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NUTRITION GUIDELINES FOR AGRICULTURE AND RURAL DEVELOPMENT

Contents

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Preface

The first draft of this paper was prepared by Christine Babcock and Tom Zalla. Christine Babcock presented it at the Agriculture and Rural Development Officer's Conference, in Harare, Zimbabwe on December 8, 1983.

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NUTRITION GUIDELINES FOR AGRICULTURE AND RURAL DEVELOPMENT

I. INTRODUCTION

Almost all agricultural development projects financed by USAID in Africa have a nutrition impact, if not as a specific objective, then as the indirect consequence of achieving or not achieving other objectives. This paper provides guidelines for agricultural officers and others responsible for implementing the Agency's nutrition policy (USAID, 1982) and its draft nutrition strategy (USAID, 1983) as these pertain to agricultural and rural development projects and programs in Africa.

Increasing rural incomes and increasing food and cash crop production are important components of the Africa Bureau Food Sector Assistance Strategy. This paper provides guidelines for increasing food consumption simultaneously. Food consumption is the most important determinant of undernutrition. The purpose of these guidelines is to facilitate serious consideration of nutrition in all agriculture, rural development projects and PL 480 programs. The guidelines suggest a framework for increasing the likelihood that achieving income, production and reduced dependence on imported goods that require foreign exchange will also lead to increases in food consumption among specific food deficit African populations.

II. AID NUTRITION POLICY AND STRATEGY

The AID Nutrition Policy Paper places highest priority on alleviating undernutrition [1] through sectoral programs in agriculture, health, food aid, population and education, not just through direct nutrition programs. Addressing protein inadequacy and micronutrient deficiencies is also important. AID's policy in nutrition will be implemented by incorporating nutrition and food consumption into sectoral development strategies, by identifying programs and projects based upon analysis of nutrition and food consumption problems and by including nutrition as a factor in project design. By focusing on the structural causes of undernutrition, this approach has the potential to reduce the need for direct nutrition intervention programs.

III. FACTORS DETERMINING NUTRITIONAL STATUS

On a per capita basis, undernutrition in Africa appears to be about twice as prevalent in rural areas as in urban areas. Despite this, rural undernutrition has received much less attention. Since developments in agriculture also affect the undernourished in urban areas, responsibility for nutritional improvement falls heavily upon agricultural programs and projects.

Four broad factors influence the nutritional status of the individual.

A. Food Availability

Food shortages may occur only during certain years. They may be chronic or seasonal, nation-wide or area-specific. Food shortages have a

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[1] Defined as inadequate consumption of calories, undernutrition is the most common nutrition problem in Africa. Its seasonal incidence is greater than its incidence throughout the year.

number of causes. Those of most concern to USAID's agricultural development program include poor incentives for producers, lack of resources, weak institutional structures for developing and disseminating suitable technology, post-harvest food losses, transportation, marketing bottlenecks, and policies relating to food imports or agricultural exports.

B. Ability to Obtain Adequate Food

Economic factors such as limited purchasing power, high food prices or an inadequate resource base for household food production may make food unavailable to some individuals, even though adequate supplies exist in local markets. Individuals within the household may not be able to obtain adequate food because of the allocation of available production resources, income or food supplies within the household.

C. Willingness to Obtain Available Food

This factor groups those causes which relate to "inappropriate" demand, i.e., consumption patterns which do not meet the nutritional needs of all family members. At the household level, it includes social and cultural factors such as food habits, beliefs, taste preferences, and inaccurate perception of food needs.

D. Biological Utilization of Obtained Food

Biological utilization of obtained food is determined essentially by three factors: 1) the form in which food is consumed, 2) the ability of the gastrointestinal tract to digest and absorb the food that enters, and

3) the body's ability to retain and use the nutrients it has absorbed. Agriculture and rural development activities relating to food conservation, food processing, and food preparation can enhance the probability that households will consume food in a form that allows a healthy digestive process to extract and absorb the most nutrients possible (factors one and two). Interventions in the health sector can improve the ability of internal body systems to digest and absorb food and use the nutrients absorbed (factors two and three).

IV. WHY INCREASING AGRICULTURAL PRODUCTION MAY NOT FEED THE HUNGRY

The ultimate goal of AID agricultural projects is to increase the quantity and quality of food that people eat. Historically, AID development projects in Africa have emphasized increasing agricultural production and incomes as the most effective way to increase aggregate food consumption. However, project planners have paid little attention to whether food deficit groups have actually participated in the increased incomes and, if so, whether the higher incomes actually translated into appreciable increases in consumption of total nutrients for them. There is mounting evidence that these relationships may not be as straightforward as is commonly believed, especially among limited resource households that produce a large proportion of their own food needs.

When food deficit groups do not participate in projects to increase production or income, they continue to lack the resources to feed themselves adequately. However, even when such equity issues are addressed, increases in income may not be followed by substantial increases in individual consumption.

