



ACF - INTERNATIONAL NETWORK

AGRICULTURAL PROGRAMMES: FROM INITIAL ASSESSMENT TO PROGRAMMES IMPLEMENTATION.



CONTENTS

Objectif of the book

To constitute a methodological, technical, and practical tool of reference for the implementation of agricultural programmes in a broad sense, from their definition to their evaluation.

CONTENTS	3
PREAMBLE	5
INTRODUCTION	6

CHAPTER 1: DEFINITION AND JUSTIFICATION OF AGRICULTURAL PROGRAMMES **9**

Summary	9
I. What is an agricultural programme?	10
II. Why implement agricultural programmes at ACF-IN?	12
III. The socio-political dimension of agricultural programmes	13
IV. Exit strategies	14
V. Guiding principles for agricultural programmes	14

CHAPTER 2: UNDERSTANDING THE INTERVENTION CONTEXT **15**

Summary	15
I. Preliminary analysis of agrarian situations	16
II. Definitions and key concepts	16
III. Characterization of farming systems	17
IV. Characterization of production units	20
V. Identification des stratégies d'intervention	20
VI. Identification of intervention strategies	21

CHAPTER 3: IMPLEMENTATION OF AGRICULTURAL PROGRAMMES **23**

Summary	23
I. Partnerships	24
II. Beneficiary identification	25
III. The food security team	33
IV. Agricultural programmes and logistics	33

CHAPTER 4: CROP PRODUCTION PROGRAMMES **35**

Summary	35
I. Seeds and tools as a limiting factor in production	36
II. Post-harvest storage as a limiting factor	47
III. Access and availability of agricultural inputs as limiting factors	49
IV. Other limiting factors	52

CHAPTER 5: LIVESTOCK PROGRAMMES **55**

Summary	55
I. Livestock recapitalization programmes	56
II. Animal husbandry training	59
III. Complementary activities	62



CHAPTER 6: FOOD DIVERSIFICATION PROGRAMMES

Summary

I. Family gardening activities

II. Fishing and fish farming

CHAPTER 7: FREQUENTLY ASKED QUESTIONS

LIST OF FIGURES

LIST OF TABLES

LIST OF EXAMPLES

LIST OF APPENDICES

BIBLIOGRAPHY

63

63

64

66

69

72

72

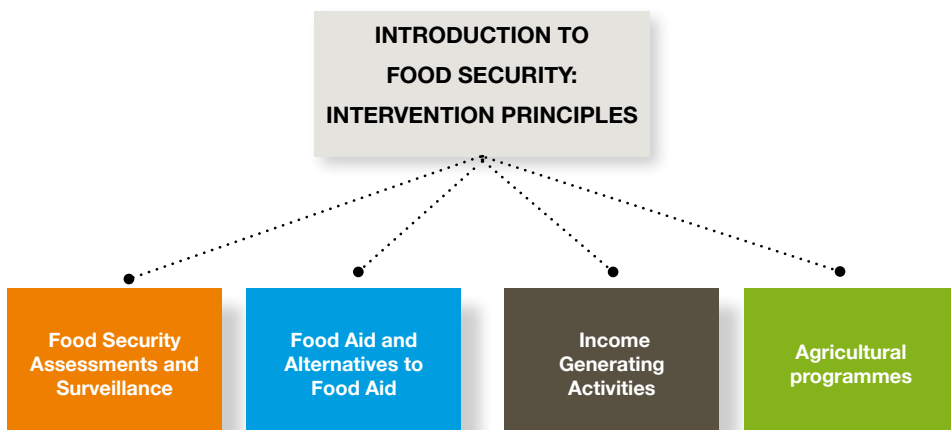
72

73

142

PREAMBLE

This book is part of a series of food security books developed by Action contre la Faim (ACF-IN¹) and is based upon a consolidation of experiences and investigations led over the past ten years on the field. This series looks at and develops specific aspects of the different food security programmes, especially the technical tools that can be used within the scope of precise projects. Each of these books can be read alone or they can be complemented and reinforced with the other ACF-IN Food Security books included in the series constituting a 'food security kit' which can be presented as follows:



The books address a variety of audiences including the international humanitarian community, technical and operation field workers and the general public who wishes to learn more about food security at the international level. Each book contains a detailed index with examples of the different tools that can be used for the implementation of the programmes, a glossary of technical terminology and commonly asked questions that can give the reader a quick response to key points highlighted throughout the document. This series could eventually be completed with other types of food security programmes depending on the development and research led in the field (i.e., food security in the urban context, in the pastoral environment or other topics such as community participation). All of these books are subject at all times to additions and or improvements following the evolution of the food security department at Action contre la Faim and the continued internal and external evaluations of the different food security activities.

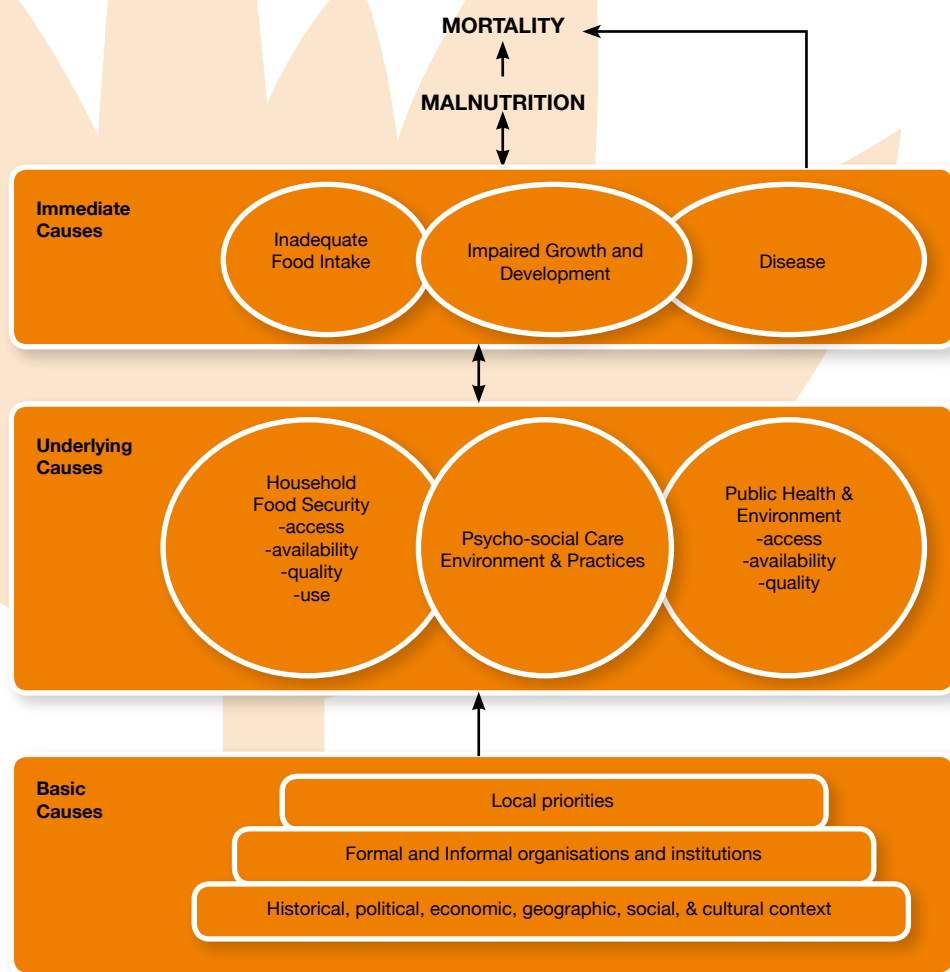
1 / ACF-IN is the international network comprised of ACF Canada, ACF France, ACF Spain, ACF UK and ACF USA. The international network shares a common charter and global objectives.



INTRODUCTION

This book focuses on the different aspects and methodologies for implementing food security agricultural programmes. It is the second book of the series to be published and uses the “*Introduction to Food Security*” and “*Food Security Assessments and Surveillance*” as reference documents; it is highly recommended to have read these books prior to this book because they explain the basic notions, concepts, definitions and general approaches to food security and preliminary food security assessments. These elements are therefore not addressed in detail here. Nonetheless, it seems important to always resituate food security in the transversal logic illustrated by the diagram of the causes of malnutrition and which should, at any moment, guide our approach:

Figure 1: Conceptual Framework of Malnutrition



In this logic, a preliminary food security assessment will be made after the exploratory mission aiming to identify the predominant problems in a wider manner by understanding the causes of malnutrition. The food security assessment will have studied the different underlying factors appearing in this diagram, and will have allowed us to formulate hypotheses with regards to the problems related to the availability and/or access and/or use of food.

After prioritizing zones in the given area, determining the causes and underlying causes of malnutrition and identifying the principle coping mechanisms for each population group, the assessment will suggest recommendations if and when a humanitarian intervention is necessary. The recommendations can be classified into the different types of activities seen in table 1 below.

Table 1: Typology of food security activities

Typology of activities implemented within the Food Security Service:

• **Context analysis**

- Exploratory missions
- Vulnerability analysis
- Specific technical assessments
- Surveillance systems / Early warning systems

• **Food, non-food and cash based assistance)**

- General and targeted distributions
- Canteens
- Food or Cash For Work (FFW, CFW)
- Seed-protection rations²
- Basic Non-food Items provision (NFI)
- Cash and Voucher based interventions

• **Support of the household economy**

- Agricultural Rehabilitation (production methods, diversification, training)
- Recapitalisation of assets (agricultural, livestock, economic)
- Income Generating Activities (IGA)

• **Optimization of productive tools**

- Capitalization (ex: technical innovations, improved seeds...)
- Conservation (ex: protection of soils, agro-irrigation...)

• **Support of the socio-economic fabric**

- Support to supply chain (ex: development of cash crops, marketing)
- Support to communities (ex: community groups, farmer associations, social institutions, cooperatives)

If we refer to the food security activities led at ACF-IN, this book refers specifically to the support of the household economy and optimization of the productive tools through agricultural rehabilitation activities. It especially aims to provide methodological tools for assessing the agricultural situation, identification of needs from a food security point of view, implementation of activities and the monitoring and evaluation of agricultural programmes.

It is nonetheless necessary to maintain the notion that, in this domain, any methodology, whatever it may be, should be considered a guide or tool. None of the tools or approaches can be used in a rigid manner and each should be adapted to the specific context. A quality programme is adapted

2 / Food aid should be given in conjunction with seed distributions when there is a risk that the families will consume the seeds due to the lack of food available in the household.



to each specific situation and culture, thus ACF-IN does not recommend the standardization of food security programmes

Agricultural rehabilitation programmes can be quite varied considering the diversity of the contexts in which Action Contre la Faim intervenes (open crisis, post-crisis, destructuration, and discrimination). Despite this diversity, the overall goals remain to save lives, relieve human suffering, and preserve and restore food security, by acting on different levels, while helping preserve the dignity of the people, and protection of the population. Thus, massive seeds and tools distributions, intensive animal husbandry training or promotion of diversification of farming for consumption and/or commercialization can all be considered within the dimension of ACF-IN programmes because each of these activities aims to re-establish the food security of the most vulnerable population groups.

This book is not a reproduction of the *Agronomist Memo* or *Where There is no Veterinarian*; for all that is purely agricultural technique we rely on the principle that:

- The project village leader has specific training and experience
- There are competent local capacities
- There is specialized technical documentation and it is available.

This book aims rather to respond specifically to the following questions related to agricultural rehabilitation programmes: Why, what type, for whom, when, how, and what could be the expected impact?

Chapter 1 of this book describes ACF-IN's definition of agricultural programmes and the justification of such programmes in the larger scope of food security. Chapter 2 focuses on the approach and tools for gaining a better analysis of the context and determining the population's needs from an agricultural perspective, all the while, building upon the information previously collected during the preliminary food security assessment.

Chapter 3 covers the general aspects of programme implementation for all agricultural programmes and more detail is found in chapters 4, 5 and 6 concerning the different types of agricultural programmes, highlighting activities related to crop production (seeds and tools, post harvest conservation and increasing access to agricultural inputs), livestock production (recapitalization and animal husbandry training) and food diversification (family gardens, fishing and fish farming). Lastly, chapter 7 responds to the most frequently asked questions with brief responses following the information that has been developed more thoroughly throughout this book.

ACKNOWLEDGEMENTS

It is not possible to name each person who contributed to the development of this book; however, the methodology and examples illustrated here are a compilation of experiences from hundreds of ACF-IN expatriates and national staffs over the last ten years. Special thanks should be given to all those who have worked in the food security departments of ACF-IN headquarters and who all contributed in some way to develop the department and laid the foundation of this Food Security Series.

This book was updated by Lisa Ernoul and Victor Kiaya in coordination with a peer review team consisting of Ludovic Bourbé, Adrienne Daudet, Hélène Deret, Claude Geraets, Kate Ogden, Janice Seltser, Marta Valdes and Sabrina Valy.

Chapter 1

Definition and Justification of Agricultural Programmes



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Summary

- Agricultural programmes, like all food security programmes, aim to help the population meet its essential food needs. Agricultural activities are neither the only nor the most appropriate response to every context and should only be considered after the completion of a preliminary food security assessment.
- The programmes differ greatly in each context and must be individually defined according to the specific needs of the situation and in coordination with the local population.
- The role of agricultural production in many societies is extremely important, for it does not only contribute to the survival of many rural families; it also impacts the regional and national economies.
- Even short-term agricultural programmes may have long-term impacts. These impacts (social, environmental and economical) should be considered before making any recommendations or initiating any activities.
- Exit strategies should be elaborated during the assessment and planning phases, in conjunction with local partners.



I. WHAT IS AN AGRICULTURAL PROGRAMME?

The overall objective of an ACF-IN agricultural programme is **to allow populations to provide for their own food needs either through self-production or exchange**. The programmes generally target more rural contexts; however, they can also exist in urban and semi-urban contexts when land is available. When agricultural programmes are not adapted to the context or the cultural habits of a population, income-generating programmes can be implemented with the same objective mentioned above. The Income Generating Activities can be based on agricultural or non-agricultural production. For more information on income generating activities, please refer to the *«Income Generating Activities»* book.

The specific **objectives** of agricultural programmes may include:

Agricultural rehabilitation:

- Identification and prioritization of problems relating to the agricultural production (crops, vegetable gardens, livestock, etc.) in order to restart the production of essential foodstuffs consumed in the zone prior to the crisis.
- Identification and prioritization of possible ways to support the recapitalization of agricultural production resources. This can involve livestock, tools, trees, etc.
- Identification and prioritization of agricultural techniques that limit production; this can lead to agricultural training activities promoting sustainable practices.
- Diversification of household incomes through other agricultural activities: vegetable production, product transformation, etc.

Optimizing production infrastructures:

- Support or creation of agricultural stores in order to facilitate the supply of seeds, tools and other agricultural products necessary for production;
- Support of seed production centres and post-harvest infrastructures;
- Improvement of agricultural production through the introduction of new varieties and the experimentation with farming techniques;
- Development or rehabilitation of hydraulic structures such as the construction of irrigated perimeters;
- Management of soil fertility through improved soil conservation techniques;
- Improvement of animal husbandry conditions.

Promotion of dietary diversity:

- Identification and development of agricultural products lacking in the current diet, which can involve the introduction of new crops in the family garden, fish-farming, etc.

The activities implemented will obviously be chosen and modified according to each specific context and population. Some possible agricultural activities include:

- Seed and tool distributions could complement food assistance. This support allows the population to produce its own essential foodstuffs, and at the same time to cover its immediate needs during hunger gaps. It also acts as a support when food aid programmes are phased out.

