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Agriculture for Food and Nutrition Security: A Must For Achieving the Millennium Development Goals in Africa

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Abstract

The Millennium Development Goals (MDGs) underscore an overriding importance of human development for sustained economic, social, political and other development, and nutrition is the beginning of human development. Nutrition has, however, not been viewed as a development imperative in many African countries. Agricultural and health policies, projects and programmes and the conduct of agricultural and health research in most African countries do not consider nutrition to any significant degree.

The paper argues that food production, poverty, malnutrition and health are very intricately linked and the result of that linkage is probably the most important determinant of development and, thus, the realization of the MDGs in Africa. It also argues that it is a misconception that food security implies or is synonymous with food and nutrition security. The paper proposes that food policies, projects, programmes and research should focus on food and nutrition security and not just food security. In that regard, the paper proposes that the following interlinked processes must be taken into consideration in agricultural policies, projects, programmes and research:

(1) Effective marriage of indigenous and "scientific" knowledge in food production, processing, preservation, preparation and consumption.

(2) Promotion of agrobiodiversity, including the domestication of known nutritionally-rich semi-wild plants.

(3) Development of sustainable farming systems, including effective crop-livestock integration systems.

(4) Development of food production-marketing-consumption-nutrition linkage processes at community levels.

National and local level nutrition policy research and advocacy

Introduction

The central role of nutrition in the development of nations is yet to be appreciated especially in African countries. National policies, projects and programmes, political statements, academic exchanges, research and extension, and many development interventions in rural and urban areas tend to typically ignore nutrition. Even many nutritionists tend to, ironically, downplay the importance of nutrition of the people. They tend to rather emphasize food science and food technology. Nutritional status is, however, gradually being accepted as a key indicator of national development (Bendech, 2003). It is indeed the most comprehensive indicator of development. Food science and food technology, important as they are, should be seen as being complementary to the attainment of adequate nutrition at household and community levels. How to effect adequate nutrition at all levels of society should be the goal of agriculturists, nutritionists, health workers, food scientists and technologists and indeed all people seeking development.

The formulation of the Millennium Development Goals (MDGs) by the United Nations (see FAO, 2005) has underscored the overriding importance of human development for sustained economic, social, political and other development, and nutrition is clearly the beginning of human development. It is therefore surprising that nutrition is yet to be viewed, globally and especially in African countries, as a development imperative. That is clearly seen in the statement and subsequent reviews of, and discussions on the MDGs (FAO, 2005). Even though underweight is used as a measure of hunger in the first MDG, it is quite obvious that the issue of malnutrition has not been considered central to the achievement of the goals. Micronutrient malnutrition, for example, is not explicitly considered

in official statements and discussions with respect to the MDGs. It is however known that micronutrient malnutrition is responsible for significant levels of child and maternal mortality (Burkhalter et al., 1998). Micronutrients are also important in the mitigation of HIV/AIDS (Piwoz and Preble, 2000), and have significant effects on school performances of children (Burkhalter et al., 1998), among others. The reality is that nutrition is key to the achievement of all the first seven MDGs. There is thus need to examine the critical role of nutrition in the achievement of the MDGs.

It is clear from discussions of MDGs all over the world (UNDP, 2004), that researchers, policy makers, politicians, many development workers and others do not recognize very important links between food production, food consumption, nutritional well-being and the overall development of the people. Almost all African countries' agricultural policies emphasize food production but almost nothing is usually said in the policies or statements about food consumption and nutrition, may be, under an erroneous assumption that once the food is produced it will be consumed. In the Comprehensive African Agriculture Development Programme (CAADP) and the Comprehensive Health Programme of the New Partnership for Africa's Development (NEPAD), (NEPAD, 2003), for example, almost nothing is said about nutrition in both programmes yet the principal aim of agricultural and food production is good nutrition. Also nutrition is the principal solution to almost all health problems. Nutrition is too central to human existence and development to be treated as a footnote in agricultural or health policies, programmes and research, especially with regards African countries.

The aim of this paper is to argue that agricultural policies, programmes and research, especially in African countries, should have a goal of food and nutrition security as opposed to just food security because the latter does not necessary imply the former.

Materials and Methods

Extensive literature review was undertaken on agricultural policies and programmes in African countries, food and nutrition security imperatives, the plans and strategies being used to achieve the MDGs in several African countries and the gaps that exist. Critical analysis was done on food production, food security, nutrition, health and poverty linkages and how those linkages affect the attainment or otherwise of the MDGs. Information on food security and nutrition intervention strategies was also drawn, mainly from action researches that have been done at the Food and Nutrition Security Unit of the University for Development Studies, to support the conclusions arrived at from the analysis of the linkages.

