

## Food and Agriculture Based Approaches to safeguarding nutrition before, during and after emergencies: The experience of FAO<sup>1</sup>.

### Abstract

Agriculture has an important role to play as part of a more integrated package to tackle nutrition in emergencies. In order to maximise the impact of agricultural based responses, two “lenses” are important. First, a “nutrition lens” to ensure that projects and programmes are designed, implemented and monitored with nutritional outcomes in mind. Second, a “Disaster Risk Management” lens, which highlights the importance of reducing the impact of disasters through risk reduction and recovery actions *in addition to* standard response actions.

FAO is involved in a range of emergency projects with assumed or measured nutritional impacts. The Organization is striving to apply both “lenses” to nutrition related interventions and to highlight the importance of agriculture related nutrition interventions in emergencies; however, there are a number of challenges. Meeting these challenges requires a blend of activities which include: awareness raising amongst the food security “community”; incorporating nutrition-related approaches, defining objectives as well as required indicators for targeting and monitoring (e.g. dietary diversity for adults, diversity of complementary foods for children); building-up the evidence base on agriculture-nutrition linkages through improved effective and joint implementation, M&E and lessons sharing; advocating joint planning by agencies at country level using a shared conceptual and analytical framework for food and agricultural interventions; enhanced articulation between the new Food Security and already existing Nutrition clusters, and; strengthened enforcement of nutrition goals and mainstreaming in appeal programme and project documents and monitoring. Using the “right to food” principle to promote sustainable food based interventions in emergencies - promoting the dignity of people by supporting self-reliant livelihoods - is another area requiring a stronger focus.

### 1. Introduction:

Food and agriculture based approaches to improving nutrition in emergency contexts have not received the attention or emphasis that they merit by the international community, academia or national governments. By “food and agriculture based” we refer to agricultural production, (horticulture, crops, livestock, fisheries); (including homestead production and productivity), food processing and nutrition promotion. Therapeutic and supplementary feeding and General Food Distributions (GFD) do not fall under this definition.

It is important to present the case for food and agriculture based approaches, whilst acknowledging that there are a number of challenges. Addressing these challenges will require documenting and disseminating successful practices, strengthening capacity for designing, implementing and evaluating integrated food and nutrition security interventions, and more connectedness in planning and coordination between actors concerned with agriculture and those concerned with nutrition.

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<sup>1</sup> This paper was written in conjunction with an International Symposium on Food Based Routes to Nutrition organised by FAO on December 6 - 7 2010. The authors are all FAO employees. For further details, please contact [Neil.Marsladn@fao.org](mailto:Neil.Marsladn@fao.org)

FAO has a key role to play in advocating for, and strengthening country level capacity to implement food and agriculture based approaches in emergencies and has several relevant experiences and competencies on which to draw and from which to learn. The recent initiation of the global Food Security Cluster and its nascent interactions with the Nutrition Cluster aim to increase attention on nutrition in emergencies and provide clear opportunities to intensify efforts to promote food and agriculture based approaches to nutrition in emergency contexts.

## **2. Emergencies and Food**

In emergencies, food intake may be compromised in a number ways:

- By reducing local food availability and household access to food (physical destruction, destruction of infrastructure),
- By affecting food preparation practices and food safety due to insecurity and/or a lack of access to water, firewood, electricity
- By adversely affecting caring capacity and the feeding of young children
- By weakening or removing previously existing coping strategies (e.g. migration, casual labour)
- By necessitating destructive and extreme coping options e.g. family break-up, theft, prostitution, asset disposal

In emergencies, most nutrition interventions focus on the treatment of acute malnutrition through therapeutic and supplementary feeding and General Food Distributions. When well designed and implemented these are vital for saving lives and preventing terminal asset depletion. However they do not address the underlying causes of malnutrition.

Complementing and replacing these approaches over time with food and agriculture based responses would ensure sustainable improvements in the food and nutrition situation of affected households and communities. In order to maximise this benefit, food and agriculture based responses should be designed, implemented and monitored using nutrition and Disaster Risk Management “lenses”.

## **3. Nutrition and DRM “lenses”**

Applying a nutrition lens to agricultural interventions means that the design and monitoring of emergency agricultural projects needs to be done with an understanding of which livelihood(s) group(s) are most at risk of malnutrition, what the causes of malnutrition are in each group, and how the proposed interventions will impact on the nutritional status of these groups. Both intended and unintended consequences of emergency agricultural interventions should be evaluated in terms of potential impacts on nutrition at design stage. Emergency responses should be designed and implemented in such a way that protects, restores and enhances local food availability and household access to safe and nutritious foods, and ensure households have the knowledge and skills needed to make optimal use of this food.

Applying a nutrition lens also means using appropriate monitoring indicators. Dietary intake and diversity indicators which provide a measure of household access to and consumption of, diverse foods are more appropriate than anthropometric measurements insofar as the latter are significantly affected by health status. Ideally, both anthropometry and dietary diversity indicators should be used together to improve understanding of specific impacts within a more general nutritional context.