Example 1: Seeds and tools distribution in Indonesia

Aceh province, Sumatra Island, Indonesia 2005

Following the December 2004 tsunami, thousands of families living along the coastal regions of Aceh, lost family members, their homes and their production means. The situation was further aggravated by the destruction (following earthquakes) of most means of transport and storage facilities located along the Western coast of the province. Essential foodstuffs were either no longer available in the market, or were obtainable in very limited quantities and for very high prices. A massive international and local response quickly followed, providing food assistance to the affected families.

The post-distribution monitoring of the food aid programme led by ACF-IN showed that the basic food needs were covered by the humanitarian assistance, but that the families continued to spend a large part of their limited income or their savings, to buy fresh food (mostly fruits and vegetables). In order to reduce their expenses and to increase the quantity of vegetables available in the region, Action contre la Faim distributed a variety of garden seeds to families directly or indirectly affected by the tsunami. The short cycle of the vegetable crops allowed the families to increase their food production and consumption in a relatively short time period (2 to 3 months).

Example 2: Agricultural rehabilitation programme for Liberian refugees returning home

Liberia, 2002.

When the Liberian refugees returned to their homes after several years of civil war, they found that their previously fertile agricultural land was overtaken by the bush. There were limited possibilities to start new agricultural activities for lack of access to, and availability of, seeds and tools. After a rapid assessment of the needs and capacities of the population groups, Action contre la Faim started an agricultural production programme to support rice, manioc and maize production in areas that are usually farmed. Marshes were also upgraded to increase rice production as well as to diversify market gardening production, in order to provide interesting cash incomes (peppers, onions). The programme was implemented in coordination with a local organisation in order to promote the training of farmers and technicians.

- When the families' food economics is centred on agriculture and animal husbandry, or animal husbandry alone (pastoral society), it is important to secure the continuous availability of livestock to allow the population to have foodstuffs (milk, meat, eggs) at their disposal during the recapitalization of the households' means of subsistence. These actions can eventually consist in providing animals to families (the type and number of which would vary according to the families' capacity and to the environment). Identification of the beneficiaries will take into account their capacity to manage an animal pen and to allow the development and reproduction of the livestock. It is important to check the dietary conditions as well as the financial and technical capabilities of the populations, and to ensure they can afford veterinary expenses.



Example 3: Goat distribution and training in Sri Lanka

Sri Lanka, 2001

During the years of civil war in Sri Lanka, many families lost their production means (fishing, farming, and livestock breeding) and were reliant on humanitarian and governmental assistance to provide for their essential food needs. In 2001, with a relative return to calm, many families returned home, but the years of war greatly altered the existing social structure. The ACF-IN assessment showed that many families had lost the man of the household during the war and that, in some villages, the incidence of female-headed households was close to 50%. These households were shown to be more vulnerable and had fewer opportunities to meet their daily food requirements in terms of quality and quantity. A distribution of pregnant goats was organised in order to provide the most vulnerable families with capital assets, and to allow them to produce milk. Training sessions were organized in coordination with the local veterinary authorities to ensure the quality of the distribution and to help prepare the women for this new activity.

II. WHY IMPLEMENT AGRICULTURAL PROGRAMMES AT ACF-IN?

Agricultural security is one of the main objectives of ACF-IN, namely to save lives, ease human suffering, and restore food security, by working on different levels while helping to maintain people's dignity and protecting them: "help save lives, but also help them live tomorrow". Agricultural programmes respond well to the overall goal of food security programmes at ACF-IN, which is therefore "to survive today, but to also live tomorrow". The agricultural programmes are not aimed at long-term rural development, but rather at giving the populations who have been victims of a crisis the means to re-establish an adequate level of food security. Ideally the activities that are developed will allow the families to reach a level of food security equivalent to the one they had prior to the crisis; however this is not always possible.

More specifically, the activities' objectives are:

- To permit rural economies to restart as quickly as possible by accelerating the return of production capacities to normal and restoring food security systems;
- To reduce or even eliminate the effects of the crisis (de-capitalization)—from a food and economic security perspective. It is certainly more delicate, however equally important, to consider the social, psychological, and other consequences of a crisis;
- To minimize risks of dependence (for example dependence on a direct food distribution system).

Where relevant, ACF-IN tries to ensure that the activities are viable over the long term. Frequently the situation, even when it no longer qualifies as an acute emergency, necessitates continuous monitoring because families can remain quite vulnerable to external shocks.

As soon as the situation is stabilised, in most situations, new structures or organizations will return on the field, or will develop to support the national structures in the country. These developmental organizations usually offer specific knowledge on agricultural production and have abundant financial and human resources. When other actors are present, a joint collaboration is highly recommended in order to avoid duplication of activities and to establish the grounds for an eventual handover.

Although projects led by Action contre la Faim are often designed for the short term, the activities should still have a positive impact over the long term. For short-term projects, the timing, means, leadership possibilities, training, etc., are completely different from the ones envisioned for long term

projects. It is therefore essential that the implementation phase should adhere as much as possible to the existing (or pre-existing) agricultural systems in practice. However, despite the fact that the duration of a programme is often planned for periods of three months to two years, the evolving crises can require the presence of ACF-IN in the same zone for much longer periods.

Regardless of the context in which ACF-IN works, (crisis, post-crisis, loss of social structures, discrimination), two key components should constantly and fervently be pursued: livelihood and structural support. This is especially true in circumstances where, once an acute crisis is over, a situation remains unstable and government structures are still weak, (ex: Burundi). Very few organizations are ready or able to take on the challenge of a significant reconstruction. When a longer term presence is necessary, it is crucial to keep in mind that even the best-intentioned activities can lead to a situation of dependency, replacing the existing coping mechanisms of the population. Considering this negative effect, it is necessary to continually try to build upon local capacities and coping mechanisms and to adapt the intervention strategies to the evolving context.

The key is to optimize our presence by improving our understanding of the context and the population, and by mainstreaming community participation from the initial stages of the assessments and emergency activities. Similarly, when a situation stabilizes it is useful to continue the food security surveillance system, for it provides vital information on potential risks of new shocks and of their impact on the population. For more information, refer to the *“Food Security Assessments and Surveillance”* book. Appendix 3 (of this book) has examples of the objectives and methodology for the selection of beneficiaries of an agricultural rehabilitation programme in the Ivory Coast.

III. THE SOCIO-POLITICAL DIMENSION OF AGRICULTURAL PROGRAMMES

It is important to keep in mind that humanitarian, and particularly agricultural, programmes have an important social value that goes beyond the merely technical and food security aspects of the objectives. Studies have demonstrated the role an unfair distribution of resources can play at the onset of hostilities in a post-conflict context, and the influence that strategies followed in rehabilitation programmes can have in conflict resolutions. Targeting is a particularly delicate exercise in this domain (Richards, 2001).

Example 4: Balanced targeting in Indonesia

North Mollucas, Indonesia 2001

After the 1999 civil uprising between the Christian and Muslim communities in the Mollucas archipelago, which led to massive population displacements and destruction, the situation began to stabilize in 2001 with the progressive return of the displaced populations to their original villages. The original demography had neighbouring Muslim and Christian villages on some islands, even mixed ones on others. Despite the fact that destructions and displacements were not identical in each village, the agricultural rehabilitation programme tried to ensure there was an overall balance in aid between the different religious communities. This effort, which was particularly appreciated by both communities, reduced the risk of potential tensions between villages.



IV. EXIT STRATEGIES

Given the potential long-term impacts of agricultural programmes, especially concerning animal health, soil conservation or perennial crops, it is sometimes difficult to determine the best timing for an eventual withdrawal. These difficulties can be reduced through:

- A clear definition of an exit strategy during the initial assessment (see “*Introduction to Food Security*” book);
- Clearly communicating the logic of the intervention to the population;
- Development of a network of strategic partners as of the initial phases of the assessment;
- An early identification of the local capacities and a permanent transfer of knowledge (handover).

V. GUIDING PRINCIPLES FOR AGRICULTURAL PROGRAMMES

Several guiding principles should be adhered to when planning any type of agricultural programme. These principles include:

- **Do no Harm:** Identify the possible negative impacts that the programme may cause. Any exterior intervention in a social structure, especially when dealing with agriculture, which is often at the centre of the country’s local culture, could have negative impacts (examples: seed distributions can destabilize the local seed channels; a programme centred on animal husbandry could deeply affect the organization of the entire community if the social value of livestock has not been well-understood, etc.). It is essential to list all possible negative impacts, minimize them as much as possible, and to check that the expected positive impacts outweigh the negative ones. In an agricultural programme, negative effects may often appear over the medium or even long term; however, they must be taken into account even for short-term projects.
- **Integration of the programmes in a longer-term perspective:** As mentioned earlier, agricultural programmes take place at the end of a crisis or during long-term (chronic) crises (seeds are not generally distributed along the front line), or in a situation of social destructure or discrimination. The definition and implementation of these programmes must correspond to the evolving context. It is therefore necessary, using this logic, to ensure that the programmes or activities should, under no circumstances, create an obstacle to the long-term evolution, or to the development, of the region or country. This risk may be reduced by defining actions that reinforce the already existing positive coping mechanisms and by maintaining the involvement of local structures in the programmes, the sharing of information, the transfer of techniques, etc.
- **Continuity of the programmes:** Changes in management (expatriate or national) should not induce a significant change in the programmes, methods or management of the local team. This logic should be maintained taking into account only slight improvements, in order to optimize local impacts.
- **Coordination and collaboration:** Internal coordination with other technical teams, as well as external communication with other humanitarian agencies or institutions, should always be promoted. Despite the additional time and efforts required, all programmes should collaborate with the existing local structures and favour participative approaches for the definition and the establishment of activities.
- **Agricultural seasons:** The principle constraint of an agricultural programme is adherence to the agricultural calendar. The specificity of agricultural seasons condition the programme cycle, and agricultural and food calendars are the first pieces of information to be collected onsite (see also the “*Food Security Assessments and Surveillance*” book). Seasonal calendars will also provide information on the availability of the population during each cycle, and on the distribution of tasks by gender and age.

Chapter 2

UNDERSTANDING THE INTERVENTION CONTEXT



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Summary

- In addition to the preliminary information collected during the food security assessment, complementary information concerning existing agricultural systems is necessary before considering any type of agricultural programme. Information can either be collected simultaneously during the initial assessment, or an additional, separate assessment can be carried out later.
- A definition and characterization of farming systems should be clearly outlined in order to identify the most vulnerable population groups and to propose the most appropriate recommendations.
- Proposed agricultural recommendations should take into account existing coping mechanisms, productive capacity, available food resources and existing social and agricultural structures.



The basic tools and methodology for food security assessments as detailed in the “*Food Security Assessments and Surveillance*” book can also be applied for agricultural assessments; however, for agricultural programmes, additional information should be specifically collected as explained throughout this chapter.

The appropriateness of a programme in a given context should be evaluated daily through the implementation of a food security surveillance system, site visits, ad-hoc studies and investigations established throughout the programme. The agricultural programme should follow the evolving context and this can be done only through an understanding of the analysis that led to the definition of the original programmes, the intervention environment, and the methodology of beneficiary selection. Despite the fact that the quality of an evaluation is largely dependant on the awareness of each person, it should remain objective. The initial analysis, during the identification and preparation phases, should become more specific as the project advances, with the help of a rigorous monitoring and assessment method.

Agricultural programmes can be implemented in both crisis and post crisis situations, depending on the needs and capability of the population. Therefore food security and agricultural assessments should help determine the duration and the type of activities most suited to each specific context.

I. PRELIMINARY ANALYSIS OF AGRARIAN SITUATIONS

ACF-IN recommends always using a systematic analytical approach, by seeking to understand farmers’ routine practices and to know how and why these practices were modified as a result of the events experienced. Special attention should be given to identifying interactions among different types of agricultural systems, and their respective constraints and capacities. In order to wholly understand it, the agro-system should be defined starting from the scale of the individual production unit, to that of the region and watershed (see definitions below in section II). This information will help to identify factors resulting from the crisis situation that limit agricultural production.

As explained in the “*Food Security Assessments and Surveillance*” book, the first step is to begin with the zoning and definition of population groups. The work should strive to identify and prioritize the principle technical and economic problems of each population group and determine how they have been affected by the crisis.

It is crucial to spend time onsite, in the company of farmers and livestock breeders, to fully understand their production systems. All, or a combination of, participative research tools may be employed here. It is especially necessary to take as much as advantage as possible of our presence onsite to address the characteristics of each system: types of crops, cultivation practices, types of livestock, grazing patterns, etc.

II. DEFINITIONS AND KEY CONCEPTS

The farm or production unit: The farm can be conceived as a production unit within which the small farmer mobilizes resources of various natures, (land, labour, livestock, plants, inputs, materials, buildings...), and combines them in variable proportions to obtain certain plant and/or animal products and thereby satisfy his/her needs and interests. The farm can be characterized by taking count of the resources available to the head of the farm, and by assessing their relative size: useable agricultural surface area, number of workers, herd size, number and power of the tools, dimensions of the buildings, etc. Each production unit is unique.

The agricultural production systems (agro-systems): At the farm scale, the agricultural production system can be defined as the combination—in space and time—of available resources and productive assets. An agricultural system is characterized by the production type, the work force (qualification), the means implemented to accomplish the work, and their proportions.

It can also be conceived by the combination of various productive sub-systems:

- farming systems
- animal husbandry systems
- post-harvest transformation systems

Interactions among these three systems determine the level of diversification or specialization of each production system. Complementary activities should also be taken into account, if they are not specifically linked to one of the previous systems (collection of water, wood, and fodder; equipment maintenance; farm and herd monitoring, among others).

It is essential to look at the entire agricultural production system because each component can directly or indirectly impact the other parts. For example, the sale of animal capital could potentially impact animal production, and could also impact the farming systems due to reduced access to natural fertilizers (manure).

Finally a farm is most often a system open to external factors: supplies in inputs, labour employment, products distribution, and complementary activities. Characterization of the principle types of production systems can therefore only be complete when positioned in the global agrarian and socio-economic system. Appendix 4 summarizes the different characteristics for agricultural production systems, and gives examples of crop and herding data sheets.

Farming system: They are the global technical modalities used on the farm. Each farming system is defined by:

- The nature of the crops and their order of succession;
- The technical itineraries applied to these different crops (choice of crop varieties, seed sources, returns, necessary inputs, treatments, losses...).

According to the characteristics of its production system, one or several crop systems may be found on the same farm.

Animal husbandry systems: The animal husbandry system is the combination and succession of techniques intended to produce domestic animals with the labour force and with the production means available on the farm. At the level of each herd, the animal husbandry system is presented as a separate entity consisting of distinct methods of selection, reproduction, hygiene, health, etc.

Water shed: The entire region that shares a common water source.

III. CHARACTERIZATION OF FARMING SYSTEMS

Just as we have defined the different population groups, we must also define the different types of farming systems, and highlight the principle characteristics of each. This can be done by studying the different points below:

- Local farming history
- Study of each of the sub-systems (crops, animal husbandry and initial transformation of farm products).
- Combination of the different sub-systems within the farm (in time and space)
- Openness towards the exterior
- Related and complementary activities
- Factors limiting production/potential solutions

- At the production unit level take inventory of necessary/available³ resources
 - work force
 - production means (specify each time: characteristics, quantities, purchase terms, availability periods, and effective use)
 - different types of land (percentage of each)
 - different types of livestock
 - access to water (number of irrigation towers in the case of irrigation farming or herds)
 - animals for ploughing or packing
 - tool stock (manual, mechanic, motorized/power)
 - buildings, barns, or storage areas
 - Hydraulic infrastructures (wells, bank protection, etc.)

It is necessary to distinguish between the farm's productive and non-productive capital. Non-productive capital can often allow a household to face up to mild or temporary structural events. Events that provoke a massive decapitalization of productive capital are often serious and their negative impacts will be visible over the long term.

