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AGRICULTURE IN GHANA AND ITS IMPACT ON MATERNAL AND CHILD NUTRITION

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Introduction

Agriculture provides the primary source of livelihood, food accessibility, energy, improved health, income, economic stability, food sufficiency/food and nutrition security when the quantity and quality are adequate. Nutrition therefore provides health security to the individual as well as populations.

To avoid micro- and macro-nutrient deficiency, a balanced diet must contain 70 % carbohydrate obtained from rice, root and tubers or bread for energy; 15 % protein derived from beef, chicken or milk used for body building; 15 % fat from cooking oil or margarine to provide energy; then minerals from meat, salts or milk for body health; vitamins and water used to transport minerals and organic compounds in the body.

Grains, fruits, vegetables, meat and fish are rich in potassium while table salt, processed food and fish contain sodium used to maintain water balance; nerve and muscle functions. Phosphorus is found in milk, cheese, butter, fish, eggs, poultry and meat that makes healthy bones and teeth; and aids in the release of energy. Vitamins found in vegetables, fruits and eggs prevent diseases in the body. Of importance are Vitamins A, B, C, D, E and K which are found as rich sources in the following foods:

Vit A in eggs, milk, dairy products, fish, liver, fruits, vegetables like carrots and pumpkins keeps skin, bones, teeth and hair strong and also for normal vision.

Vit B in eggs, milk, dairy products, liver and yeasts help to breakdown carbohydrate, protein and fat to release energy in the body. It also serves to maintain proper heart and nervous system. It helps in normal growth and formation of red blood cells in the body.

Vit C found in citrus fruits maintains healthy teeth and gum; iron absorption by bones; formation of connective tissues; healing wounds and fighting infection.

Vit D is found in eggs, milk, dairy products, fish and liver and helps to maintain strong bones and teeth; and also promotes absorption of calcium and phosphorous in the intestines.

Vit E which is obtained from egg yolk, vegetable oils, margarine, green and leafy vegetables, wheat germ, whole-grain bread and cereals, seeds and nuts help to maintain healthy red blood cells and consequently aid to resist diseases in the body.

Vit K found in milk, liver, green and leafy vegetables helps in blood clotting. Vit K is also produced by bacteria in the intestines.

Micronutrient deficiency

Inadequate food supply to meet energy requirements affects at least 925 million people worldwide. More than two billion people are affected by micro-nutrient deficiency otherwise known as hidden hunger. This condition is prevalent in poor rural and urban areas of developing countries where limited economic resources prevent diversity in the diets.

Most common micronutrient deficiencies are caused by low dietary intake of vit A, Iron and Iodine. Other more neglected micronutrient deficiencies such as lack of Selenium, Zinc and Calcium result in varying diseases. For example rickets which is caused by Calcium deficiency (as opposed to vit D deficiency) is a major problem. The abundance of calcium in milk, cheese, butter, green vegetables, tofu, legumes, eggs ensures strong bones and teeth; helps in blood clotting; and used for nerve and muscle function. On the other hand, Zinc deficiency contributes to death of 800,000 children globally each year.

Major nutritional problems

The major nutritional problem is under-nutrition among women and children, and has deleterious effects on physical growth, causes resistance to infection, affects work capacity negatively, affects cognitive development, school performance and physical activity.

Deficiencies among women are caused by lack of iron. Foods rich in iron are liver, meat, seafood, eggs, leafy vegetables, apricots and dried fruits; the lack of which causes anaemia. In especially adolescent girls and pregnant women, maternal mortality may result due to low iron levels in the body. When in the body, iron helps in haemoglobin formation and transport of oxygen by the red blood cells. Significantly, lack of folic acid causes foetal malformation and neural tube defect in foetus during pregnancy.

Deficiencies among children can be caused by lack of protein, resulting in Protein Energy Malnutrition (PEM), Kwashiorkor or Marasmus. Lack of iron results in impaired physical activity, impaired mental development and anaemia. Vitamin A deficiency interferes with treatment of diseases such as measles, malaria, HIV/AIDS. Deficiency in Vit B12 and Zinc as well as iodine occur. Iodine which is abundant in seafood, green vegetables, iodized salt is used in hormones production or in chemical message activation in the body.

Global micronutrient deficiency

In 2010, it was observed that 1.02 billion people in the world suffer from undernourishment (FAO, 2010) as against 873 million in 2006. Also one-sixth of global population endure hunger in the present day, with more than half (642 million) living in Asia and the Pacific; and more than one-quarter (265 million) in sub-Saharan Africa, while an estimate of 15 million undernourished people live in developed countries. In such countries like the United States of America, food insecurity and interventions show that hunger is less severe and starvation is rare, due to availability of Federal assistance although millions of Americans face 'food insecurity' due to disruptions in eating patterns and reduced food intake as a result of adverse economic conditions. In 2008 the hunger level in the US was the highest since 1995, with 49.1 million people including 16.7 million children experiencing food insecurity; 14.6 % of US households experiencing food insecurity (increase from 11.1 % in 2007). An interesting issue showed

prevalence of food insecurity being particularly high among African American (25.7 %) and Hispanic (26.9 %) households. The Food Stamp Program (renamed Supplemental Nutrition Assistance Program (SNAP) in 2008 administered by the United States Department of Agriculture (USDA) helped reduce hunger. In March 2010, more than 40 million people, indicating one in eight in US received help from SNAP (33 million in March 2009). Also a recent study found that 50 % of US children will live in households that receive SNAP support before they reach age 20 (Archives of Pediatrics and Adolescent Medicine).

