B A S I S

Broadening Access and Strengthening Input Market Systems

REGIONAL PROFILE

GHAI LINKING FOOD SECURITY AND NUTRITION

June 1998

Paper complied for USAID and the Greater Horn of Africa Initiative

by

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List of Acronyms

ANP African Nutritional Programme

BMI body mass index

CSB corn soy blend

GHA Greater Horn of Africa

GHAI Greater Horn of Africa Initiative

HIV/AIDS Human Immuno deficiency virus / Acquired Immune Deficiency Syndrome

IDA iron deficiency anemia

IDD iodine deficiency disorders

NAPHI Network of African Public Health Institutions

NID National Immunization Days

NUTRINET Nutrition Training and Research Improvement Network

SANA Sustainable Approaches to Nutrition in Africa

SOMA-NET Social Science and Medicine Africa Network

UNICEF United Nations Children's Fund

USAID United States Agency for International Development

VAC vitamin A capsules

WHO World Health Organization

I. INTRODUCTION: Food Security and Nutrition

The magnitude of nutrition and food security problems in the Greater Horn of Africa region are of increasing concern to governments, donors, and others involved in relief and development policy and programming in the region. Under the Greater Horn of Africa Initiative (GHAI), the nutrition and food security linkages at the household level have been highlighted and targeted for support by USAID. The following Regional Profile presents an overall picture of the nutrition and food security problems and how the two are interrelated. These connections are explored within the framework outlined by the Concept Paper: Nutrition and Food Security Linkages in the GHAI which identifies specific issues under three priority themes:

PRIORITY I: Improved maternal, infant, and child nutrition, with a focus on program quality, design, and implementation;

PRIORITY II: Improved use of information and advocacy to influence policies, strategies, and programs; and

PRIORITY III: Improved maternal and child nutritional status in emergency and refugee situations.

USAID defines food security as "When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life." Under this definition, there are three essential components of household food security availability, access, and utilization. Although nutritional issues are commonly associated with the utilization component, this analysis takes into

consideration the interrelationships of food availability (agricultural production, marketing, technology,

local resource endowments, and policy), food access (income, marketing, and policy), as well as

utilization (health, knowledge, care, intrahousehold allocation, and cultural practices) in the region. In

view of the critical linkages identified and discussed in the regional and country profiles between food

security and nutrition problems in the Greater Horn, a multisectoral approach to addressing nutrition is

being recommended.

The nutritional situation of women and children in the Greater Horn of Africa is particularly serious

relative to other regions of the world. Rates of stunting, wasting, and underweight for children under age

five years exceed those of most other developing countries. For all of sub-saharan Africa, the percentage

of children under five who are stunting is 41 percent, while seven percent are suffering from wasting

(UNICEF, 1998). In seven of the Greater Horn countries where information is available, over one-third

of children under five are stunted. In Burundi, Eritrea, Ethiopia, and Tanzania the prevalence exceeds

one-half. Wasting prevalence is extremely high (>9 percent) in such countries as Eritrea and Ethiopia.

High rates of maternal anemia, low body mass index rates (BMI), and low-birthweight babies in the

region indicate serious maternal nutrition problems as well. Approximate estimates of populations

affected by micronutrient deficiencies in the Greater Horn are: vitamin A deficiency 25 percent; iodine

deficiency disorders 33 percent; and iron deficiency anemia 50 percent of pregnant and lactating

women and young children in the first two years of life. The primary determinants of these problems are

inadequate dietary intake and disease.

Evidence shows that related food security concerns of low food productivity and decreasing income

levels contribute significantly to the nutritional problems (UNICEF/World Bank). Climate variability

and patterns of resource use and control are major determinants of acute food insecurity, especially in the

high risk countries of Djibouti, Eritrea, Ethiopia, Somalia, and northern Sudan. Across the region,

population growth is outpacing agricultural productivity leading to food insecurity and malnutrition.

With regards to policy, nutrition is often granted low priority at the national, as well as the regional, and

district levels. Nutrition policy and programs may be spread across several sectors including health,

agriculture, and disaster assistance without the proper human and financial resources to support effective

programs. The sharing of information across these sectors is crucial for the appropriate formulation of

nutrition and food security policy.