Example 5: Types of productive farm capital

For the Fulani⁴ breeders, a bovine herd represents both their savings and a method of production. In the same way, for the Air Tuareg market gardeners, a herd of small ruminants represents easily accessible savings in case of trouble.

In Europe, livestock buildings are necessary to shelter the herds in winter, and constitute an important capital. Expensive agricultural machines can also be considered productive farming capital.

When characterizing farming systems it is important to identify factors linked to the context of a crisis (e.g.: lack of seeds) and structural ones (e.g.: lack of labour force during certain periods of the year). An aggravation of problems of a structural nature, which can occur in a situation of crisis, must be highlighted when relevant, and adaptation strategies must be implemented. The above-mentioned elements should allow for the identification of the capacity and vulnerabilities for the farming system.

Example 6: Structural and Crisis related factors in Sierra Leone

- **Structural factors:** Before the war the principle factor limiting agricultural production was the number of working members in a farming family.
- **Crisis related factors:** After the war, the principle factor limiting the production was the lack of seeds. Once this issue was addressed, the lack of appropriate tools limited the population's capacity to clear a more or less extensive plot of land.

The results of the information collected above can be represented in tables (example 7), graphs (example 8) or narratives. The presentation that shows most visibly and comprehensively the characteristics of each farming system will be selected.

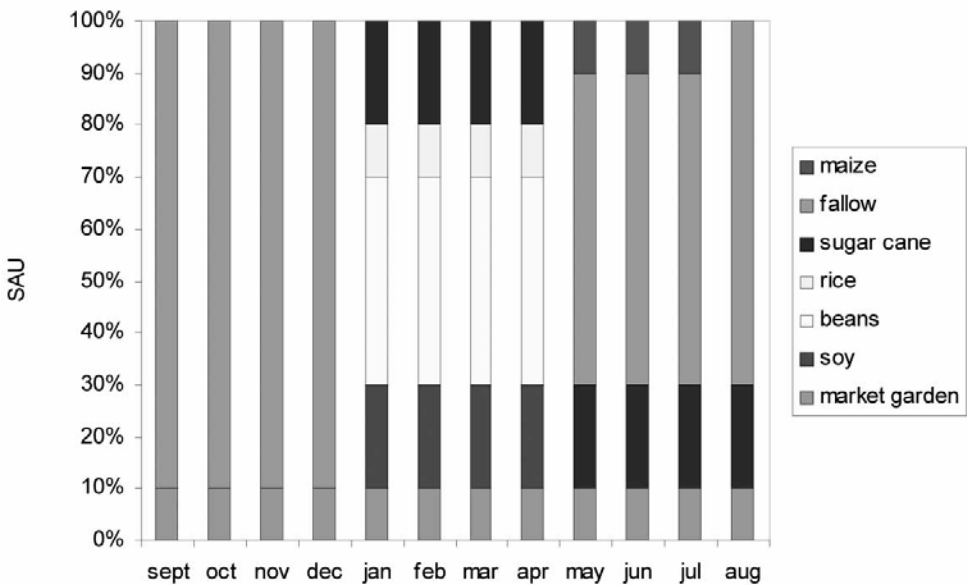
3 / This distinction arises during a crisis situation when access to certain resources is limited.

4 / A pastoral society in western Africa.

Example 7: Summary of the necessary resources for the 3 principal production systems

Periods (months)	1	2	3	4	5	6	7	8	9	10	11	12
Farming systems												
F1												
F2												
F3												
Animal Husbandry Systems												
AH1												
AH2												
AH3												
Transformation Systems												
T1												
T2												
T3												

Example 8: Uses of agricultural surface area





Calendars and maps can also be used to illustrate the seasonal migration of herds or seasonal consumption patterns. According to the degree of precision, a calendar can illustrate farming periods (sowing, weeding, harvest, etc.), resting periods and peaks of workload (significant farming activities over a short period of time, such as hand harvested coffee). This is also a precious tool for determining hunger gaps (phases between the end of the food reserve and the following harvest), their lengths, and food substitutes.

Representation by a seasonal calendar can be extended to all the resources in order to specify and illustrate their seasonality: plant production (cereals, fruits, etc), animal production (birthing period if grouped together), fishing, hunting, wild food gathering and related activities. See Appendix 5 for an example of a seasonal calendar from Sierra Leone.

When characterizing the different farming systems, ACF-IN recommends using a holistic or comprehensive approach, which should also consider the different relationships among the principle farming systems and the social environment related to the agricultural production. Special attention should also be given to the community organization (collective or individual) and to support activities implemented by different institutions.

IV. CHARACTERIZATION OF PRODUCTION UNITS

Types of production are multiple, so the objective of this step is to set apart the main types of production units in order to define productive groups:

- Which are similar enough to each other to be considered homogenous
- And which can be differentiated when compared to the others.

It is possible to classify production units by:

- Agricultural activities, especially the capacity of the farm to set apart surpluses in terms of food crops or cash to be reinvested in labour or livestock.
- Available capital, making it possible to know the capacity of the farm to face adverse events.
- Risk factors, making it possible to qualify the two preceding points by including risks related to the type of agricultural activities, or to the capital.

This characterization completes and becomes an integral part of the classification of households, which is defined according to the implemented coping and adaptive mechanisms, and to the livelihood of these households. Emphasis is often placed on the characterization of production systems, because it could be crucial in the case of the implementation of an agricultural project. Furthermore, agricultural production usually constitutes a large part of the rural household economy. However, despite the importance of the production systems, the socio-economic organization of the concerned population should not be forgotten.

V. IDENTIFICATION OF INTERVENTION STRATEGIES

The objective is to define intervention strategies to be developed in order to respond to the needs of the different groups of families identified. Intervention strategies are proposed according to the needs of the population groups (limiting factors may be exposed using a “problem tree” as in the example of Sri Lanka in Appendix 6), their coverage by other actors, agricultural policies in the zone if there are any, and finally coordination with partners, and Action contre la Faim’s strategy which aims to:

- Favour positive coping strategies set in place by the populations, and limit decapitalization of families confronted with adverse events;
- Develop production capacity and stimulate the local economy;

- Diversify food resources when necessary in order to impact the nutritional status of the population;
- Respect the families' dignity by limiting their dependence on humanitarian assistance and food distribution;
- Favour civil society structuring by involving it in the activities

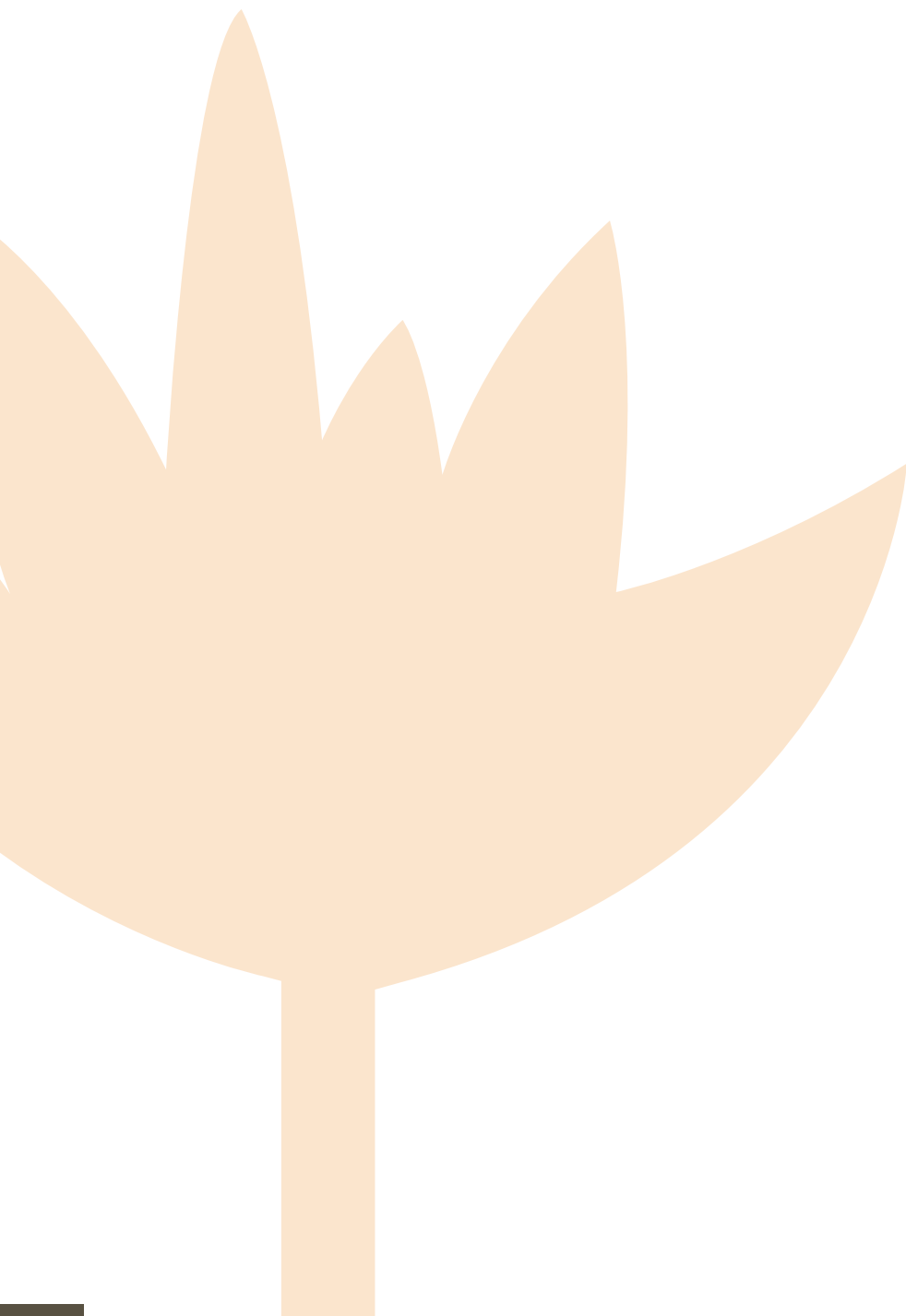
VI. STUDY OF THE FEASIBILITY OF THE PROPOSED INTERVENTIONS

Before making a recommendation for an agricultural programme, it is important to verify certain aspects:

- Current political strategies concerning agricultural activities and the population groups;
- Access to the resources of the beneficiary populations, whether limited or not:
For example, distributing seeds to refugees who do not have access to land, or rehabilitating an irrigated perimeter for sharecroppers who are not allowed to water along that perimeter, is counter-productive. However, these activities could eventually be considered through negotiation with local governmental structures. If obtaining community land is not possible, the proposed strategy could be to continue to lobby for the population to have access to these lands through existing UN or governmental institutions.
- Appropriateness between the level of vulnerability and the potential intervention:
For example, distributing a beast of burden to help families with a food deficit can help them farm their plots of land, but would not result in instant sufficient agricultural productivity. The animal would be at risk of being resold to purchase foodstuffs (or would itself become foodstuff). The investment would not be profitable, and therefore, in such cases this type of intervention is not recommended.
- Other activities or forms of assistance being implemented in the region.
For example, planning simultaneously additional agricultural activities and the construction of a community water system would result in a competition for available workers and community members, and should therefore be avoided.

Example 9: Responses according to types of need.

Context	Need	Response
Displacement of bush populations towards the cities where they are set up in camps. No capacity to establish farming (Sierra Leone 1995).	Shelter Food Staple commodities	Installation of camps Food distribution Distribution of staple commodities Nutrition monitoring (children under 5)
Displacement of rural populations towards another rural zone where they are received by the local population and with whom there may be family ties (Ivory Coast)	Food Seeds and tools (ensure that the land is available)	Occasional food distribution Distribution of seeds and tools for plot farming
Return of the population from the camps towards their zones of origin (Sierra Leone end of 1996)	Food until the next harvest Seeds and tools	Short term food distribution Distribution of seeds and tools for agricultural rehabilitation (taking into account the next farming season)



Chapter 3

IMPLEMENTATION OF AGRICULTURAL PROGRAMMES



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Summary

- Partnerships can be developed at different levels and are highly encouraged at each phase of the programme cycle.
- Food security programmes can target either individual households or groups, and the methodology should be based on pre-existing social structures. Whichever method is selected, it is important to remember that the overall objective is to improve the food security of the individuals and that groups are only a mechanism to achieve that goal and not an end in itself.
- The food security team is an essential component of any programme; its recruitment, management and participation will help to ensure the success of the programme.
- Food security programmes can require different agricultural inputs; these inputs should be obtained following the ACF-IN logistics procedure with a tight collaboration between the food security and logistic departments.



I. PARTNERSHIPS

ACF-IN strongly encourages the creation of partnerships for any type of humanitarian programme. When properly established, partnerships can provide useful information, resources, and collaboration, from the initial assessment throughout the programme, and CAN eventually provide possibilities for the handover of activities (see the *Food Security Assessment and Surveillance* book for more information on partnerships).

I.I. AUTHORITIES

It is imperative for ACF-IN, upon its arrival to a new region, to adopt the utmost transparency when dealing with the authorities, in order to avoid conflicts and to appeal, as much as possible, to local capability. This transparency however, should not interfere with the organisation's independence: some decisions can only be taken internally and some details may have to be omitted at times during our consultations with our partners.

The activities implemented should pave the way for eventual long-term developments and must therefore be coherent with national policies. In the case where fundamental contradictions exist between the ACF-IN and the national strategies (politics of segregation, encouraging cash-crop that can jeopardise populations' food security, etc.), the populations at-risk should be protected in a diplomatic manner. Where possible, authorities must be influenced, pressure must be exerted, and lobbying may be required in order to modify such negative policies. This kind of context requires patience and a thorough understanding of the objectives, which are not limited to improving the access to, or availability of, food but include a real stake, which is protection of the population. One should never lose sight of the socio-political dimension of every action.

I.II. RURAL DEVELOPMENT STRUCTURES

Given the different and sometimes difficult socio-political situations in each of the countries where ACF-IN works, rural development structures are not always present, or have in some cases been dismantled. It is however imperative, when such structures exist, **to define a strategy and develop a coordination with them** even though it may be difficult, on the field to incorporate activities to pre-existing structures that may have different objectives and policies.

- Farmers and local veterinarians know their region: expatriates are only there for a short time, and no one is all knowing. Local understanding of the region and history of projects and events are therefore precious.
- The mandate of ACF-IN is to be able to leave when the programmes set in place have had sufficient impact so that longer-term structures may take over. It is the local authorities or even the local organizations that will manage the transition
- One of the goals of an agricultural programme is to reinforce local structures and restore social fabric in order to help communities regain their autonomy. Keeping the programmes under the sole control of Action contre la Faim would prevent self-sufficiency.
- Competing to hire qualified staff, with potentially higher salaries, or offering services that would be cheaper than those available in the pre-existing structures, may have detrimental effects on the communities.

Example 10: Implication of rural development structures in Laos

Sekong, Laos, 2004

During the 1990s, the Laotian government began implementing an economic and rural development plan that implied moving entire ethnic minority villages from the heavily forested mountain lands to the low-lying plains in order to develop the country's rice production. In addition to the rice production, the government programme also aimed at promoting improved access to transportation facilities, schooling and general deve-

lopment of the ethnic minority groups. Despite the well-intentioned ideas, an ACF-IN joint assessment revealed that many villages did not wish to be displaced and, when the displacement was implemented, abnormal mortality rates surfaced among the population due to environmental changes and lack of food resources in the new villages. ACF-IN decided to try to work in coordination with the local government structures to promote the development of the mountainous communities, thus permitting the populations to remain in their original villages. The programme included an animal husbandry and vaccination component, to reduce the outbreaks of epidemics in the villages. From the initial stages, the local veterinary department was actively involved in the programme. This collaboration benefited ACF (through information concerning the local diseases), the local population (through increased vaccination campaigns) and the local veterinary department (through the donation of refrigerators and other logistical equipment). The partnership was not always easy and required large efforts from both sides; however, the involvement of the veterinary department also served as an ideal handover strategy when ACF closed the programme in 2005.