RESULTS AND DISCUSSIONS

Malnutrition and Poverty in African Countries

Malnutrition is manifested in protein-energy malnutrition (PEM) and micronutrient malnutrition (MM). There is still, however, the tendency world wide to measure the level of malnutrition by only PEM but the consequences of MM are so serious that it is necessary to consider the two to determine the nutritional status of people. According to several researchers, malnutrition is a problem of poverty and not necessarily of food production (see for example, Parikh, 1992; Senauer and Roe, 1999). Malnutrition (hunger) decreased by 17% in developing countries generally between 1980 and 2000 but increased by 27 million people in Sub-Saharan Africa (SSA) (UNDP, 2004). Significant reductions in hunger were in Ghana and Mozambique but hunger increased significantly in Tanzania (36% to 47%) and Liberia (33% to 39%) (Ibid). These statistics did not consider MM. Information on MM indicates high levels of Vitamin A, iron, iodine and zinc deficiencies in many African countries (Parlato and Gottert, 1996; Dittoh, 2001; Ruel, 2001; Kennedy et al, 2003). Quality and high value foods produced by poor households are often sold and not eaten. In many African countries, the consequences of both PEM and MM are too high and present strategies for their reduction are unlikely to be able satisfy the MDGs in many of the countries.

Food Production, Nutrition, Health and Poverty Linkages

The production, processing and marketing of food is in the area of agriculture while the consumption and and/or utilization of food is the realm of nutrition. Thus the main link between agriculture and nutrition is food. Also the ultimate reason for food production and the institution of most agricultural and rural development programmes is to, directly or indirectly, effect adequate nutrition (Fleuret and Fleuret, 1980). There is enough food to meet the basic needs of each and every person in the world (Pinstrup-Andersen and Pandya-Lorch, 1999), but existing political, social and institutional arrangements at local, national and

international levels are not capable of ensuring food security for every one. That means there is need to look beyond food production and food security to examine the interrelationships between various aspects of the food chain as well as political, social and institutional arrangements in societies. Achieving nutritional adequacy demands actions far beyond increases in food production and even food security.

Figure 1 illustrates the linkages and interdependencies that exist between food production, nutrition, health and poverty. Problems associated with all these are so interrelated that solutions to them cannot be compartmentalized. Thus agricultural and other projects, programmes and researches to address problems in these areas must necessarily be multidisciplinary and all-inclusive. There is need for development workers and researchers to understand and appreciate the nature of the linkages. Unless food and agricultural production necessarily leads to adequate nutrition of macro and micronutrients, good health and some income, there cannot be sustainable development and the attainment of the MDGs will be a mirage.

Food Security Versus Food and Nutrition Security

Food Security is defined in terms of availability, accessibility (which includes affordability) and utilization. It does not adequately emphasize the ultimate reason for demanding food, which is nutrition of the human body for adequate health and development. Food security projects, programmes and researches have focused mainly on increasing food production and sometimes on increasing incomes. Very few in Ghana, put any emphasis on nutrition security. Nutrition security is said to exist if there is household food security, maternal and child care, and adequate health which ensures adequate food utilization by the body. That means projects, programmes and researches that aim at food and nutrition security will necessarily be holistic and multidisciplinary in nature and that is what is required to address the various MDGs.

While there are several food security as well as nutrition intervention programmes and projects in Ghana, food and nutrition security interventions hardly exist. The main drawbacks of past and even present food security and nutrition intervention programmes may be itemized as follows:

1) "Top-down" intervention methodologies which are often disjointed, inconsistent and sometimes illogical. Agriculturists intervene with food production messages while nutritionists and health workers go in with their own messages which could be at cross purposes.
2) There is lack of consideration of the knowledge of the main stakeholders, namely local farmers, gatherers, processors, marketers, mothers, fathers, caretakers and herbalists.
3) Most intervention messages are often targeting individuals (e.g. farmers, lactating mothers, school children) rather than households and communities.

The conclusion is that for a long time, development workers and researchers in agriculture, health and nutrition have looked at food security and nutrition as two different processes, and sustainability of the different and disjointed processes is difficult. For the MDGs to be achieved there must be holistic food and nutrition security interventions that are multidisciplinary and participatory. That is the way to ensure sustainability of the processes.