Interventions

Globally, out of 79 countries monitored by FAO, only eight reduced the number of undernourished people by at least half between 1990 and 2006. These countries are Armenia, Azerbaijan, Georgia, Ghana, Guyana, Jamaica, Myanmar, and Nicaragua. Significantly, Ghana was the only African country to achieve this feat. It was also realised that only eight other nations are on track to cut hunger in half by 2015 in accordance with the goal set at the World Food Summit in 1996 and the United Nations Millennium Summit in 2000.

The expected rise in the world's population from 6.8 billion to 9.1 billion in 2050 should make countries to begin planning effectively towards contributing to increasing global food production significantly by about 70 %.

Strategic interventions in Ghana

Ghana has adopted a holistic strategic approach. This involved improvement in agricultural output in sufficient quantity and quality as well as easy availability. There has also been sustainable agriculture through training of Farmer Based Organizations (FBOs), linkages to Service Providers, credit access from financial institutions. Other important interventions include organization of programmes in animal rearing including rabbits, grasscutter, goat, sheep and cattle for more food through improved agriculture. Salt iodization programmes have been organized. The role of women in agriculture have been acknowledgement; gender mainstreaming in food and nutrition, processing, access to food, access to and control over natural resources and

agricultural support services, policy- and decision-making processes have also been in place under the Special Programme for Food Security (SPFS), (FAO 1994).

Agricultural Information Systems have been improved to help producers and consumers as well as service providers alike, in addition to increase in supply of inputs and machinery to farmers. Review and improvement of food policy issues have also been enhanced.

Other interventions include the DFID-funded Sustainable Fisheries Livelihoods Programme (SFLP) to boost stock among others; improvement in policy advice and technical support. There has been improved collaboration and interaction between the Ministry of Food and Agriculture (MoFA), Agricultural research institutions, FAO and the Universities.

Establishment of Food standards such as those of the FAO/WHO Codex Alimentarius Commission has been pursued. The Code of Conduct for Responsible Fishing as well as that on the Distribution and Use of Pesticides have also been advanced. Others projects and programmes are the Water Component of the Special Programme for Food Security (SPFS); Development of Support Structure for Irrigated Agriculture; Project on Strengthening Agricultural and Fisheries Statistics, a collaborative project by FAO and MoFA; National Poverty Reduction Programme (Integrated Pest Management); Farmers Field Schools (FFS); Special Programme for Food Security - South-South Co-operation Ghana-China; Ghana Food and Agriculture Sector Development Policy (FASDEP II).

Innovative horizontal and vertical linkages between agriculture and industry have been addressed to improve on postharvest losses and for new product development for both the domestic and export markets. Sustainable Development of Livestock, Fisheries and Forestry Resources have been improved.

The School feeding programme has also helped to improve the diets of school children in targeted schools. The commitments of Private Sector, Civil Society, Agriculture Associations, Agriculture Unions, Parliament and Traditional Rulers have largely increased. There has also been incorporation of research activities involving caregivers in communities.

Breeding trials of important crops have helped to increase food production. Such activities have led to food fortification and training workshops with private sector participation to broaden the scope. Interesting educational programmes targeting men such as the project on Enhancing Child

Nutrition through Animal Source Food Management (ENAM, 2010). In this project, Male Household Heads (MHH) were assessed with respect to the Animal Source Food (ASF) to ensure nutrition of the entire rural households, especially children.

Conclusions and recommendations

Increased food crop and animal production necessary to meet nutrients needs of growing population in Ghana through improved agriculture and sustained growth have been addressed with reliable statistical data available to adequately address the issue of malnutrition. Agricultural shops run by the Ministry of Agriculture with subsidized prices for all agricultural produce like the erstwhile Food Distribution Shops of Ghana of the 1970s and 80s should have been sustained. Regrettably they are no more in operation in Ghana. It will be prudent for Governments to engage in self reliance in agriculture and reduce agricultural imports like grains, supported by determined, targeted and sustained crop-focused training of Farmer Based Organizations across the length and breadth of Ghana. There should be prudent management of agriculture and encouragement of many more Block farming systems, supported by combined harvesters and modern machinery to boost agriculture and make food available throughout the year. In addition, there should be education in nutritional programmes on radio, TV, with cinema vans to the rural communities especially so that such communities will appreciate the need to eat balanced foods for health and food security. Moreso, mainstreaming gender into projects such as education of males in caregiving will improve nutritional status of children, as a healthy population produces a healthy nation.

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