In addition to the problems of chronic food insecurity and malnutrition, millions in the Greater Horn

region face acute food insecurity caused by drought, warfare, and conflict. When the GHAI was

introduced in 1994, there were an estimated 11 million individuals classified as refugees or displaced

persons, and 22 million requiring external food assistance. Today, there is an estimated 7.5 million

refugees in eight of the ten countries of the region (RNIS, 1997). Large and small-scale conflicts in

many countries of the region create or greatly exacerbate food insecurities. Early warning and

preparedness systems have been established, but many are not adequate to predict, mitigate, and respond

to crises that jeopardize people's food security. Emergency programs that distribute food aid, in

particular, are not realizing their full potential for impact on the health, nutrition and food security status

of populations. Severe wasting, while decreasing in general, remains at alarmingly high levels in the refugee camps of Burundi, Ethiopia, Kenya, and Sudan.

II. PRIORITY I: Improved maternal, infant, and child nutrition, with a focus on program quality, design, and implementation

Nutrition Situation

When the GHAI was introduced in 1994, the food security situation in the Greater Horn was recognized to be extremely grave. It was estimated that nearly half of the 186 million people living in the Greater Horn did not have reliable access to food to meet their daily energy requirements. Malnutrition was recognized to be the underlying cause of more than one-third of child deaths and implicated in a high percentage of maternal deaths. Wasting prevalence for children under two years of age was estimated to be between 30 40 percent in 1990 for six countries where data were available (USAID, 1994).

This situation continues. In 65 countries where data were available on stunting for children aged 24 35 months, countries from the Greater Horn region (Kenya, Uganda, Ethiopia, Rwanda, Tanzania, and Burundi) all fell in the top third of high stunting prevalence. Burundi reported the highest rate of stunting among the Greater Horn countries at 60.4 percent followed closely by Tanzania with 57.2 percent of children in this population group being stunted. These high rates of stunting among children under five years are associated with inadequate and poor infant and young child feeding practices, problems similar to other developing countries around the world.

Countries in the Greater Horn region have among the highest infant mortality rates in the world. Seven

of the countries (Eritrea, Ethiopia, Burundi, Djibouti, Burundi, Somalia, and Rwanda) had higher infant

mortality rates than 85 percent of the countries ranked around the world (CIHI, 1997).

Micronutrient Deficiencies

In the Greater Horn of Africa (GHA), available data indicate that vitamin A, iron, and iodine deficiencies

are of public health significance, according to the WHO public health cut-off levels. The micronutrient

situation varies from country to country and from location to location within countries. Annex A

describes five countries in greater detail. Although the determinants of micronutrient deficiencies are

many-fold, the primary cause is the lack of vitamin A, iron, and iodine in the diets of the people, and the

low bioavailabillity of iron and vitamin A in such diets. Wide-scale micronutrient deficiencies place a

huge drain on a nation's resources because of costs associated with high morbidity and mortality rates,

decreased learning capacity, and lower worker productivity and earning power.

WHO (1997) has classified all countries in the Greater Horn as having clinical or severe to moderate

subclinical vitamin A deficiency, putting them in the highest degrees of public health importance.

Vitamin A deficiency results in reduced immunity to disease, specially increased severity of diarrheal

disease; higher fatality from infectious disease (such as measles); and increased child mortality,

particularly in combination with protein-energy malnutrition. Interventions to combat vitamin A are

typically multisectorial, with widespread or targeted distribution of high-dose vitamin A capsules (VAC)

being the most common, in addition to increased local production and consumption of vitamin-A rich

foods (including foods containing the precursor to vitamin A, -carotene), and food fortification.

Distribution of vitamin A capsules in conjunction with National Immunization Days (NID) is an effective immediate way to reach a large proportion of the target population requiring vitamin A. In the ten Greater Horn countries, all but Burundi, Rwanda, Tanzania and Uganda, distribute VAC during NIDs. Eritrea held its first campaign in 1997, and Kenya will launch its initial campaign in 1998.