Applying the nutrition lens within a DRM perspective widens the scope of nutrition interventions beyond the standard emergency response “window” to include preparedness and transition / recovery phases. In terms of preparedness, this means that - for example - contingency planning for the food and agriculture sector should explicitly include actions which would reduce the risk of negative nutritional impacts and strengthen the resilience to possible shocks of households that are at risk of, or affected by, malnutrition. This can be done by diversifying food production, improving storage, diversifying livelihood strategies and associating nutrition education with these interventions. Similarly, nutritional considerations should be mainstreamed not just into standard agricultural emergency responses but into recovery and rehabilitation interventions through interventions designed to strengthen the resilience of local food systems and improve local feeding practices.

#### **4. FAO and food based approaches**

FAO is striving to improve the nutritional impact of its food and agriculture based interventions in emergencies by applying the nutrition lens within a DRM framework. FAO’s experience has generated some interesting examples, success stories and many lessons learned.

*In Somalia* the FAO Food Security and Nutrition Analysis Unit (FSNAU) has developed a nutrition situation map based on an integrated analysis of the nutrition information from a variety of sources, which clearly indicates the severity and magnitude of malnutrition in the country. This product, updated twice a year in parallel to the IPC household food access map, helps to target food and agriculture interventions to those with different levels of nutritional vulnerability. The analysis also highlights what the key drivers are to the nutritional situation, e.g. the role of the public health (disease outbreaks poor water quality etc) and drivers of food security including the dietary diversity of the particular livelihood group.

*In Somalia and Indonesia*, FAO has developed a Response Analysis Framework which requires practitioners from food, agriculture and nutrition sectors to come together and agree on the causes of nutritional problems using a shared conceptual framework. This joint problem identification lays a strong platform for coordinated responses across sectors and clusters. Amongst other things, it gives agencies in the agricultural sector an understanding of how their actions and interventions are or could contribute to nutritional outcomes and how this could be strengthened through intersectoral and inter-institutional collaboration.

*In Niger*, gendered livelihood support is yielding dividends in terms of improving access to food for family members. Five FAO projects are combining to provide a combination of off-

season activities, distribution of small ruminants and agricultural inputs and leasing of land and irrigation water, all targeting women. The empowerment of women through the appropriation of agricultural inputs including land and water proved to be a key factor in reducing child malnutrition and vulnerability to food insecurity. The strengthening of household safety nets through the distribution of small ruminants to women allows women to have a productive role and contribute to the household economy. Women are reinvesting more than 50% of their income in improving the food household coverage. The participation of mothers in social mobilization and agricultural production activities is a factor of social cohesion and improved nutritional practices.

*In Gaza*, 85% of traditional fishing grounds are now out of bounds due to restrictions. As a result of this, per capita fish consumption has fallen from 5kg per year to 2.2kg in 2009. Responding to this, FAO has introduced 100 aquaculture ponds in southern Gaza. This project will add an estimated 50 tons of fish to the market in 2010, almost doubling the entire aquaculture sector's production last year. It is planned to link the project with a fresh food voucher scheme, ensuring protein reaches the poorest and most food insecure families.

In *Afghanistan* FAO has been part of innovative interagency and intersectoral collaboration to improve nutrition of children and mothers affected by protracted crisis. Along with UNICEF, FAO has been co-chairing the nutrition cluster since the activation of the cluster approach in country in early 2008. Whilst the close cooperation among major stakeholders has provided great opportunities for a more comprehensive approach to prevent and treat malnutrition, funding constraints have placed limits on collaboration. In response, the cluster applied for and was awarded CERF funding<sup>2</sup> to implement an integrated and more sustainable approach to malnutrition. This approach links the provision of immediate food products for therapeutic and supplementary feeding to the promotion of improved complementary feeding for children and mothers, using locally available and affordable foods. Children and families identified as in need of nutritional support also receive support for homestead food production (e.g. training, provision of simple agricultural inputs), and agricultural extension promoting the production of nutritious plants at clinic and community demonstration gardens.

Integrating nutrition into agricultural extension in a post-conflict recovery setting is a key aspect of the Junior Farmer Field and Life Schools approach in *Northern Uganda*. Here, children affected by conflict (either orphans or separated from their families) work together with adult facilitators to integrate post harvest food utilisation and processing skills with understanding of basic nutrition and agricultural skills.

Various studies have investigated the impact of nutritional education on nutritional status. There is some evidence to suggest that nutrition education that provides simple messages tailored for low-income families has made an impact on caregiver child feeding practices, and subsequently on child growth<sup>3</sup>. In certain kinds of emergency situations, providing

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<sup>2</sup> CERF (Central Emergency Response Fund) is a humanitarian fund established by the United Nations to enable more timely and reliable humanitarian assistance to those affected by natural disasters and armed conflicts. One of the three objectives of the CERF is to strengthen core elements of humanitarian response in under funded crises.