In Sierra Leone, it was found that the very poor could use increased household net income to increase caloric intake from cereals. Nevertheless, given constant prices, total income had to increase 68% to raise caloric intake from the current 1,200 calories per capita per day to the minimum requirement of 1,900 calories per capita.

Increases in production may not be followed by substantial increases in individual consumption. Aggregate production of food will increase more sharply than individual consumption because amounts of available food energy will be lost in storage, more refined processing, and in conversion to more highly valued food commodities, such as livestock products. These factors operate to diminish the impact of a given increase in income or production on individual consumption of nutrients -- the variable of primary concern.

Within this context, we need to further distinguish between the impact of agricultural and rural development projects on urban consumers versus producing households. In general, food consumption in urban areas will respond to food availability, incomes and prices. However, this relationship is not straightforward. Taste preferences are responsible for diversion away from dreary calories to more expensive, tastier or convenient ones. The situation in rural areas, is even more complex. As a point of departure, we do not thoroughly understand how food consumption in rural areas responds to changes in income, prices and agricultural production patterns. These responses or "consumption effects" no doubt vary from one area to another. Consumption effects meriting special attention in the selection and design of agricultural projects and PL 480 programs are discussed below.

A. Consumption Effects Linked to Income

Recognizing the importance of income, specific dimensions of income greatly influence the extent to which a given increment of it will stimulate increased consumption of food.

1. Flow of Income Steadiness in the flow of income over the course of the year may be a more important determinant of nutritional status than the total amount. Off farm employment, dry season vegetable production, investments in livestock, or other means of income may have an especially favorable impact on food consumption during the hungry season.

2. Content of Income In some cases, income in the form of increased output of food crops often translates into greater consumption of calories and other nutrients than an equal amount of cash income from non-food crops or from wages.

3. Owner of Income Many African households tend not to pool income. Those who earn it tend to retain control of it. Thus a greater proportion of income may be spent on food if it is earned by persons responsible for food acquisition or preparation.

B. Consumption Effects Linked to the Farming System

1. Division of Labor When new technologies are introduced, the division of labor between men and women may change. The changes may have a deleterious impact on nutritional status if they reduce women's control over household income, the amount of time women have available for food preparation, or increase the energy needs of family members.

2. Mix of Enterprises Subsistence households generally consume large amounts of the commodities which they produce themselves. Substituting non-food or non-traditional crops for traditional food crops in such farming systems may result in a decline in food consumption unless incomes increase enough to cover market purchases of equal quantity and quality. Fewer crops cultivated may accentuate seasonal shortages. For example, decreased intercropping of early maturing fonio, millet and maize with groundnuts appears to have lengthened the Gambian "hungry season". Introduction of cocoa in Nigeria, has often been cited as leading to increased dependence on root crops in the diets of producing households. This, in turn, appears to have led to an increase in protein deficiency among young children.

C. Consumption Effects Linked to Prices

In order for higher producer prices for local food crops to stimulate increased production, the farmer must have the means to make a production response to these higher prices, through improved production technologies, information, and marketing access. Without these technologies and marketing efficiencies, higher prices may foster entrenchment of unnecessarily high-cost agricultural production leading to higher than necessary retail food prices and reduced food consumption.

Allowing urban retail prices for rice and wheat imports to reflect real demand, relative to domestically produced substitute foodstuffs, may have a different result. In Sudan, it was found that since the poorest urban households do not consume these products in large quantities, higher prices may have little effect on their food consumption.

D. Implications for Project Development

Nutritional impact of agricultural projects ultimately boils down to that project's contribution to what people eat - food in a hungry person's mouth. Overall increases in food production and income do not lead necessarily to increased food consumption by any selected food deficit groups. Moreover, a particular policy or program can effect various groups quite differently.

Implementing AID's nutrition policy with respect to agriculture and rural development in Africa requires making increased food consumption by food deficit groups an explicit goal of agriculture and rural development projects and programs. Agriculturalists should pay close attention to the consumption effects of projects and programs that provide resources to the agriculture, forestry and fisheries sub-sectors, including marketing projects, as well as their PL 480 Title I, III and II, Section 206 programs.

V. AN APPROACH FOR FOCUSING ON FOOD CONSUMPTION

In order to incorporate nutritional considerations in agricultural and rural development planning and programming, mission strategists and project planners will need simple yet effective ways for defining who the hungry people are and how their food consumption might be affected by particular adjustments. This will, in general, have to be done at both the CDSS and the project level.

A. At the Level of the CDSS

The purpose of the CDSS is to define a coherent strategy for guiding USAID program activities in a country toward the achievement of specific

economic, social, political and quality-of-life objectives. Up to now, nutritional issues, per se, have not assumed great importance in formulating the CDSS. The typical goals of increasing food production and incomes are only assumed to lead to increased food consumption and better nutrition. This may not be true for groups in specific areas or situations. Within AID, improving food consumption among malnourished groups has assumed a level of importance comparable to increasing food production, incomes, foreign exchange earnings, employment and other development objectives. However, these objectives will sometimes conflict. The challenge facing missions is to identify strategies and projects that recognize the interrelationships between economic objectives, such as improvements in production and income, and quality-of-life objectives, such as adequate food consumption. This type of integration is important for all AID projects.