■ I.III. POPULATION

Local populations do not know ACF-IN. Communication and transparency are therefore essential. We must systematically introduce ACF-IN to the whole population and inform them about its mission and objectives.

Example 11: Population's understanding of humanitarian organizations in South Kivu

Following repeated security incidents targeting humanitarian activities, the ACF team decided to lead a communication operation in the zone, explaining the purpose of the programmes, the ACF-IN charter and introducing expatriate and local staff. During the presentation and group discussions, it became clear that the NGOs were seen by a majority of the population as “spies”, “arms suppliers”, “very well paid expatriates coming to their homes because no one wanted to hire them in their own countries” and very rarely as humanitarians. The team's surprise was great, to say the least. The information campaign helped improve ACF-IN's image, and in return the local population felt an increased responsibility to “protect” the staff and the activities, thus reducing security risks for the ACF-IN teams.

Partnership with the communities cannot be limited to mere awareness campaigns, but should be carried on through the design, implementation and evaluation of the programmes. Once populations have accepted and understood the role of ACF-IN, it becomes easier to involve them in the other stages of the project cycle. This participation as real partners is one of the keys that will ensure the appropriateness and quality of the intervention.

II. BENEFICIARY IDENTIFICATION

The preliminary food security assessment and the food security surveillance system will help provide key characteristics of the most vulnerable households. Once these characteristics are determined, concrete recommendations can be made regarding programme design.



III. WORK WITH INDIVIDUAL, HOUSEHOLDS OR GROUPS

According to the context, the programme can intervene directly at the rural household level or at the level of farming groups or local associations.

Table 2: Possible scenarios for beneficiary identification

	Family level	Existing group level	Creation of a group
Positive aspects	<ul style="list-style-type: none">- allows the targeting of the most vulnerable people	<ul style="list-style-type: none">- allows for the targeting and reinforcement of the existing social structure- easier to set up the programme: fewer interlocutors	<ul style="list-style-type: none">- allows for the reinforcement of marginalized population groups within their society (those without land)- easier to set up the programme, but longer programmes are necessary to ensure the sustainability
Possible risks	<ul style="list-style-type: none">- risk of social conflict: those who are not targeted should receive clear information about the selection criteria and ideally participate in the definition of these criteria- the most vulnerable households might not have the physical capacity to undertake high intensity labour	<ul style="list-style-type: none">- risk of social conflict: if existing structures are excluded- may not target the most vulnerable	<ul style="list-style-type: none">- increased risk of social conflict: these groups are created quickly without pre-existing cohesion- groups consisting of only very vulnerable households may potentially have lower educational levels or may lack real leadership- the most vulnerable groups might not have the physical capacity to undertake high intensity labour
Additional comments	<ul style="list-style-type: none">- requires the set-up of committees to reduce the number of interlocutors	<ul style="list-style-type: none">- some existing groups may be politically oriented or have selection criteria excluding vulnerable households	<ul style="list-style-type: none">- some cultures are more adapted to individual work and could resent group dynamics

In order to minimize any negative impacts of an intervention, ACF-IN generally recommends relying upon existing structures. This also follows the logic that ACF-IN programmes are generally short-term in nature; and that establishing new social structures takes time and cannot be done without the local population's total involvement in each stage of the project. The social fabric is already sufficiently disorganized in intervention zones and any exterior action could have a negative impact on the situation.

Whatever the chosen method, decision should be made after a thorough analysis of the social structures; directly involve the participation of the communities; and take into account their opinion. It is important to remember that working through groups is not an end in itself, as is the case with working with individuals/households. The optimal solution should be chosen so as to meet the primary objective: to reach and impact the most vulnerable people.

Example 12: Activities targeting individual families

Hazarajat, Afghanistan, 2004

The Hazara community, located in central Afghanistan, is based on a neo-feudal system. Five years of continual drought has brought about devastating results on the agricultural production, and has put many families in a situation of high food insecurity, causing both temporary and permanent migration of entire families. Several consecutive years with little to no harvest resulted in a lack of seed availability (both vegetable and staple crops). Households with considerable economic possibilities, or with family members in Kabul, were able to continue importing small quantities of seeds, but the most vulnerable families did not have the financial means to buy new seeds and their extreme levels of indebtedness reduced even further their access to agricultural products.

Action contre la Faim began a Food for Work programme to improve access and availability of food in the zone, and also targeted individual households for a gardening project based upon the household vulnerability level, access to land and motivation. The project made the gardening inputs available to the most vulnerable families, allowing them to cultivate small plots of land close to their homes (by recovering household wastewater).

Example 13: Activities targeting pre-existing local organizations

South Kivu, Democratic Republic of Congo, 2002

Following the 1995 genocide in Rwanda, unrest spread to the east of the Congo, leading to a civil war and resulting in a division of the country in two parts (the East was controlled by rebel forces and the West by government ones). The rebel-held province of South Kivu suffered from continuous fighting between rebel fractions and caused constant displacement of the population fleeing the conflict. Years of conflict has put a large strain on the families' food security, leading to high levels of malnutrition in areas where security risks made agricultural activities inaccessible. The continual presence of humanitarian NGOs was not guaranteed due to the sporadic outbreaks of violence. In order to increase the population's food security, Action contre la Faim decided to implement agricultural production programmes through pre-existing local organizations. This decision ensured the continuity of the programmes and also increased the population's access to agricultural lands through group work. Pre-existing organizations received logistical and administrative training from ACF and in exchange they helped ensure the distribution, training and monitoring of agricultural activities.



Example 14: Activities developed with newly formed groups

Kayanza, Burundi, 2002

Since the start of the civil war in 1993, the Burundian population has endured more than ten years of violence. The consequences have been numerous, and have included massive population movements, high rates of malnutrition and a very weak governmental structure. Additionally, the province of Kayanza has experienced one of the highest population growths in all of Africa, making access to agricultural land difficult for many rural households.

Action contre la Faim initially opened nutritional feeding centers in the province in order to treat the high levels of malnutrition, but it immediately became apparent that the treatment of malnutrition was not enough and that the population's food security needed support. In 1999, ACF carried out the first food security assessment that recommended the support of agricultural activities (the main economic activity of the population); identified a lack of seeds and tools among the most vulnerable families; and highlighted a lack of agricultural land for individual farmers. In order to increase access to land and to encourage mutual support among vulnerable households, ACF decided to form new agricultural groups made up of the most vulnerable families. These groups received support in negotiating and renting agricultural land in addition to seeds, tools and technical support.

At the start of the intervention, it became apparent that these groups were too weak and that in order to ensure the continuity of operations, their constituents should be more heterogeneous, therefore to strengthen them they should include a mix of vulnerable, and less vulnerable families. It took almost three years for the groups to become viable and sustainable without outside support. During those years, the families learned to work together for a common cause, and to improve not only the group's food security, but that of each of its members.

■ II.II. WORKING WITH INDIVIDUALS/HOMES

■ II.II.1 Establishing eligibility criteria

In most agricultural programmes, Action contre la Faim targets only one part of the population. The population in the zone should as much as possible be involved in defining the eligibility criteria of the beneficiaries, in order to:

1. Select the best/most appropriate criteria possible
2. Prevent distribution related conflicts
3. Prevent misappropriation of distributed goods through community-wide programme awareness.

Example 15: Importance of community participation in the selection of beneficiaries

In Burundi, an international organization was expelled from a province because the local population demanded either a general distribution or nothing at all. The organization followed through with a targeted distribution using criteria that were unclear which were rejected by the communities. This organisation was unable to remain in the area. This conflict could have been prevented by involving the population in defining vulnerability criteria.

Generally, the targeted population is the most vulnerable. However, it is sometimes unrealistic, or impossible, to target the most vulnerable groups of the population for agricultural programmes because they may not have access to land; are traditionally non-agrarian; or due to cultu-

ral differences. In this case, the action chosen should allow for an **indirect but real impact** on this population group. For example, if the most vulnerable families can traditionally sell their labour to higher class farms, by giving the latter the means to farm again, the situation of the former will be indirectly improved as well. An in-depth analysis must be carried out in order to determine the direct or indirect impacts of a potential activity on the most vulnerable groups, taking into consideration factors that limit their access to food and any possible actions that will reduce these factors.

Example 16: Targeting the most vulnerable through direct or indirect activities

Sri Lanka, 2005

In Sri Lanka, after the December 2004 tsunami, many of the coastal rice farmers lost their homes and assets, but still had access to their rice fields, which were only slightly damaged by the tidal wave. The destruction and loss caused by the tsunami left many coastal families out of work, homeless and with very little economic opportunities. The rice harvest (the principle staple crop) is usually in March and traditionally the landowners hire daily labourers to help harvest the crop. Despite the fact that the production seemed relatively untouched by the tsunami, many financially strapped landowners were unable to harvest the rice due to a lack of funds to pay the workers. Not being able to harvest would cause a reduction of rice available in local markets and a decrease in wages for the daily workers (affecting accessibility to food stuffs). ACF implemented a “cash for work” programme to help pay the daily harvesters. The direct beneficiaries of the programme were the landowners (who are not traditionally the most vulnerable) because they profited from the harvest. The daily workers (made up primarily of very vulnerable households) were the indirect beneficiaries because they benefited from the labour opportunities and the stabilization of the rice prices on the local markets.

The targeted population must be motivated by the programme and actively participate in its definition.

Example 17: Importance of community participation in establishing types of activities

In 2002, Action contre la Faim opened an integrated food security and water and sanitation programme in Western Pakistan, along the boarder with Afghanistan. The programme aimed at reducing the impact of a continued drought through the construction of water points for the pastoral animals, and a goat recapitalization scheme. Following an initial food security assessment, the programme promptly started in order to be integrated within the pace of the seasonal calendar.

Although the initial assessment identified the population's main problems, community participation was limited due to a lack of trust towards foreign organizations. The fast pace of the programme combined with the lack of trust of the population reduced community participation even further and eventually caused hostility towards the teams. The programme was only able to implement part of the planned activities and eventually the base was closed due security threats. If when the assessment was made, or when the programme was implemented, more time had been taken to gain the trust of population as of the initial stages, the activities' impact could have been more positive.



Finally, the targeted population must have the means to carry out the activity (capacities, equipment, physical requirements): seeds are not distributed to a farmer who has no land, nor livestock to a breeder who has no access to pastures. Other kinds of support, whether direct or indirect, may be provided to remedy these limiting factors where necessary.

Example 18: Using agricultural activities to indirectly impact the most vulnerable population groups

In South Kivu, a feasibility study of a fish-farming development project was performed. It rapidly became apparent that the most vulnerable population often could not be directly targeted because the digging of tanks required additional labour forces and access to loam land with a permanent water source. The activity was thus carried out with a less vulnerable group, with the aim of increasing the availability of fish in the local markets, (Lake Tanganyika having been recently exhausted of its supply in the zone), and by inducing a price reduction (accessibility).

■ II.II.2. Nominative lists

The second step is to appoint people from within the population who will be in charge of the identification of beneficiaries. They will use nominative lists, which must include the names of beneficiaries (or families), their precise location ("addresses"), and which may also include other information such as the number of dependents, economic activities, status (displaced, resident), etc. Appendix 7 gives an example of a beneficiary list format from Ivory Coast. This data is especially useful during the list verification and distribution stages. Information that cannot be used should not be gathered; only the essential elements should be identified, according to our needs and our analysis abilities. Administrative and/or traditional village leaders will usually carry out this operation with the assistance of ACF-IN team members. In certain cases, the entire registration procedure can be implemented by ACF-IN, but this should be avoided when possible in order to ensure community participation and local representation throughout the project cycle. Sometimes the society is very formally structured and the procedures and internal organization of the populations must be respected.

■ II.II.3. ACF audit (list verification)

Once the beneficiary lists have been handed in, the ACF-IN team should proceed with a systematic audit on a sample of randomly selected names, homogeneously distributed within the zone or the different sites. We recommend a sample of 5 to 10%, which should be stratified according to the zones and other characteristics related to the population groups, if warranted.

The audit consists of going door to door to confirm the validity of the data on the lists, and to determine whether the criteria are met for each potential beneficiary. Homes that do not appear on the list can also be checked to ensure they do not meet the targeting criteria, identified for the selection of beneficiaries, in order to reduce the chances of possible oversights. It is also an opportunity to poll the population about information they were given about, and their own understanding of, the methods of beneficiary selection.

If in this sample x% of the information (and especially the targeting criteria) are incorrect, ACF-IN will again consult with the village leader(s) who created the list, ensuring that the identification criteria were well understood. Once the criteria have been clarified, new lists should be made and re-verified. The percentage of tolerance depends on the level of possible verification, and varies according to the contexts. Generally a maximum margin of 10% of errors is accepted.

This step is obviously very delicate because identified families and potential beneficiaries may not necessarily be the same (in the case of a rejected audit) and could put into question the work of the

village leaders. For these reasons, it is extremely important to take the necessary measures to maintain this mutual support through diplomacy, transparency, and communication.

■ II.II.4. Final lists

Once potential beneficiary lists have been drawn for each of the different population groups, and audits of the ACF-IN teams provide satisfactory results, final lists which will be overseen in collaboration with the authorities, may be established. It is essential to give clear information to the beneficiaries and to the non-beneficiaries. The final beneficiary lists should clearly indicate the date of the intervention and any items included in the distribution.

■ II.III. WORK WITH GROUPS OR ASSOCIATIONS

■ II.III.1 Pre-existing associations

When there are pre-existing associations, cooperatives, or similar kinds of structures, it can be pertinent to include them in the programmes and/or help them rebuild if necessary. These groups can provide insurance for a certain continuity of the programmes (handover of activities), improve targeting by their understanding of the area, and increase population involvement, etc. Pre-existing structures must be carefully selected using objectively defined criteria and, as with any type of partnership, must respect the ACF-IN Charter (see Appendix 8). Here are some useful indicators that could be used during the selection process:

- Existing structures continuously present for over one, or more, years;
- Structures which have already built joint projects;
- Structures targeting the same population groups (women...)
- Structures representing the region's entire population (ethnic groups, geographic zones...)

Throughout the programme, it is important to remember that the decision to work with pre-existing structures or to form new groups is done with the overall objective of improving food security in the zone. This is essential to the sustainability of the programme from going astray and to manage the planned activities.

■ II.III.2 Operative mode for selection

The key to a successful programme, when working jointly with existing structures, is that everyone (ACF-IN, local partners, beneficiaries and local authorities) should be consulted and involved in the process. On the other hand, existing structures could potentially benefit from:

- Equipment, whether agricultural (seeds, tools, etc.) or non-agricultural (office or logistic supplies)
- Training, whether technical (construction of a hutch, soy farming...) or non-technical (management, organization...) which may be useful to them.

It is therefore necessary to have an adequate understanding of the organizations in question. Unless their expectations are met, the collaboration cannot be viable. The terms and conditions for the partnerships should be discussed verbally, validated by every party then written down in a contract. That which has not been orally validated has no value on paper in most of the countries where ACF-IN works and that which has not been discussed prior to the establishment of the partnership could be the potential source of later conflicts. Necessary time, attention, and courtesy must be dedicated to the negotiation process, for it is a determining stage. Both the selected associations, and those that weren't, must understand the rationale that led to the decision, and agree to adhere to the pre-determined partnership conditions.



Example 19: Partnerships with local organizations

1) Congo, 2002

In South Kivu, the agricultural programmes are implemented in coordination with local non-profit organizations. These organizations actively participate in:

- Drawing up the list of the beneficiaries
- The practical terms of the distribution
- Beneficiary training
- Monitoring of food security status in the zone
- Communication with beneficiary and non-beneficiary populations

In return, they receive seeds, tools, office supplies, and technical training on different agricultural themes from ACF-IN.