<sup>3</sup> Lartey A "Maternal and Child Nutrition in Sub-Saharan Africa: Challenges and Interventions" in Proceedings of the Nutrition Society (2008) 67, 105 – 108.

nutrition education through community worker networks is possible, and can have beneficial impacts. With this in mind, FAO has been training community workers in *Zimbabwe* in good nutrition and the growing processing and preparation of healthy food. The *Healthy Harvest* manual is being used as a mainstreaming tool in a variety of interventions promoted by the Department of Agricultural Research and Extension Services, (AREX) in the Ministry of Agriculture in Zimbabwe as well as the Ministry of Health and Child Welfare.

## **5. Key Challenges.**

There are several challenges to a more systematic mainstreaming of nutrition into agricultural interventions in emergencies, including the critical absence of an adequate evidence base. This is not just an FAO problem, evaluation of food based approaches has proved difficult and costly<sup>4</sup> which is presumably a factor behind the lack of evidence. All other things being equal, improved diets will lead to improved nutritional status. However, the links between agricultural interventions, diets and nutritional status need to be much better documented and substantiated. One factor is that the design of project monitoring systems is often not suitable to demonstrate the relationship between nutrition and agriculture. Another issue is that many food based approaches implemented at local level by NGOs are part of a multi-sector intervention and hence it is difficult to establish the effect of food based interventions compared to other components such as health or WASH.

A second and related challenge is that nutritional issues are often not even thought of in project design, implementation or monitoring. This is true of agencies and donors operating within an agricultural production or household food security “paradigm” in which it is assumed that increasing production on the one hand or increasing access to food at the household level on the other will automatically have beneficial nutritional outcomes.

Thirdly, even where they exist, food and agricultural based approaches with explicit nutritional objectives may be forgotten by donor partners due to general lack of awareness by agencies and donors of the potential of such approaches.

Fourth, the humanitarian architecture at global and country levels has reinforced any fragmentation and a lack of joined up thinking on nutrition. Examples as in Afghanistan, noted above are rare: through experience the Nutrition Cluster is normally concerned with public health and nutrient supplementation, the Agriculture Cluster is concerned with food production and the Food Cluster is concerned with food aid and access. Although ongoing inter-cluster discussions show promise for the future, it is clear that food and agriculture based approaches to nutrition in emergencies to date have often “fallen through the cracks”.

## **6. Ways Forward**

In order to meet these challenges, the following is necessary. First, building up the evidence base is a high priority. This involves addressing the points noted above. One quick and cost effective way to make progress on this is to include relevant indicators in the monitoring of food and agriculture based projects. Of key significance here are measures of food

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<sup>4</sup> O’Dea J “Review of Food Based Routes to Nutrition” (Unpublished applied research brief: RAF Project, FAO 2010).

consumption and dietary diversity which can be directly attributed to the interventions. The Dietary Diversity tool which is promoted by FAO<sup>5</sup> is a simple tool that is useful for assessing impact of programmes on the nutritional quality of the diet. At household level the tool is an indicator of access to food but at individual level (e.g. in adult women) it is a proxy of adequacy of micronutrient intake. While the tool is more relevant in the framework of programmes that address chronic food insecurity and malnutrition, it could be tested in the context of emergency and recovery interventions if diversification of the diet through agricultural and food security interventions is an objective.

Clearly, there is much to do to encourage those professionals involved in emergency agriculture and food security to think about nutrition in all stages of the project cycle. The FAO publication: “Protecting and promoting good nutrition in crisis and recovery” (2005) is a very useful reference which could serve as a basis for sensitisation and training and there are other useful and practical guides at country level. All such publications need to become more mainstreamed in the work and thinking of food security and agriculture actors. .

The introduction of food security clusters at global and national levels raises the prospect of an enhanced institutional position for food and agricultural based approaches to improving nutrition. In order for this to happen, cluster leads and cluster member agencies will need to be sensitised and guided. Strong linkages between the Food Security, Health, Nutrition and WASH (Water, Sanitation and Hygiene) Clusters at country level will be important to encourage a more holistic and less fragmented approach to nutrition in emergencies. This will require joint planning and problem identification processes oriented around a common conceptual framework which integrates the various causes of malnutrition, and allows each cluster to see clearly where it can play a role and where linkages to other clusters need to be made on the ground<sup>6</sup>.

Finally, donors and appeal processes should enforce nutrition mainstreaming as a matter of course in emergency food and agriculture projects. If done consistently, this will encourage clearer thinking about how food security and agriculture projects and programmes are contributing to nutritional objectives in emergencies.

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<sup>5</sup> Guidelines for measuring household and individual dietary diversity. FAO, Rome, 2011

<sup>6</sup> In this respect, lessons may be learned from bringing together the food, nutrition and agriculture and livelihoods clusters for a joint problem analysis for the Somalia 2011 CAP in August 2010. Also, lessons should be learned from the positive experiences in Afghanistan and also other countries such as Pakistan where FAO aims to mainstream food based approaches to address malnutrition into the various agriculture relief and early recovery activities. Agriculture and promotion of healthy diets is integrated into the recently developed Pakistan Intersectoral Nutrition Strategy (PINS).