TOWARDS FOOD AND NUTRITION SECURITY AND THE ACHIEVEMENT OF THE MDGs

Food and nutrition security projects, programmes and researches have to consider several interlinked processes if the MDGs are to be achieved within the given time frame. They include the following:

1. Effective marriage of indigenous and "scientific" knowledge in food production, processing, preservation, preparation and consumption: Participatory action research in northern Ghana (Karbo et al, 1999; Millar, 1999; Dittoh, 1999; Dittoh and Bruce, 2001, Dittoh et. al. 2003) has clearly shown that there is a wealth of indigenous knowledge that can be combined with scientific knowledge to achieve very good results for food and nutrition security and ultimately the MDGs.
2. Promotion of agrobiodiversity, including the domestication of known nutritionally-rich wild plants: Several local and semi-wild fruit trees and plants are known to be highly nutritious. They have considerable high

amounts of various micronutrients and according to Kuhnlein (2003), traditional food systems contain a wealth of micronutrients. Their promotion using participatory methods such participatory technology development (PTD) and behaviour change communication (BCC) (Dittoh, 2003) will support rural communities to achieve the MDGs.

3. Development of sustainable farming systems: Sustainable farming systems should necessarily be soil-improving, environment-friendly, water and energy use efficient and nutrition-oriented. In northern Ghana and other parts of the savannas of West Africa, the call is for effective crop-livestock integration systems in addition to other systems. Sustainable farming systems necessarily aim at household food and nutrition security and hence will enhance the attainment of the MDGs.

4. Development of food production-marketing-consumption-nutrition linkage processes at community levels: The complete chain needs to be understood and appreciated at community and household levels. Food production must readily meet the consumption demands of the people and must have ready markets. That will ensure achievement of the MDGs at those levels.

5. National and local level nutrition policy research and advocacy: Adequate knowledge and appreciation of the importance of nutrition in the overall development agenda by policy makers, politicians and other opinion leaders at national and local levels is vital for meaningful agricultural planning, policy and programme formulation and implementation, and for overall nutritional improvement to achieve the MDGs. Most of these people do not, currently, appreciate the central role of nutrition in development, hence the need for strong advocacy at various levels of society.

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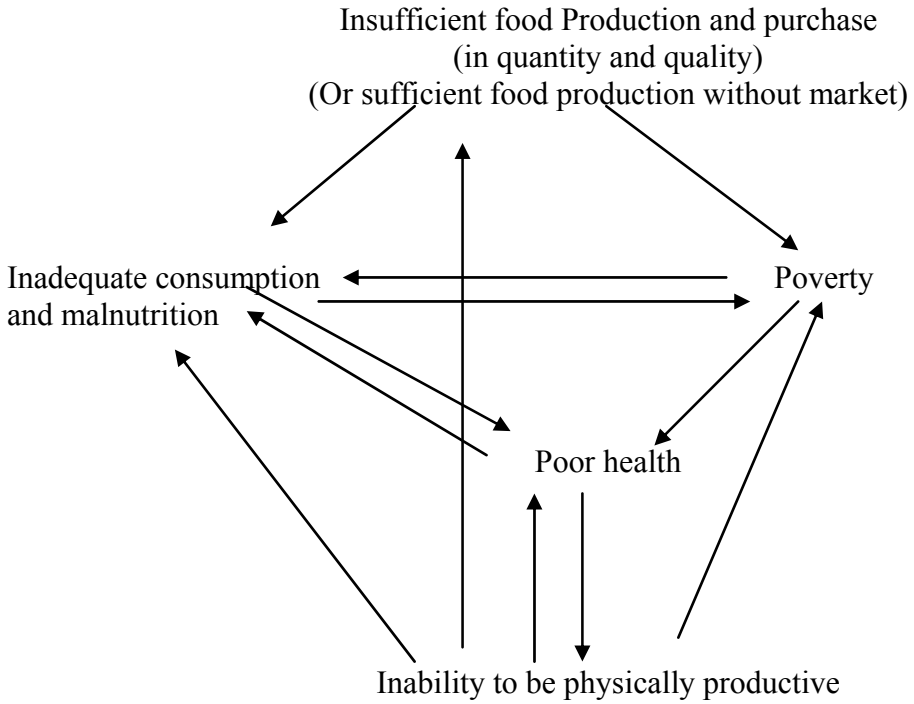
Figure 1: Food Production, Nutrition, Health and Poverty Linkages