Moderate to severe levels of iodine deficiency disorders (IDD) were found in all but three of the Greater Horn countries (WHO 1993). Kenya, Somalia, and Uganda are classified as countries with 'mild' prevalence of IDD. Where data exist, approximately 31 million people are directly affected by IDD and another estimated 57.2 million are at risk for the deficiency in the GHA. Universal salt iodization has been the most promising response to combat IDD. The technology for fortifying all salt in the Greater Horn region is relatively inexpensive and can be readily implemented. In recent years, concerted efforts have been made to iodize salt in developing countries around the world. Most GHA countries now have iodized salt at an affordable cost, even for rural households. However, the range in household consumption varies widely from country to country, and data on the adequacy of the level of iodization are generally sparse. Iodizing salt is one of the first major steps in the process. Improvements in quality of processing, delivery, and education programs are now needed across the GHA region. Development of adequate country-level legislation and regional trade policies (i.e. trade policies between Eritrea and Ethiopia), and means to assure compliance of these are further steps needed.

Anemia is the most neglected and yet most widespread of micronutrient deficiencies. Iron deficiency anemia (IDA) affects 50 60 percent of pregnant women and pre-school children world-wide. In Africa, about 250 million persons are anemic. Less precise information is known about the magnitude of iron

deficiency in the GHA. It has been estimated that severe anemia indirectly contributes to 50 percent of

maternal deaths worldwide and is the direct cause in about 20 percent of maternal deaths. Interventions

have focused on provision of iron tablets to pregnant women, parasite control measures for worms and

malaria, education, and food-based approaches, such as increased food consumption of micronutrient-

rich foods and fortification of wheat and other foods. Large scale measures (food fortification,

distribution of iron tablets to women, parasite control, etc.) to address iron deficiency have not been

fully explored or undertaken in the region.

Food Security Relevance

Studies from around the world indicate that such nutritional problems and micronutrient deficiencies will

have an impact on food security of populations through influencing health status, mental capacity,

productivity, and ultimately the ability of households to produce or secure food for a healthy life. WHO

estimates that malnutrition is implicated in over half of all child deaths in developing countries.

Malnutrition exacerbates the health problems of malaria, measles, diarrhea, acute respiratory infections,

as well as HIV/AIDS. These health complications debilitate an individual's ability to either produce or

undertake other income generating activities in order to purchase sufficient food.

Malnutrition, especially among women and children, can have a detrimental impact on mental capacity

and productivity over the long-term. Research in the Philippines shows that productivity of physical

labor declines by 1.4 percent for every 1 percent that adult height is reduced. Thus, the higher the

prevalence of stunting, the more likely problems will later arise with the agricultural and food production

capacities of a population. Anemia may also diminish productivity of households, especially for women.

It has been calculated that there may be a one percent reduction in productivity for each one percent drop

in blood iron. Finally, iodine deficiencies cause irreparable mental impairment and consequently

diminished productivity. It may be assumed that all cretins are not at all productive as adults, that the

severely impaired are 25 percent less productive than normal adults and the mildly impaired are five

percent less productive (Ross and Pena, 1995).

III. PRIORITY II: Improved use of information and advocacy to influence policies, strategies, and programs

Throughout the Greater Horn region it has been shown repeatedly that there are critical links between the

various sectors of development assistance that are often ignored by decision-makers in charge of policy

formulation and implementation. This is especially true in the case of the multiple links between

nutrition and food security, food aid, and relief assistance. It is clear that many within the development

community are generally aware of these linkages, but that information across sectors critical for the

formulation of appropriate national policy formation is often lacking.

Recognition of the linkages between such food security related sectors as health, agriculture, and

education are required at several levels and must be strengthened at each of these levels. At the national

level, policy formulation and program development in many countries are only now beginning to identify

food security and nutrition explicitly and are still in many cases struggling with how this issue is defined.

Food security is often defined narrowly to consider only availability (i.e. production), rather than

important issues of access to income, purchasing power, and the proper utilization of the food.

Malnutrition is a hidden problem to most policy makers, who do not fully appreciate its economic and

health consequences. Nutrition policies and programs are still on the fringe of development planning,

with very small budgets. Nutrition is often split between various ministries or given a small, marginal

role within one ministry (e.g. Health). The links between food security and nutritional outcomes are

often not understood or addressed.

Several countries, such as Ethiopia, Uganda, and Tanzania are implementing policies of decentralization

from national to regional or district level food security programming. It is important to clarify to what

extent nutritional issues are integrated into these programs, and there is a concern that they may still be

of low priority. The opportunities are greatest for incorporating the input of targeted communities,

especially from women, and increasing the likelihood of a focus on nutritional issues.

