folate iron, zinc, calcium, potassium, copper and magnesium.
- ✓ Gluten-free
- ✓ Antioxidants
 - significant amounts of phenols to help prevent oxidative stress and damage in your body caused by harmful free radicals.
- ✓ Dietary fibers
 - Supports digestion.
- ✓ Millet grains may improve in several ailments.
 - Heart Health: in lowering the level of bad cholesterol and lower the level of fat in your body.
 - Blood Sugar Levels: in controlling blood sugar levels because of slow digestion process in the body.
 - Weight Loss: in losing weight as it is healthier than rice, rich in amino acids and makes you feel full very quickly.
 - Improves Digestion: in improving digestion because it is rich in fiber. It also helps with bloating, cramps, excess gas, and constipation.
 - Menstrual Cramps: Contains magnesium which can help relieve menstrual cramps.

Corn

- ✓ Lacks the amino acid lysine.
- ✓ Low in the amino acid tryptophan

Health Benefits

- ✓ Prevents anemia.
 - Corn has large quantities of iron, vitamins A, E and B.
- ✓ Prevent cardiovascular disease.
 - Corn oil contains omega-3 fatty acids that reduces LDL cholesterol, the bad cholesterol, therefore lower the risk of clogged arteries
- ✓ Reduce blood pressure
 - Due to its phytochemical contents

- ✓ Control diabetes
 - corn can contribute to the management of non-insulin dependent diabetes mellitus.
- ✓ Dietary fiber
 - Supports digestion.
 - lower the risk of developing diarrhea and irritable bowel syndrome.
- ✓ Increases energy.
 - rich in carbs
 - help the proper functioning of the nervous system and brain.
- ✓ Improves eyesight.
 - carotenoids that prevent the development of macular degeneration
 - beta-carotene that stimulates the production of vitamin A
 - helps improve and maintain the health of the eyes.
- ✓ Protects the body from cancer.
 - contains high amount of antioxidants that can prevent the spread of cancer cells
 - contains ferulic acid to fight off tumors in the liver.

Beans

- ✓ Lack the amino acid methionine.

Health benefit

- ✓ low in calories and saturated fat
- ✓ contain folate,
 - essential to make healthy red blood cells.
 - help prevent neural tube defects in a fetus during pregnancy.
 - rich in antioxidants to help
 - the body removes free radicals.
 - protect the body from disease.
- ✓ Heart health
 - decrease in cardiovascular risk.
 - can help lower blood pressure.
- ✓ Reduce risk of cancer
 - act as antioxidants and anti-inflammatory agents
- ✓ Diabetes and glucose metabolism
 - May help stabilize glucose levels or even prevent diabetes.
- ✓ Controlling appetite
 - can help create a feeling of fullness and satisfaction.
- ✓ Improving gut health
 - by improving intestinal barrier function
 - by increasing the number of beneficial bacteria.

Adopt good eating habits.

- ✓ Reduce the consumption of products with a lot of calories in favor of low-calorie foods
- ✓ Make incremental changes.
- ✓ Reduce snacking.
- ✓ Fill your stomach between meals by drinking a large glass of water.
- ✓ Limit the size of your portions.
- ✓ Take the time to eat - Duration of the meal – minimum twenty minutes; temp so that the stomach signals the brain that it is full.
- ✓ Remember the pleasure of eating.