2) Bangladesh, 2007

Year after year, about one fifth of Bangladesh's earth surface is flooded during the monsoon season. The geographical position and the geomorphology of this country make it very vulnerable to flooding. Shariatpur is one of Bangladesh's districts most prone to flooding, due to its location downstream from three major rivers. In 2007, 90% of the district's inhabitants were affected by floods. Many families had to live isolated, and in precarious sanitary conditions, for long weeks. When the waters receded, many realised they had lost all, or a part, of their goods and properties. The middle-term impact was particularly severe on the crops (loss of 80%) and on the population's food security.

In November 2007, the Shariatpur district was also hit by cyclone Sydr. 23,000 homes, poorly built, were destroyed. ACF's intervention was to supply food security assistance (seeds distribution) and water and sanitation to the affected households. The activities were implemented in coordination with a local organisation (Shariatpur Development Society - "SDS").

At the local level, SDS ensured permanent coordination with the Upazilla (equivalent to a grouping of communities) manager, through monthly coordination meetings and informal appointments, to report on the work's progress. The local unions' representatives were involved in monitoring the distribution process, in order to guarantee its transparency.

SDS has equally visited local NGOs, such as the Red Crescent Society of Bangladesh, and other SDS programmes, whether or not. they were implemented in the intervention region.

For its part, ACF met with international actors working through local partners in Shariatpur. These meetings allowed the harmonisation of some activities, such as the use of technical data sheets and the exchange of information.

An indirect impact of this programme was the training of SDS staff on working methods that were at times different from those they usually practice.

■ II.IV CREATION OF NEW BENEFICIARY GROUPS

Under some circumstances, it can be both pertinent and effective to create partner structures. This can be the case when the social fabric has been profoundly damaged by the crisis or when we do not have access to the most vulnerable populations. When new groups are created, it is important to try to build them on the residual traditional structures as much as possible. Social systems that function well are the result of generations of adaptation. Any modification of those systems imposed by outsiders (especially in a short period of time) can have a disastrous impact on the population and has little chances of bringing sustainable and positive results.

III. THE FOOD SECURITY TEAM

The local team is the keystone of the programme therefore the recruitment step is crucial for its implementation and success. The team guarantees the continuity of the operations, even when expatriate staff changes. It is important to dedicate adequate time for its recruitment, and to perfect the recruitment strategy according to the local context and to that of the intervention. Examples of documents relating to the recruitment, organization, and management of a team are available in Appendices 10.

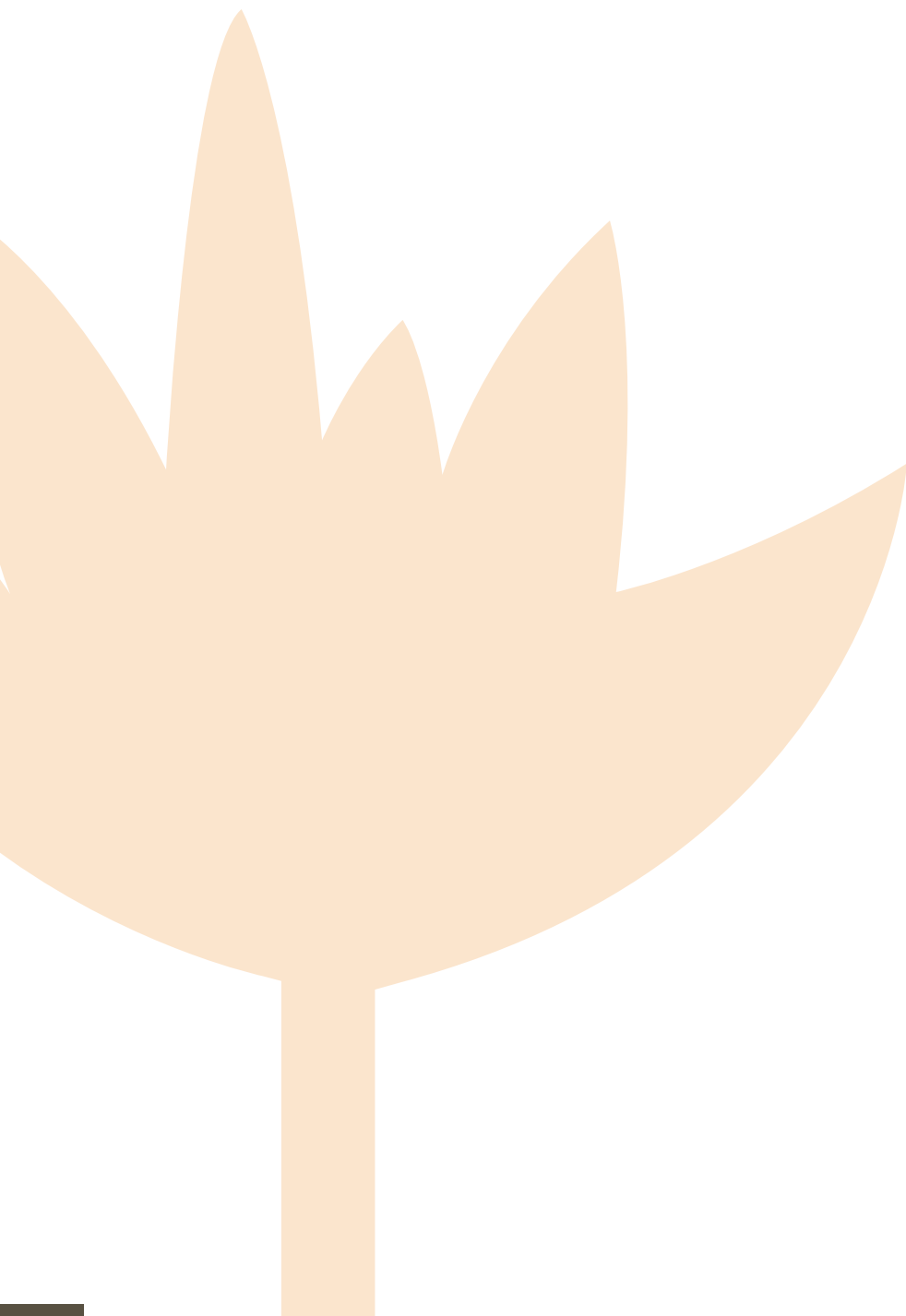
The food security team must also take an in-house training course to improve its knowledge in different fields and be able to always perform efficiently. Continuous professional training will:

- Favour long term staff commitment
- Increase the quality of the programme implementation and analysis
- Offer employment opportunities for ACF-IN staff at the end of the programme

IV. AGRICULTURAL PROGRAMMES AND LOGISTICS

In the ACF-IN structure, the food security programme manager works in close coordination with the logistics manager. This coordination is essential for the proper development of programme activities, and the distribution of responsibilities should be made clear from the beginning. In general, the food security manager is responsible for determining the exact type and quantity of resources needed (seeds, livestock, etc.) and the logistic manager handles the purchase and transportation of the goods. In order to ensure quality, the food security manager should give detailed descriptions of the materials and the minimum acceptable standards. He or she should also be directly involved in the analysis of seed quality (germination tests) or veterinary quality reports. It is extremely important for the food security manager to remember that the purchase process can be long and all orders should be placed in anticipation of delays while adhering to the agricultural calendar. See Appendix 12 for an example of a seed tender from Sierra Leone.

The food security team can also be involved in the selection of local producers, but this should be done in coordination with the logistic team, using the ACF-IN internal logistic procedures. More information on internal coordination with the logistics department can be found in the *“Food Aid and Alternatives to Food Aid”* book and the procedures to follow can be found in the ACF-IN logistics kit. Respect of logistical procedures will help avoid potential corruption or irregularities within the programme activities.



Chapter 4

CROP PRODUCTION PROGRAMMES



Summary

- Whatever the type of crop production programme, it is essential to first identify any limiting factors, such as the lack of seeds and tools; of adequate post-harvest storage; access and availability of agricultural products; or factors related to irrigation, soil fertility and land use. Existing coping mechanisms must be taken into account.
- Some conditions should be fulfilled before initiating a seeds and tools programme:
 - Normality of the agricultural system:
 - Households' access to land
 - Households' capacity to harvest
 - Access to seeds and/or tools is a factor limiting production
 - Household members are farmers who can and want to farm
 - The distributed seeds correspond to the same crops and same varieties as those regularly used by the population.
- Post-harvest storage activities can decrease harvest losses, but the type of storage should be tested before construction and must be adapted to local traditions and resources.
- Agricultural programmes can also be implemented in post-crisis situations in order to help promote the sustainable availability and accessibility of local agricultural products.
- Risks related to any type of crop production programme must be considered and reduced in order to avoid putting the population in a more vulnerable situation.



If the preliminary assessment has shown that one of the basic causes or risks of malnutrition or food insecurity is related to agricultural crop production, the next step is to determine what type of programme would best respond to the needs of the population groups, taking into account the existing coping mechanisms. It is not simply a question of aiming to improve crop production, but of identifying the causes of the poor, or limited, production and creating activities that will help the population overcome these limitations. The problem tree (see the *“Food Security Assessments and Surveillance”* book) will help identify the limiting factors; and efforts should be made to actively involve the community during this stage. Once the limiting factors are identified, possible recommendations can be proposed.

It is important to use the agricultural calendar to guide this process, while determining if the real problems linked to the family's food security are related to:

- Land (inaccessibility to fertile lands),
- Inadequate seeds or agricultural inputs (quality and quantity of seeds available and accessible to the population),
- Inadequate agricultural techniques (available and adequate tools),
- Diseases or crop infestations (and the methods used to prevent or fight these attacks),
- Harvest or post-harvest deficiencies.
- Ill-distributed recorded rain fall often leading to inventory shortage

It is important to prioritize the needs with the population in order for the programme to have the best possible impact. For example, if both crop infestations and lack of post-harvest storage facilities have been identified as key problems, it is necessary to determine which of these two events the primary limiting factor is. A silo programme can only be effective if there is a surplus harvest to store.

Once the limiting factors have been identified, the second stage is to determine whether the cause is related to a lack of access, availability or to know-how. This analysis is important in order to increase the programme's impact and to reduce the potential negative effects. For example, seeds and tools are often identified as a limiting factor preventing crop cultivation. If the lack of seeds and tools is related to a problem of availability, a seeds and tools distribution could be a possible recommendation. If however, seeds and tools are available locally but inaccessible to vulnerable population groups, a distribution could have negative consequences on the local production and harvest (market destabilisation mechanisms), and a different type of seeds and tools programme should be envisioned (seed fairs or voucher systems).

The following chapter will address limiting factors related to seeds and tools (part I), post-harvest storage (part II), access and availability of agricultural products (part III), and other factors related to irrigation, soil fertility, and land usage (part IV).

I. SEEDS AND TOOLS AS A LIMITING FACTOR IN PRODUCTION

What is a limiting factor?

A limiting factor is an environmental factor positioned farthest from the optimal conditions, and which limits plant life production, whatever the variation of other factors. A limiting factor means that ideal cultivation conditions can never be reached for a given plant, and a single deficiency factor will limit production, at times to a much lower level than this ideal. Priority must therefore be given to improving this limiting factor, which restricts productivity.

Seeds and tools can be a limiting factor in different situations, such as massive population displacements (refugees returning to their villages of origin), natural disasters (droughts, flooding, etc.), pest invasions (rodent or locust destroying seed stocks), or looting. The seeds and tools operations are included here in the sense of large-scale distribution and represent proposed responses to an acute

crisis whatever its cause. In this book, we will only address interventions related to seeds and tools for the production of staple and cash crops. Vegetable production will be covered separately in chapter 6. Seeds and tools programmes are generally quick response operations with short-term objectives; however, this type of project should not be an isolated operation and the longer-term impact must always be considered.

■ I.I. WHEN IS SUCH A PROGRAMME JUSTIFIED?

Under no circumstances should the seeds and tools response be considered an obvious and/or systematic intervention. Even if this type of operation has become a classic in humanitarian programmes, it should only be initiated after a thorough evaluation of the situation that would point to the lack of seeds and/or tools as the principle limiting factor for agricultural production. The evaluation should especially contain a detailed and thorough study of the quantity and access of seed supplies BEFORE the crisis and currently. Additionally, if prior distributions of seeds and tools have occurred multiple times in the area, it is useful to evaluate the pertinence of these past distribution campaigns and, in the same way, that of the next one (Sperling, 2002).

Six fundamental questions can guide the assessment as well as determine the feasibility of such a programme:

- Are the emergency seeds necessary after the emergency phase? Is this lack acute?
 - If yes, a seeds & tools programme is recommended.
- Is it a chronic shortage?
 - If so, it is preferable to opt for a programme aiming to reinforce seed production centres or agricultural shops.
- Does the distribution of seeds & tools constitute the best way to guarantee sufficient seed stocks for the farmers?
 - If there are pre-existing seed stocks, it may perhaps be better to carry out other types of activities in order to preserve these stocks.
- Are farmers able to make a profit or meet their dietary requirements from the distributed seeds?
- Are necessary skills available and on hand for the implementation of the operation?
- Are the necessary time, financial and logistical means available for the realization of the operation?

■ I.II. BENEFICIARIES

In every case they must:

- Have some type of agricultural experience
- Have access to land (but not necessarily be land owners)
- Be able to plant and then harvest
- Want to farm (sometimes they may prefer, after a crisis, monetary rather than agricultural revenues)
- Have access to water (regular rain fall, or irrigation)

Beneficiaries could be, for example:

- Displaced families
- Recent returnees or populations about to return home in the short term
- Families victims of looting, decapitalization, etc.
- Families victims of natural catastrophes

Generally, aside from the conditions cited above, ACF-IN does not practice specific targeting at the beginning, if the entire zone is to be rehabilitated. Later, however, we may wish to target distributions towards households presenting the highest vulnerability. In such a case, criteria are defined according to the typology of the population groups resulting from the assessment, based on the existing coping mechanisms. (See the book on “*Food Security Assessments and Surveillance*” for questions about targeting.)



■ I.III. COORDINATION

International and local actors involved in the rehabilitation phases are often numerous. They do not all have the same principles, expectations, needs, nor capacities in terms of knowledge of the zone, direct relationships with the populations, technical expertise, logistical means, etc. Problems could arise if, in the same zone, there are other programmes with a similar objective, but which are implemented through different methodologies. For example, conflicts could arise if a free seed distribution is organized in the same zone as other programmes that reinforce seed production centres based on a reimbursement system or on seeds-for-work. We can easily understand therefore that it is essential to coordinate activities as much as possible by:

- Geographical distribution,
- Analysis and information sharing,
- Logistical coordination,
- Standardization of methods used, quantities, and types of crops

■ I.IV. RISKS

In humanitarian terms

A Seeds & Tools programme should never fail. In most cases, the beneficiary population is quite vulnerable and has already suffered great losses due to adverse events. The seeds and tools programmes should not try to introduce new varieties or techniques that can increase the risks and affect the possible harvest. For these reasons, no risks should be taken that could have, as additional consequences:

- A loss of energy, resources, and time spent preparing the land for cultivation, which would discourage a population already weakened enough by conflict, displacement, multiple losses, and/or psychological suffering
- Failure to achieve the programme's principle objective which is food production
- Significant financial loss

It is important to remember that in many countries where ACF-IN works, part of the harvest is saved as seed supply for the next season, meaning that poorly chosen seeds can have an impact on the following agricultural seasons. They can also have long-term effects by introducing pests or diseases into the zone.