The Agency's draft Nutrition Sector Strategy Paper outlines the method for incorporating nutrition in the CDSS. Basically, the CDSS needs to identify whether a country has a nutrition problem and, if so, whether the Country Development Strategy will deal with it. To incorporate nutrition in the CDSS, AID mission staff will have to identify the nature and extent of the principal nutrition problems facing a country, and, where possible, the structural causes. The CDSS needs to spell out economic public and private sector measures being taken to correct these problems. The CDSS should articulate its own strategy for the particular undernourished popoulations it chooses to assist, including establishing commodity, regional, and program

priorities. It should also establish commodity and regional production priorities and identify the types of projects and policies through which it will provide that assistance.

To achieve nutrition and food consumption objectives the CDSS ought to focus on making existing resources more efficient, rather than financing add-on nutrition components to projects. Nutrition improvements should be viewed as an outcome of development, especially development of the agricultural sector. Nutrition and food consumption considerations should not be given primary importance over income, production, import substitution and other objectives. But, they should receive explicit and equal consideration before selecting a definitive strategy for the CDSS.

B. At the Project Level

Initially, until more data are available, nutrition analysis at the project level will assume greater importance than that at the CDSS level. At the moment, the project level is where affected populations are defined in sufficient detail to permit an analysis of the structural elements that may influence food consumption effects. Initial efforts should concentrate on influencing project design. The following five steps will guide the review process.

1. Identify groups substantially affected by the project or PL 480 program and the ways in which this may occur. This analysis should expose both direct and indirect benefits and costs.

2. Use existing health or nutrition survey data or qualitative descriptions of micro studies to superimpose nutritional status onto the groups identified above.

3. Identify the likely impact of the project on consumption of food by those groups identified as being undernourished. In particular, the project design team should consider the consumption linkages described earlier:

   a. the likely effect of the project on the output of individual food commodities and any substitutes.

   b. anticipated changes on farm household consumption of principal and substitute crops by undernourished groups.

   c. changes in the seasonal availability of foodstuffs and the expected impact of these changes on food consumption in undernourished groups.

   d. impact of the project on prices of outputs and substitute products, quantified if possible.

   e. impact of any price changes on food production and consumption by undernourished groups, whether in the project zone or outside of it.

   f. changes in income for undernourished groups and the expected impact of these changes on food consumption.

   g. changes in the intra-household distribution of income and its likely impact on food consumption by undernourished individuals.

   h. changes in household labor requirements and labor allocation and the impact this is expected to have on food consumption by undernourished individuals.

5. Suggest changes in project design that promise to enhance the positive and reduce any negative aspects of the project with respect to affected groups that have been identified as undernourished. This will help clarify the real nutritional impact of the project by excluding benefits accruing to already

adequately nourished groups. The focus of these guidelines is on nutrient consumption by undernourished groups, not on nutrient supply.

C. Building A Nutrition Information System

Much of the information needed to develop a nutrition strategy for the CDSS or to predict the food consumption effect of projects may not be available. In general, food supply and distribution data and health statistics are not disaggregated enough to reveal the structural economic and social relationships influencing undernutrition. Nevertheless, Missions should use available information to make as complete an assessment as possible. As a first step, missions may need to utilize short-term outside assistance to organize available information, to suggest how existing data can be used for food and nutrition assessments, and to identify ways in which existing data collection systems can be improved for nutrition planning. As a second step, mission capability for nutrition analysis could be developed through specialized training of a host country staff member. As a third step, incorporating food consumption measures into project monitoring systems should provide additional information and help to improve project designs while ensuring that projects fulfill their food consumption objectives.

D. Implementation

The key to increasing the nutritional impact of agricultural and rural development projects is to introduce nutrition considerations at the outset. This is most likely to occur where nutrition analysts, agriculturalists, agriculture economists, and rural development technicians work collaboratively

on project identification and design and have, themselves, a good understanding of the kinds of relationships described in these guidelines. Collaboration will help missions to prepare scopes of work that ensure adequate consideration of food consumption dimensions by project identification and design teams. Food consumption dimensions must become explicitly incorporated in sectoral project identification, design, implementation, and evaluation, to ensure the implementation of the Agency's Nutrition Policy, with respect to agriculture and rural development.

VII. CONCLUSION

Lasting improvements in nutrition are likely to result from changes which incorporate nutritional considerations in the design of programs in economic sectors, especially agriculture and rural development. Missions are being asked to undertake a wider range of actions than has been required in the past. These guidelines suggest an approach for allowing project development and implementation to continue in the short run, while building the information base and analytical capacity necessary for a more effective, long term response. As we grow in our understanding of the numerous and complex ways that food consumption in African farm households reacts to specific changes in production systems, cropping patterns, income flows and farm level prices, we can expect to make increasing strides in overcoming undernutrition in Africa.

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