The critical links between food security and nutrition are important to consider for those engaged in

development assistance. Donors and other organizations often overlook nutritional improvement and its

key ally, poverty alleviation, and focus on national level economic growth indicators. Nutrition is often

divided between health, agriculture, and disaster assistance sectors and granted low priority in planning.

Comprehensive food security assessments/profiles have aided other countries in their strategic planning

process to address national and household food insecurity.

African Nutrition Networks

Several African nutrition networks exist in the region which facilitate the exchange and articulation of

information for the formulation of nutrition policy and programs. The Social Science and Medicine

Africa Network (SOMA-NET) is a private network of individual paying members. Members come from a

variety of social science, medical and natural science disciplines. When organizing specific activities,

the network usually draws on the technical expertise of its members with the secretariat serving a

coordinating function. If specific activities are arranged that are new to the network, additional technical

assistance may be needed to ensure the quality of the activity is consistent with the expectations. Two

priority technical areas of SOMA-NET are nutrition and HIV/AIDS.

The USAID project Sustainable Approaches to Nutrition in Africa (SANA) has supported SOMA-NET

in the development and implementation of a training curriculum on consultative research for nutrition

behavior change programs. The manual, Designing by Dialogue, which offers instruction on qualitative

research methods, was used to develop the training curriculum. SOMA-NET conducted the first training

using this curriculum in February 1998.

In contrast to SOMA-NET, the Network of African Public Health Institutions (NAPHI) is a network of

institutions rather than individuals. NAPHI members include public health institutions from eastern and

southern Africa, such as the Institute of Public Health of Makerere University in Uganda. SANA has

worked with NAPHI to train countries in how to conduct nutrition program constraints assessments. To

date, only two countries have initiated these assessments (Uganda and Zimbabwe). Support in carrying

out nutrition assessments in additional GHA countries could be emphasized.

Another network that has been established in the region is the Nutrition Training and Research

Improvement Network for East and Southern Africa (NUTRINET-ESAR). The UNICEF regional office in

Nairobi was instrumental in organizing this network which includes nutrition training and research

institutions as well as members from governments with active nutrition programs. Seven countries,

including four from the Greater Horn region (Ethiopia, Kenya, Uganda, and Tanzania), participated in

the first workshop in October 1996 to organize the network and establish a steering committee. The

workshop identified the first priority of NUTRINET would be addressing the problem of iron deficiency

anemia in countries. Other activities of NUTRINET would include information sharing, networking

and advocacy, and improving implementation of nutrition action plans and training of community-based

nutrition workers. The Applied Nutrition Programme (ANP) of the University of Nairobi was named the

focal institution for the NUTRINET.

IV. PRIORITY III: Improved maternal and child nutritional status in emergency and refugee situations

When the GHAI was introduced in 1994, it was estimated that over 22 million people in the region

required external food aid assistance, and 11 million were classified as refugees or displaced persons.

Three years later, reports indicate that in eight of the ten countries, there are still nearly 7.5 million

refugees or displaced individuals. In places such as Sudan, Somalia, and Ethiopia, protracted civil wars

have forced many to leave their homes for long periods of time. While millions have fled in recent years

due to uprisings in Uganda, Burundi, and Rwanda. Other conditions such as drought, heavy rains, and

floods have caused the displacement of hundreds of thousands in the region during the last year.

The total number of displaced and refugees living in Sudan (2.8 million) far exceeds the numbers living

in other countries. Rwanda follows with 1.4 million and then Somalia with 1.2 million. Even in Uganda

the number has increased significantly since September 1996 as a result of fighting between government

forces and rebel factions (RNIS, 1997).

In general, the nutritional status of individuals in emergency situations across the region is reportedly

poor by international standards with the possible exception of Tanzania where wasting prevalence rates

have declined significantly within the last year. Especially high wasting rates have been reported in

refugee camps in Ethiopia, Kenya, Burundi, and Sudan. In many camps across the region, there is

simply no nutritional information available. Several factors have contributed to the malnutrition found

in camps for refugees and the displaced. An assessment of these factors showed that the most common

problems contributing to poor nutritional status were logistics for providing food aid and other

humanitarian assistance; ration quantity (i.e. kcal per recipient) and quality (i.e. micronutrient density);

and immunization coverage (RNIS, December 1997).