In political terms

The choice to implement such a programme, and to distribute a particular type of seeds, is far from being innocuous from a political point of view, especially when it concerns refugee or displaced populations. Programmes, in general, should not influence the free choice of the populations, and especially their freedom of movement. Depending on the context in which programmes are set up, the activities could incite populations to stay or leave their current location. This is why, when the context is unstable (possible and desired returns in the medium term), but where it is possible to farm, short-cycle varieties may be preferred. This will allow households to stock seeds from the harvest in the displaced lands and then later use them in their original villages.

Table 3: Desired impacts and risks related to seeds and tools distributions

Desired impacts	Risks
<ul style="list-style-type: none"> - To increase food availability and accessibility in the zone - To allow the most vulnerable populations to sow their plots of land - To revitalise all the agricultural channels: price reduction of foodstuffs, etc. 	<ul style="list-style-type: none"> - Creating dependence of the population on distribution - Systematic and repeated distributions - Destruction of the traditional systems of harvest and seed conservation - Disloyal competition with the local seeding channel - Reduction of genetic seed diversity

■ I.V. IMPLEMENTATION: THE STANDARD STAGES

Key stages for the organization of a seeds and tools activity:

- Evaluate first the necessity and/or opportunity of providing seeds (including the availability of land, water sources, etc.)
- Identify the existence of local organizations/structures/people and their abilities to collaborate in an intervention
- Identify the type and variety of seeds to be supplied in collaboration with the beneficiaries (who know best what they want in terms of cycle length, resistance, taste of the final product, cooking time, etc.)
- Identify the quality of the required seed with specific and measurable indicators for each seed type
- Select an appropriate source of seeds
- Test the seed quality
- Identify the support services to be provided at the same time as the seeds (food, fertilizer, tools, etc.)
- Identify the target beneficiaries
- Calculate the quantity of seeds necessary
- Organize the logistics of the distribution
- Monitor the distribution
- Post distribution and post-harvest monitoring
- Define end of programme criteria

Note:

The stages proposed above are not necessarily pertinent in each case. It is the responsibility of the project manager and his or her team to determine the most appropriate type of distribution and stages necessary according to the context, and then adapt them. For more organizational information on distribution methods and logistic aspects, refer to the “*Food Aid and Alternatives to Food Aid*” book.



■ I.V.1 Planning

The first stage is to determine the appropriate date for the future distribution, according to the agricultural calendar of the region. Distribution must not be carried out too early (the seeds can be eaten, sold or lose their germination quality) nor too late (poor harvest). As a general guide, it is important to determine the ideal dates for the beginning and end of distribution (count one or even two weeks of distribution) in coordination with the local agricultural and logistics teams. We cannot insist enough on the need to plan wide margins in this timing: it is better to start a week too early than a week too late. **The planning should be jointly made in collaboration with the logistics and agricultural teams, and include a retro-planning**, which must comprise all the major stages of the intervention, and allow necessary time to obtain the inputs, the selection of suppliers, technical specification and storage conditions.

■ I.V.2 Types of seeds and tools distributions

Seeds and tools can be made available and accessible to the population using a variety of different methods. In general, the methodology can be chosen using the following table as a guide, keeping in mind that the methodology should be drafted according to the specific context and targeted population:

Table 4: Guide for determining seeds and tools distribution methodology

Type of seeds and tools distribution	Problem of seed availability	Problem of seed accessibility
For quick impact programmes	<ul style="list-style-type: none">- Classical free distribution with ACF-IN purchasing the seeds from outside of the affected zone- Seeds-for-work with ACF-IN purchasing the seeds from outside of the affected zone	<ul style="list-style-type: none">- Seed fairs organized with local producers- Seed vouchers organized with local shops- Subsidized sales in local stores
For longer term seed availability ⁵	<ul style="list-style-type: none">- Creation and/or support of seed production centres- Creation and/or support of agricultural shops	<ul style="list-style-type: none">- Training on seed harvest and storage

Example 20: Free seed distribution in South Kivu, Congo

After repeated population displacements and looting, a large portion of the population was left unable to acquire seeds for the upcoming planting season. Many of the traditionally produced seeds were looted by the various rebel groups and the possibilities of importing new seeds were limited due to the increased insecurity on the major roadways leading to the zone.

5 / For more information see section III below.

In order to ensure the planting season and therefore the local population's food security, Action contre la Faim decided to implement a free staple seed distribution programme. Seeds were bought and transported from a neighbouring province, distributed just before the agricultural season, and planted by the beneficiaries. This distribution allowed the families to secure their staple food production and reduce the eventual need for food distributions.

Example 21: Seeds-for-work in Afghanistan

Hazarajat, Afghanistan, 2004-2005

Six years of consecutive drought had a disastrous effect on the Hazara community living in the mountainous regions of central Afghanistan. The majority of the traditional seed stock had been decimated after years of planting yielding little or no harvest. Year after year, the families became more vulnerable and were forced to part with their livestock herds, to run into increasing debt, or migrate from the zone. Food-for-work programmes began to offer food supplies to vulnerable households, but this offered no long-term solution to this dispersed, rural population.

Action contre la Faim decided to implement a seeds and tools programme before the winter snows, hoping for a spring wheat harvest. Focus group discussions showed the families were interested in a wheat seed distribution, but one of their primary constraints was transporting the seeds to their dispersed farming locations. These families could no longer use their traditional means of transport (donkeys).

To address this issue, ACF decided to implement a seeds-for-work programme. The families could work on road rehabilitation activities before the distribution in order to reduce/eliminate transport expenses. Thus the road rehabilitation were improved in isolated regions and allowed the families to “earn” this transport through their work. This activity was especially appreciated by the Hazara families whose sense of pride would have been hurt had ACF organised free distributions.

■ I.V.3 Which seeds?

Types and varieties

ACF-IN recommends using any variety of seeds, whether traditional or not, that have been previously and successfully used in the past. Considering that these beneficiaries are recovering from a shock; it would not be appropriate at this time to introduce new products. Even though it may seem beneficial for the population to introduce a diversification that takes into account nutritional aspects, and potentially improved techniques, it should not be envisaged in the early stages.

How to choose?

- Identify the priority food crops in the traditional farming systems according to:
 - The primary objective of the project
 - Local food habits
 - Their ease of preparation, taking into account the available resources (grinding equipment, firewood for cooking...)
 - Possibilities of income generation (transformed or not)
 - Their potential for producing fodder
 - The means of production (still) available
 - Possibilities of crop association
 - Agro-ecological characteristics of the zone (including water availability)
 - The current agricultural cycle
 - The agricultural calendar

- Evaluate the existing stocks
- Consult
 - The villagers (focus groups, separate for men and women where necessary or preferred)
 - The women (they often play an essential role in the management, selection and storage of seeds)
 - The different communities present in the intervention zone
 - The local leaders
 - The representatives of the Ministry of Agriculture
 - Other NGOs (INGO and/or local) who have or are currently implementing agricultural activities

Different tools may be used such as preference tables, semi-direct interviews, visits/markets/transects, observation, etc. Samples of different varieties can be presented directly to the farmers so that they may indicate their preferences. The use of seed vouchers and seed fairs reduces the risks involved in seed selection and allows each household to choose suitable types and variety of seed.

Once the types of crops to be supported have been identified, the necessary means for farming them must be evaluated, in terms of tools and possibly other inputs such as fertilizers or treatment products. These products will only be distributed if the majority of the beneficiaries are familiar with their use, and if they have been determined to be limiting factor in the current agricultural systems. If this is the case, an assessment must be made to determine whether they are available, and whether it is relevant to include them with the seeds distribution.

Just as for the seeds, and for the same reasons, traditional tools will be preferred as the population is already familiar with them (or their use). They can furthermore be repaired locally. Samples of tools may also be presented during focus group discussion in order to select the most appropriate.

Traditional versus improved varieties

In the past, many of the countries where ACF-IN worked were isolated from the technological advances in agriculture and relied almost exclusively on traditional seeds and cropping systems. This is no longer the case today, where many governments have begun promoting improved seed varieties and techniques. International markets and supply systems have made agricultural products more available throughout the world and rural populations have eventually begun adopting these practices as their own. ACF-IN does not try to advance new seed technology nor does it try to avoid its gradual progression. Rather, the objective is to help the populations return to their pre-crisis conditions in order to promote their food security.

At the same time, careful consideration must be given when choosing any type of seed in order to avoid possible negative impacts on the environment or increased dependence. The purchase and distribution of locally available traditional seeds reduces the risks associated with genetically modified (GMO) or hybrid seeds, which should not be distributed. Despite their high production potential (which is nonetheless expressed only in very specific external conditions), harvested hybrid seeds cannot be used for the following cycle. ACF seeks to re-establish a production system that is often based on setting aside seeds from the previous harvest to be used for the next production. See Appendix 12 for the ACF-IN GMO policy.

■ I.V.4 What quantities per household?

The quantities to be distributed depend on the:

- Type of crop
- The available surface of land
- The existing supply and/or a household's ability to set aside reserve stocks (purchase, proper network...). In this sense it is a good idea to keep in mind that the interventions aim to support the coping strategies in effect, and should certainly not weaken or replace them.
- Quality of the seeds (see below) which depends upon:
 - The rate of seeding and multiplication
 - The rate of germination and seeding density
 - The normal rates of re-seeding⁶ (normal frequency or in period of difficulty)
- Available labour force
- Existing food supply if any; storage capacity; possibilities and production sales needs; the duration of food (or financial) coverage that the production may provide.

■ I.V.5 Seeds quality

The genetic quality of the seeds has been discussed in the preceding section; here we will focus primarily on the physiological quality of the seeds, which refers to their germination capacity (what percentage of seeds planted grows during a given period) and their vigour (if they grow well). The germination rate is a good indicator of seed quality; laboratory facilities may exist in the intervention zone and should be favoured. A certificate, describing the characteristics of the lot provided (origin, variety, etc.), should be provided to the laboratories. If no laboratory facilities are available or if the results are questionable, simple germination trials can be made on site (see 14 for some general instructions for performing germination tests).

In addition to the germination rate, the specific quality (percentage of inert materials – debris, pebbles, etc. – broken or otherwise damaged seeds which make up a given quantity of seeds) and the phytosanitary quality (parasites on and/or diseases in the seeds) should also be tested.

The final decision to purchase the seeds will be made using the results from each of these tests. This stage is extremely important for the success of the programme and should be a joint collaboration between the food security and logistics teams. The joint effort between the agricultural team and the logistic team will ensure proper respect of the purchase process and reduce the risks associated with timing, quality and storage.

The post distribution and post-harvest monitoring will be useful to further validate the laboratory results. In the case where there are great differences between the laboratory and monitoring results, an investigation should be carried out to determine if the seed quality decreased during the storage or distribution phases. It may be necessary to change laboratories in the future if no apparent reasons are found for the quality degradation.

6 / In numerous regions, farmers sow the fields a second time during each season, sometimes to compensate for low germination rates or to completely replant because of poor production.



Example 22: Seed specifications from Sierra Leone

Reference: FS/SL/2002/seeds
 Product: Maize
 Variety: Western Yellow
 Quantity: 26MT
 Delivery condition: Action contre la Faim Warehouse in MAKENI
 Latest delivery MAKENI: See Article 5 Delivery deadline

Product specification: Germination, min 85%
 Physical Purity Min 99%
 Variety Purity Min 90%
 Moisture Content Max 7%
 No live insects

Packing: The seeds are to be packed in clean, high quality PP sacks with a minimum weight of 550g/m². Contents per sack: 2 kg net.

ACF and EuropAid logos as well as the content are to be printed in accordance with Paragraph 7 of the contract.

■ I.VI. SUPPORT SERVICES

The food security assessment should provide useful information to determine if any additional activities or inputs are needed with the distributed seeds. It is important to take the time to make this analysis to ensure all of the essential items are available to the vulnerable population groups. Complementary activities can sometimes include:

Seeds Protection Ration (SPR)

Food distribution carried out in parallel with seed distribution is never systematic. It is sometimes deemed necessary if the food availability:

- Cannot cover needs until the harvest
- Is so scarce that there is a risk the seeds may be consumed (entirely or partially)
- Is not sufficient to provide the energy necessary for farming activities.

Clear information should be provided at the time of distribution, in order to prevent any confusion between foodstuff and seeds. The food and the seeds should be stored separately to prevent any food contamination (especially when dealing with treated seeds). See the *"Food Aid and Alternatives to Food Aid"* book for more information.

When considering a Seeds Protection Ration, it is necessary to also consider the weight of the distributed products. Generally a simultaneous food and seeds distribution can be quite cumbersome and require additional transportation means for the beneficiary families.

Fertilizers and pesticides

The programme's design is based on local practices and the population's food supply capability. ACF-IN does not recommend introducing new products at the early stages, and tries to avoid creating dependencies and new needs. If the decision is taken to provide fertilizer and/or pesticides, we must be aware of the logistical constraints this may cause, especially with regards to the storage of products that may sometimes be toxic. The proper use and dosage of any chemical products must be decided with the population before the distribution.

When appropriate, organic fertilization and pest control is recommended. These practices are generally low cost and promote environmental and financial sustainability of the agricultural activities (HDRA, 1998).

Seed treatment

It is generally not advisable to treat the seeds especially because of the possibility the beneficiaries may consume them. If for technical reasons, it is determined that the seeds must be treated (potential pest infestations), it is crucial to conduct an awareness campaign prior to the distribution. Colours can be used to identify the products, along with either a clear marking or an easily recognisable tagging system, in order to reduce the risk of their consumption. The treatment of the seeds is a delicate operation which should be done by a specialist

■ I.VII SUPPLY

The supply of all materials should be made in coordination with the logistics department and respect ACF-IN's logistics kit procedures. The choice of the supply source depends on capacities and expected specifications. Local markets will always be favoured if the quality of their products is satisfactory; however careful consideration must be taken to avoid disrupting exchanges in the zone by causing an increase in market prices.

The choice of suppliers is increasingly becoming an important stake, especially at a time when the issue of genetically modified (GMO) food is debated. Considering that there are currently very few possibilities to test such products (almost non-existent, and rather expensive), the best guarantee for obtaining GMO-free products is to purchase food supplies locally (if GMOs are not farmed locally).

Possible sources of seeds include:

- Local markets
- National markets and seeds production centres
- Imports⁷
- Donations (FAO and other international sources)
- Seeds production contracts

■ I.VIII DISTRIBUTION

The “*Food Aid and Alternatives to Food Aid*” book addresses the detailed principles of organizing a supply distribution. However, we will review some fundamental elements:

- Before distribution, the beneficiaries should be informed of what they are going to receive (who, what, how much), especially in order to allow them to begin preparing their land. In some cases it is necessary to distribute the tools before the seeds, as this will allow the beneficiaries to work their land before the sowing period.
- Seeds should be delivered on time in accordance with the agricultural calendar
- The distribution team should be precisely informed about the contents of the packages and the targeting criteria of the programme
- Packaging and labelling should be clear and in the local language
- At the time of the distribution, in addition to a verbal explanation, it may be useful to attach a brief note to the package (written or illustrated) in the local language when possible, describing the various products distributed.
- Maintain an adequate level of quality during storage and transport.

⁷ / Before importing any products, it is important to work with the HoM and the logistic team to avoid any problems linked with customs or cross border tensions.



■ I.IX MONITORING AND ASSESSING A SEEDS & TOOLS PROGRAMMES

Indicators for the monitoring and assessment of a programme depend on its specific objectives, but the following should generally be considered:

- Agricultural production (harvest)
- Dietary equivalent produced
- Monetary equivalent generated
- Quality of the seeds and tools distributed

The first monitoring is generally conducted in the days or weeks following the distribution. This Post Distribution Monitoring (PDM) aims to answer the following questions

- Who received? What? How much? Where?
- How were the products received used (proportional piling): percentage that was sown, stored, consumed, lost, sold, given away, or exchanged, for each product distributed.
- Source of seeds: share of ACF-IN seeds out of the total quantity of seeds planted, per cultivated variety
- Other sources of seeds
- Beneficiary satisfaction
- Adherence to the calendar

If future distributions are planned, the PDM can give crucial information in order to make timely changes in the programme. See Appendix 14 for an example of a PDM questionnaire from Guinea.