Various nutritional indicators demonstrate serious nutritional problems especially for children under the

age of five years. To a large extent, young child feeding practices in emergency situations are

determined by the traditional feeding practices of the population. However, there are other factors that

contribute to the deterioration of breastfeeding or weaning food practices which ultimately lead to

malnutrition. For example, the distribution of breastmilk substitutes may confuse mothers who have

been breastfeeding and encourage them to introduce substitutes. In emergency settings, there is often no

potable water or proper sanitary conditions for the ideal preparation of substitutes. The separation of mothers from children combined with their general lack of hope and resources also lead to the deteriorating care and health of children ultimately leading to malnutrition.

Another factor contributing to declines in breastfeeding rates during emergencies is the myth that the mother will not produce enough milk to nourish their infant. As this is often a concern among women in non-crisis situations, it becomes accentuated when women are over-stressed or malnourished themselves in emergency settings. The reality is that in only extreme cases are malnourished women unable to produce enough breastmilk. There is a need for breastfeeding and complementary feeding promotion and education programs in emergency and refugee situations in the Greater Horn region.

Food Aid in Emergency Situations

Food aid is being distributed in emergency situations throughout the region. In order to achieve the objective stated in Priority III, it is important to assess the current impact that food aid is having on nutritional status. As stated above, the caloric content and composition of rations is a major contributing factor to malnutrition in refugee/displaced population camps. There are several examples of camps that have reduced their general ration to the detriment of the nutritional situation. The general ration in the camps of both Eastern and Western Ethiopia were recently reduced significantly during 1997 on the assumption that refugees had attained a certain degree of self-sufficiency. The continuation of very high wasting rates in certain camps indicates that this assumption should be reevaluated. Other problems have been cited. In the Aswa camp in Southern Sudan, the ration is supposed to be providing up to 1,800

kcals/person/day, but oil has been missing from the ration since July 1997. In the same camp, corn soy

blend (CSB) was provided (by mistake) for the supplementary feeding program instead of the usual

UNIMIX. For two weeks, no food was distributed while authorization was sought to distribute the new

commodity.

Blanketed feeding and supplementary feeding programs have been consistently effective in lowering

malnutrition. For example, wasting rates in the Nduta camp of Tanzania were reduced from 11.7

percent to 1.3 percent from April 1997 to September 1997 due in large part to a blanket feeding program.

The program provided 200 grams of blended food per day to children under five years old. Other camps

around the region (i.e. camps in Ethiopia, Sudan, and Kenya) have had similar experiences in which they

have committed to continue and expand their blanket supplementary feeding programs.

V. CONCLUSION

The severity of nutrition and food security problems in the Greater Horn of Africa region warrants

immediate and ongoing attention. Under the GHAI, priority issues have been identified for

programming and resource support. The nutritional status of mothers, infants, and children is of primary

concern given the elevated rates of both chronic and acute malnutrition in several of the countries.

Micronutrient deficiencies of vitamin A, iodine, and iron are also of high priority under GHAI.

Availability of food (through production, marketing, technology, local resource endowments and policy),

access to food (through income, marketing and policy), and utilization of food (through health,

knowledge, intra-household allocation, and cultural practices) are closely connected food security factors

which must be considered when analyzing nutritional problems in the Greater Horn.

Serious limitations of nutrition-related policies across the region are hindering the implementation of effective programs. These include: 1) inadequate information available on the critical linkages between such sectors as health, agriculture, education, and finance for attaining improved nutritional outcomes; 2) a notable absence of multisectoral policy and planning at all levels of administration national, regional, district, and community exists within countries in the Greater Horn; 3) greater support to women must be granted in all food security areas to ensure positive nutrition outcomes; and 4) concerted multisectorial measures to raise food security at the household, regional, and national levels.

Finally, the Greater Horn region is characterized by the ongoing emergencies of drought, warfare, and conflict. Such problems are both causing and exacerbating food security and nutrition problems. Large quantities of food aid are being distributed across the region which could have greater impact on nutrition for improved maternal and child survival. It is imperative that the critical linkages between food security (availability, access, and utilization) and nutrition be considered in nutrition policy and programming in the Greater Horn of Africa. A multisectoral approach is necessary to ensure the root causes of nutrition are addressed and alleviated over the long-term.

** Interventions to address the problems identified in this Regional Profile have been proposed by the Cooperating Agencies of LINKAGES, OMNI, BASIS, and QAP. They may be found in the document - Priority Inventions: Linking Food Security and Nutrition, April 1998.