After the harvest a Post Harvest Monitoring (PHM) should be implemented. The PHM aims to:

- Determine the area of the fields sown, its location, and the yield (i.e., adaptability of the varieties).
- Determine the use of the harvested products: part consumed, stored (for food, for future sowing), sold (revenues generated), given away, exchanged, transformed, or lost per crop harvested.
- Estimate the food coverage period
- Determine the part of the production that came from the distributed seeds, and distinguish it from the one resulting from other seed sources. For the beneficiaries, compare the effective results with the results “had there been no distribution”.
- Compare the results obtained between beneficiaries and non-beneficiaries of the same zone.
- Compare the pre-crisis results to current results.
- Determine beneficiary satisfaction: positive and negative points, seeds quality, tools, choice of crops, information, targeting if applicable, quantities, problems encountered, and advantages (especially after the harvest). The degree of satisfaction of the farmers could perhaps even give an idea of the impact in psychological terms.
- Determine the characteristics of the agricultural season, rainfall, availability of labour force, pests, etc. which could affect the harvest.

If distribution is not resumed, it could also be extremely worthwhile to evaluate, several seasons later, the impact the programme had over the long term. All monitoring and evaluations should be carried out according to the characteristics of the programme: geographical distribution, characteristics of the beneficiaries, etc. Any differences between the obtained results and the expected results must be explained. The monitoring should not only collect quantitative data, but information should also be made available which partially provides explanations for the

results, and eventually makes recommendations for improvements. The PHM and evaluations also serve to identify any unexpected results (positive or negative) of the programme. See Appendix 15 for an example of a PHM questionnaire from the Ivory Coast and 16 for a PHM report from Malawi.

■ I.X EXIT STRATEGY (TOOLS AND SEEDS CASE)

The “*Introduction to Food Security*” book presents the disengagement logic for all food security programmes. This logic remains valid for the seeds and tools programmes; in short, they are no longer justified once the system of seeds supply returns to normal (which would highlight the importance of the initial evaluation and of the understanding of the pre-crisis situation). However, to do this, actions other than the mere distribution of seeds are probably necessary. The programme assessment could eventually lead to recommendations to strengthen seed production or distribution channels in the region. For more information, please refer to section III below.

II. POST-HARVEST STORAGE AS A LIMITING FACTOR

Many different types of events can cause disruptions in the traditional storage techniques and capacities. For example, existing storage facilities could have been destroyed by natural disasters, or during conflicts, or a displaced or returnee population could have access to agricultural lands, but limited storage capacities. As mentioned earlier, it is important to identify storage as a limiting factor before initiating any type of recommendations for post-harvest storage activities. It is also necessary to understand the reasons leading to this deficiency.

Example 23: Post-harvest storage in Chad

Eastern Logone, Chad 1999

One must first note the absence of visible barns when viewing the zone. The poor management of harvests in this region has often been criticized. The early sale of cereals generates low sale prices and families are forced to repurchase them at higher prices during the hunger gap. Although this sale is quite counter-productive, the families have chosen this strategy because of the permanent risk of looting. The producers prefer to lose on the price of cereal transactions rather than run the risk of losing their entire harvest. The few stocks that are kept are conserved in sacks and hidden from sight. Otherwise, many producers heavily rely on merchants who give them credit during the hunger gap, and productive loans in case of problems.

These strategies are important to consider when contemplating future projects such as cereal banks, silos or security stocks. Generally in these zones of high insecurity, accumulation of wealth should remain measured and discrete. The purchase of livestock, installation of metal panels on the houses, purchase of bicycles, etc., are also exterior signs of wealth that run the risk of attracting unwanted attention.

Based on ACF-IN’s experience, improving post-harvest storage facilities is not always the most efficient way to reduce losses. In many cases post-harvest techniques (such as seed selection, drying, etc.) can be improved in order to increase the quality and quantity of stocked products.

■ II.I BENEFICIARIES

As with any type of food security programme, the definition of beneficiaries should be based on the results of the food security assessment. Potential beneficiaries could include individual



or groups of farmers who:

- Have lost their traditional means of post-harvest storage
- Have lost a great part of their harvest, thus affecting their food security
- Have lost their other production (or exchange) mechanisms and are newly dependent upon the harvest to meet their food security needs
- Are interested and motivated to try innovative systems

The decision to work with individuals or groups is discussed before in chapter 3, section II.

■ II.II RISKS

Post-harvest storage facilities can offer important advantages to the households by allowing them to increase their storage capacities and to extend it time wise. This could prevent the early sale of the harvest at low prices, or could allow families to benefit from their harvest throughout the year. At the same time, if the storage facilities are not properly built and managed, they can provoke even greater losses. As seen in the above example from Chad, storage facilities can also attract attention on the family, thus increasing the risks of looting. If improperly built, storage facilities can gather humidity and attract pest infestations, which would destroy the stored products. Any type of storage facility should be well tested for each context and fit the traditional and cultural needs of the population. All productive infrastructures should respect the pre-existing traditions of the population, in terms of individual or collective structures, and management of harvest or seed stocks.

■ II.III IMPLEMENTATION

Post-harvest programmes can vary greatly depending on local traditions, techniques and materials. The activities can be based on improving existing infrastructures, or on introducing new storage systems. Before introducing any new systems, potential risks must be reduced as much as possible.

■ II.III.1 Rehabilitation of existing infrastructure

Existing post-harvest infrastructure could have been damaged during adverse events or could no longer be appropriate (causing high percentage of storage losses). Depending on the type of infrastructure and socio-political context, ACF-IN can provide the materials (through distributions, voucher systems or subsidized sales) and technical support, while the households or groups provide the manual labour. As with any agricultural programme, it is important to plan the activity in correlation with the agricultural calendar.

Example 24: Post-harvest improvements in Luang Namtha, Laos

Luang Namtha, Laos 2001

The food security assessment revealed that, despite generally acceptable harvest results, the families located in the mountainous zones were facing rice shortages. The shortages were eventually linked to the high percentage of rice lost after the harvest, despite the fact that the majority of families had individual rice silos. Further research showed that the losses were due to the large quantities of rice consumed (in the silos) by mice and rats.

Together with the communities, Action contre la Faim decided to implement a rice silo improvement programme which consisted simply in distributing tin sheeting that could be cut and nailed to the posts supporting the silos. The metal sheeting created a slippery surface, preventing the mice and rats from climbing into the silos. Additional information campaigns were also led to encourage the farmers to store their silo ladders in the silos (when not being used), thus further reducing possible entry points.

■ II.III.2. Introduction of new post-harvest infrastructure

When the storage facilities are completely destroyed or non-existent, it may be necessary to build new ones. Whenever possible, these can be based upon pre-existing structures (see Appendix 17 for some examples of traditional silos). The use of traditional structures and materials is recommended because they are easily replicated and can be built using local know-how. If it is not possible to use the traditional structures (lack of local materials, inadequate storage conditions, etc.), new systems can be introduced. When introducing a new storage system, community participation in the design and construction is extremely important. The cost should also be taken into account, not only for the initial construction, but also for the repairs and possible replication of activities.

The following points should be considered when identifying the location for the silo:

- Proximity to agricultural fields
- Proximity to homes (to facilitate access and reduce risks of looting or losses due to wild animals)
- Access to transportation infrastructures

The construction site should be decided with the local authorities, the local population and ACF-IN. An official contract should be prepared prior to initiating any construction in order to clearly define the role and responsibilities of each actor (land owner, beneficiary, authorities, etc.).

■ II.IV MONITORING AND ASSESSMENT

The post-harvest programmes should be monitored and assessed like all other food security programmes. Monitoring should begin from the early stages of distribution (PDM) and construction, but should also continue after the construction to determine the use and impact of the activities (PHM). If the storage facilities are group silos, it is also important to monitor the register of receivables and payables, the general administrative procedures, the number of people using the system, etc.

The assessment should correspond to the objective of the programme, for instance if the objective is to limit post-harvest losses, the percentage of losses should be monitored. If it is to improve the quality of the seeds, the germination rates could be assessed by simple germination tests, and compared with non-beneficiary seeds and germination results in previous years.

■ II.V. EXIT STRATEGY (PROGRAMME TRANSFER)

The assessment of the post-harvest programme will help determine the timing of the exit strategy. Although the monitoring should continue after the construction, there should be clear criteria established for the end of the programme. It is important to remember that some post-harvest losses occur even in highly developed agricultural contexts. The objective is not to completely eliminate losses, but rather provide some types of mechanism that would allow families to profit from their harvest for longer periods of time (for the possible sale or self consumption), and improve their food security. The final assessment of the programme can possibly lead to a handover of the activity to a development actor, or could recommend further activities to promote the sale or transformation of the products (see the *"Income Generating Activities"* book for more information).

III. ACCESS AND AVAILABILITY OF AGRICULTURAL INPUTS AS LIMITING FACTORS

In a post-crisis context, ACF-IN seeks to reinforce the local agricultural system in order to increase their resistance to potential future crises. There may be different kinds of limiting factors:

- Problems related to access to seeds adapted to the agricultural system and the environment
- Problems at the level of the capacity to manage, select, store, and/or distribute seeds
- Problems related to the means of acquiring the necessary inputs (fertilizer, extension services, tools, etc.)



There are various means to reinforce farming capacities, which can be combined:

- Increase the quantity of seeds available in the zone
- Improve the quality of the seeds produced
- Restore or enhance the genetic base of the available seeds
- Develop the local capacity for production and distribution

It is necessary to properly analyze the major problems: the initial situation (before the crisis), the consequences of the crisis, and the current situation. It is important to look not only at the level of the seeds production network, but also at the social, political, and other aspects. This information will help determine the most adequate responses, identify potential activities, their duration (inevitably longer than those of seed distribution), and the structures and local capacities that should be involved in the process.

In this section, we will consider two different types of activities that aim to increase access and availability to agricultural products. The first, consisting of agricultural stores, creates a physical location where agricultural inputs can be made available locally to the community. The inputs can be either purchased locally or imported into the zone through existing trading systems. The second activity, seed production centres, aims to increase the availability of agricultural inputs through increased local production of quality seeds

Table 5: Positive impacts and potential risks of agricultural stores

Desired Impacts	Risks
<ul style="list-style-type: none">- Increase availability and access to agricultural products- Increase agricultural production in the zone- Allow the population to become self sufficient after successive seed distribution cycles- Offer income generating opportunities	<ul style="list-style-type: none">- Difficult organization- Long term sustainability must be determined through a proper feasibility study⁸- Inadequate or limited transportation in the zone- Importation of infested seeds

Table 6: Positive impacts and potential risks of seeds production centres

Desired Impacts	Risks
<ul style="list-style-type: none">- Increase availability and access to adapted, quality seeds at a fair price in the zone- Increase agricultural production in the zone- Allow the population to become self sufficient after successive seed distribution cycles- Maintain biodiversity- Strengthen social cohesion	<ul style="list-style-type: none">- Produced seeds of inferior quality compared to existing seeds- Import of heterogeneous seeds and potential contamination of local ones causing loss of yield.

8 / See “Income Generating Activities” book for more information.

■ III.I. PROGRAMME IMPLEMENTATION

The programmes will depend on the nature of the problem(s) identified, and will often be made up of a combination of several activities designed to:

Increase seed availability

- Act at the local market level: to do this, the markets must be identified in order to understand the factors that limit availability.
- Develop or support community structures (village committees, groups, etc.): this type of organization does not necessarily function according to local habits and cultures. It is therefore necessary establish a communication with the community structures in the given context. The more scattered the local markets, the more important this type of structure may become. Furthermore, it offers certain advantages from a social point of view, by reinforcing the network of relationships, and because it implies few expenses for vulnerable households (system of reimbursement of seeds at the harvest).
- Create or support seed banks: the management of such a structure can be ensured by a committee or a local association.

Example 25: Local shops in Sekong, Laos

Sekong, Laos 2005

Part of the exit strategy for the food security programme in Sekong is to make agricultural inputs available locally through the development of stands in the market. This project unfolds in four stages:

Stage one: A general distribution of selected seeds to the target population. This step allows the population to get acquainted with the seeds and to test them in their gardens.

Stage two: The same vegetable seeds and tools are distributed to local stores free of charge. This allows shop owners to make the seeds available to the public, without having to make an initial, risky investment.

Stage three: With the benefits resulting from the sale of the first stock, the merchants order seeds from ACF which they will pay this time at cost.

Forth step: The merchants manage the entire process on their own, purchasing the products in Sekong or Pakse, taking into account that this will provide them additional revenue.

Technical support


According to the identified problem, support may involve logistical or administrative support, or technical training including storage, pest control, quality management, etc.

Example 26: Seed production centers in Burundi

Bubanza, Burundi 2003

The political and economic embargo in Burundi has caused severe damage to the pre-existing markets and transportation, leading to problems related to availability of quality seeds in the local markets. Despite the lifting of the embargo, quality seeds are very rare in the rural zones of Bubanza.

Action contre la Faim supported two rural women's groups to develop seed production units. The programme first helped ensure permanent access to fertile agricultural lands



and then trained the women on harvesting and seed storage techniques. After two years of continued technical support, the groups began harvesting sufficient quantities of seeds for each of its members and enough additional seeds to sell in the local markets. The availability of quality seeds increased for the entire population, and other sources of revenue were thus generated for the group members.

Innovation / introduction of new techniques and crops

Introduction of new crops can prove useful, for example, as a nutritional objective to diversify the local food resources, improve productivity, or reduce workload. If we take on this kind of activity, the necessary technical skills must first be acquired, and we must ensure the population is ready to undertake such innovations. The socio-political situation and the food security must be stable, and the population must have started to overcome the trauma caused by the events. New techniques or crops can only be recommended when these conditions are met.

When new technology is introduced, it is often necessary to incorporate different training aspects to ensure its utilization and success. The training can be directly provided by ACF-IN or by a partner organization. The use of local institutions for training can have several benefits including increased access to, and contact with, the target population, and durable technical support in the villages. See Appendix 18 for an example of an agricultural training contract in the Ivory Coast.

Before introducing any new technique or crop, a detailed analysis of its impact must be carried out. This analysis should consider:

- The potential impact the crop or product could have on the diet. We cannot assume that the introduction of western vegetables or staple crops is more adapted to the local dietary needs than the traditional agriculture or the gathering of wild food sources.
- The possible competition that can arise with the other components of the agro system. Any new type of crops or technique can have a potential impact on the pre-existing agricultural systems. The impact of the new practices affects not only new harvest potentials, but can also lead to a reduction of farmland area, or to the domination of traditional crops by the newly introduced ones. Unforeseen impacts may sometimes cause environmental and cultural disasters.

III.II. EXIT STRATEGY

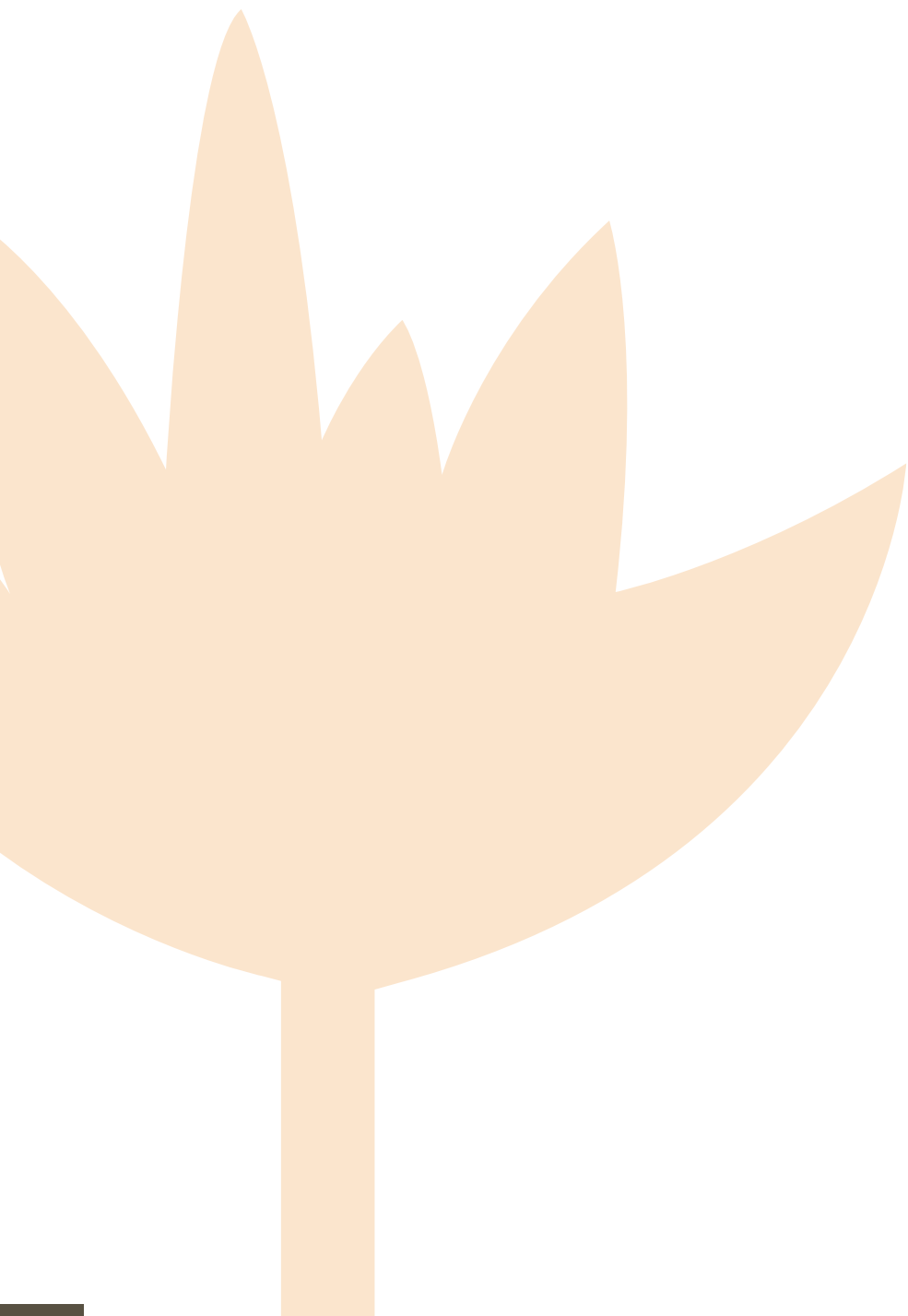
These types of programmes require a stable political context and a longer time commitment than the previously mentioned programmes. It is essential to integrate as much as possible the new activities into local development strategies, particularly by initiating direct collaboration with the local agricultural authorities. Sharing of experience between farmers is often more effective than demonstrations or information sessions. Possible exit strategies can include:

- The creation or support of non-profit associations; those that produce for their own consumption only. Conditions of their success are: availability of labour, time, technical skills, access to land, and a certain familiarity with working in a group.
- Support the development of local seed production businesses or seed production farms (ODI, 1997).

IV. OTHER LIMITING FACTORS

Factors limiting crop production may also be related to irrigation, soil fertility or land use. In ACF-IN's experience, these problems are globally addressed together with the water and sanitation department. As mentioned earlier, before initiating any type of activity, it is important to determine if these constraints are factors limiting agricultural production. Collaborating with local structures is all the

more recommended for long term activities. A transfer strategy must also be considered as of the initial stages. Aspects of soil conservation can be included in any and all agricultural programmes, but it is important to remember that the results of this type of activity cannot be immediately measured and that the local population may not prioritize these activities when their immediate food security is at risk.



Chapter 5

LIVESTOCK PROGRAMMES



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Summary

- Any type of livestock production programme should first identify and prioritize the limiting factors affecting animal production, taking into account the existing coping mechanisms.
- Livestock recapitalization programmes require a certain level of stability and may not target the most vulnerable population groups.
- Any livestock recapitalization programme should take the necessary precautions to avoid disease or death among existing livestock herds.
- Animal husbandry training should draw upon locally available resources when possible and limit the training themes to the most pertinent animal health problems in the zone.



Similarly to the crop production programmes, if the preliminary assessment shows that one of the basic causes or risks of malnutrition or food insecurity is related to livestock production, the next step is to determine what type of programme would best respond to the needs of the population groups, taking into account existing coping mechanisms. It is not simply a question of improving livestock production, but of identifying the causes of the poor or limited production, in order to create activities that will help the population overcome these limitations. The problem tree (see the *“Food Security Assessments and Surveillance”* book) will help identify the limiting factors and it is essential to actively involve the community in this stage. Once the limiting factors are identified, possible recommendations can be proposed.

It is important to use the agricultural and pastoral calendar to guide this process, thus determining if the real problems linked to the family’s food security are related to:

- Land (inaccessibility to pasture lands),
- Livestock quantity or quality (has the family incurred heavy losses due to decapitalization or looting?)
- Livestock morbidity and mortality
- Inaccessibility to fodder and watering holes

It is important to prioritize the needs with the population in order for the programme to have the most positive impact. For example, if the community identifies problems related to decapitalization (lack of animals) resulting from a lack of fodder, simple animal distribution cannot be considered, for the animals may suffer from a lack of feed or cause increased levels of deforestation. When considering any type of livestock programme, it is important to also analyze the role of livestock in the agricultural system. For example, this step could highlight the current and potential use of manure as fertilizer or the use of crops as fodder.

Once the limiting factors have been identified, the second step is to determine if the cause is related to a lack of access, availability or know-how. This analysis is important in order to increase the programme’s impact and to reduce the potential for negative effects. This chapter will concentrate on livestock recapitalization and animal husbandry training programmes (part II).

I. LIVESTOCK RECAPITALIZATION PROGRAMMES

In many cultures the household’s livestock serves as a means of providing important protein supplements in the family’s diet and as a type of saving system in case of planned (schooling, marriage) or unforeseen (death, loss of income) events. It is essential to have clear objectives for the livestock recapitalization programme; these objectives can differ depending on the context, but include:

- Increasing the households capital to allow them to face new or unforeseen events
- Increasing the food diversity of the families
- Increasing or initiating income generating activities

Depending on the culture and the level of vulnerability the livestock can be small (chickens, ducks, rabbits, etc.) or large (cows, buffalo, goats, etc.). The size and type of livestock must be decided according to the programme’s objective and to the specific traditional livestock systems. If the programme’s objective is related to income generating activities, please refer to the *“Income Generating Activities”* book to ensure that the necessary conditions are met.

Any type of livestock recapitalization programme requires several essential conditions:

- A relatively stable situation (it is difficult for households to keep livestock in a situation of displacement),
- Access or possible access to pasture lands or animal feed (important to consider in mined zones or areas affected by long lasting droughts).

■ I.I BENEFICIARIES

Livestock activities can be very important to the family's food security; however, ACF-IN's experience has shown that these programmes do not generally target the most vulnerable families. When a very vulnerable family must choose between feeding the animals and feeding its members, the latter are generally given priority and the newly distributed animals are often sold or eaten to help the family survive. In addition to the vulnerability, the selection criteria should contain elements that identify the households who have the capacity and interest to sustain this type of activity.

■ I.II RISKS

The risks involved in livestock recapitalization programmes are important and should be carefully considered before initiating any type of programme; again it is important to refer to the "Do no Harm" principle.

Table 7: Risks and Solutions for livestock recapitalization programmes

Risk	Possible solutions
- The distribution or introduction of new animals into a zone, or within an existing herd, poses the risk of spreading diseases.	<ul style="list-style-type: none"> - Any new animals should be vaccinated and quarantined before being introduced to the herd. - Local purchases or voucher systems reduce the risk of importing animals and allows the beneficiaries to choose the best animals - A veterinarian should be present at the time of purchase and distribution to detect any abnormalities
- Distributed animals are eaten or sold shortly after the distribution	<ul style="list-style-type: none"> - Review the beneficiary criteria to ensure that the selected households have the capacity and interest to increase the herd size - Implement a PDM to determine the causes for the sale and make appropriate changes for the next distribution
- High rates of mortality among the distributed animals ⁹	<ul style="list-style-type: none"> - The same solutions as proposed for the first risk - Ensure that the households are properly trained on animal husbandry skills

9 / ACF-IN has experience very limited success with chicken programmes. It is important to consider the fragility of the animals before considering any type of poultry programme.



If there are land mines in the area, animal distribution should be delayed until a proper de-mining programme has been implemented.

■ I.III PROGRAMME IMPLEMENTATION

Recapitalization programmes can be implemented using a variety of different methodologies depending on the context, culture and traditions of the intervention zone. The preliminary or agricultural assessment should give some indications on the most appropriate type of system. Generally ACF-IN does not recommend working with any type of credit schemes and prefers a free distribution or subsidized sale system.

• Individual family distribution

In many cultures, livestock is owned and cared for by individual families. In this case, it seems most appropriate to maintain the same tradition and to select each household according to the pre-determined criteria. It is generally recommended that the selected families participate in pre-distribution training or awareness campaigns in order to reduce the risks associated with the programme and to ensure the interest of the families.

• Free distribution, shared among several families

In some cultures, several families share together the responsibilities for herding and caring for the livestock; in this case a distribution could be considered for several families together. When implementing this type of animal distribution, it is important for the families to fully understand their responsibilities. See Appendix 19 for a sample of a rotating goat distribution scheme from Burundi.

Example 27: Goat distribution in Burundi

Burundi, 2002

Prior to the civil war in Burundi, many families owned small goat herds, which they used primarily as a type of saving system. Several families (or sometimes entire villages) grouped together and paid one person to care for the animals. Generally the shepherd received either a small financial payment or a percentage of the young goats born each year. This system was disrupted following several years of intense rebel activities, heavy looting of livestock in the zone, and decapitalization of goat herds to help pay for economic losses caused by the war. Despite a relative calm beginning in 2002, the rural families found themselves in a situation of almost complete decapitalization, and unable to face the economic demands on the household.

Action contre la Faim responded through a rotating goat recapitalization system. The existing farming groups were subdivided into sub-groups, each made of 3 households. Each sub-group received 2 pregnant goats in order for them to share the responsibility and productivity of the small herds. Some farmers decided to gather all the goats together as a single herd in order to harvest the manure for fertilizer, while other sub-groups preferred to keep the small herds separate to reduce labour intensity. The programme faced some problems in the beginning due to continued looting, but when the situation became stable, the programme monitoring showed that the goat herds were increasing in size. After a year, all of the families had at least one to two goats each. The majority of goats were kept, but some sub-groups decided to sell a goat to pay for the families' schooling and medical expenses.

In 2006 and 2007, Action contre la Faim re-launched the goat recapitalization programme in collaboration with the FAO. The distribution programme's objectives were:

- Recapitalization of vulnerable households;
- Development of the distributed livestock and their distribution through the rotating

credit system: three goats are given to some households who are members of an association; these beneficiary households will give the first three kids born to their goats to another household from the association; the first families can then keep any others kids their goats will bear;

- Increased availability of organic fertilizer by penning the goats in a shed at night in order to collect manure.

As in 2002, the households who were members of the association ended up owning at least one or two goats each.

• Voucher distribution

The voucher system greatly reduces the logistical constraints of a programme, promotes local production and reduces the risks associated with importing new animals (and diseases) into the zone. The voucher distribution also has the advantage of allowing the households to choose the type, breed and quality of animals they desire. Before initiating any type of voucher system, a thorough market study is needed in order to reduce the potential negative impacts and inflation in the market (see the *"Income Generating Activities"* book or *"Cash Based Interventions manual"* for more details). Once the feasibility of a voucher distribution has been determined, it is generally recommended to implement small information campaigns to help the households best choose their animals in the identified supplier. The campaigns can be made in coordination with the local veterinary authorities.

II. ANIMAL HUSBANDRY TRAINING

As mentioned earlier, animals may constitute a large portion of a rural family's productive capital. This capital may be the only source of income for some households (pastoral cultures) or can be more of a saving system used to face adverse conditions. In either case, the health and productivity of livestock can play an important role in the food security of certain population groups. Animal husbandry training builds upon the existing knowledge and practices in a given context and aims to reduce the mortality rates and increase production through simple technical advances. Before beginning any type of training, it is essential to first understand the main problem(s) related to animal health and the current techniques or practices used to treat these problems. As a general rule it is best to limit the training to the 2 to 3 most important health issues in order to focus the responses on practices that will have the most probable positive impacts.

It may be necessary to collect additional information to complement the food security assessment. Some useful information could include:

- Animal mortality rates (per animal type)
- Birth rates
- Productive information (weight gain, milk production, eggs produced, etc.)

■ II.1 BENEFICIARIES

When considering the possible beneficiaries for animal husbandry training, it is necessary to first understand the importance that livestock plays for each population group. Despite the fact that the majority of families may own livestock, the training and technologies introduced may require additional time and expenses to put in place. This means that the families who participate must first realize the importance and value of their livestock and be interested in making changes to promote the general productivity of the herd. General information campaigns can be interesting for the entire population, but real changes need a more focused and direct approach. Depending on the implementation methodology, this type of programme can consider two levels of beneficiaries. The direct beneficiaries are those who participate actively in the training sessions and are carefully chosen according to selection criteria. The indirect beneficiaries are those who benefit from the increased knowledge of the direct



beneficiaries or of the information campaigns.

When choosing the beneficiaries it is important to remember the gender aspect. In many cultures, livestock rearing activities are divided traditionally among men and women, thus the appropriate gender should be targeted accordingly. In other contexts, men may migrate seasonally, giving the women full responsibility for the livestock.

■ II.II COORDINATION

Most training programmes have both short and long term objectives. Given the nature of the longer-term objectives, it is essential that the local authorities and veterinary structures participate in the programme from the initial planning stages. Depending on the experience and knowledge of the existing structures, they can either cooperate as active participants or administer the training themselves. These structures can also serve as a component of the exit strategy.

■ II.III RISKS

The risks involved in animal husbandry training are multiple:

Table 8: Risks and Solutions for animal husbandry training programmes

Risk	Possible solutions
The new techniques are not properly understood	<ul style="list-style-type: none">- The training should be simplified to cover only the 2 to 3 most important health problems- The training should be highly participative and include different practical sessions- The training should be conducted in the local language- Ensure a follow up at the farm level
The new technologies are not applied	<ul style="list-style-type: none">- A member of the training team should make several individual field visits to each participant to ensure proper use of the new technology- Make the first set of tools/medicines available to the participants free of charge or at reduced prices- Ensure that a continued supply of tools/medicines are available for further use- Implement a PDM to determine the causes and make appropriate changes for the next training
High rates of mortality among the distributed animals	<ul style="list-style-type: none">- Ensure that the techniques have been properly applied- Ensure that the medicine has been properly transported (in the case of respecting the cold chain)- The same solutions as proposed for the second risk- Implement a PDM to determine the causes and make appropriate changes for the next training

■ II.IV PROGRAMME IMPLEMENTATION

As with any food security programme, the activities must be designed and adapted for each specific situation. The examples and methodologies given in this section are only illustrative and cannot be directly replicated in a different context. The training can target either individual specialists in each village/zone or families directly involved in livestock activities. As with any type of training programme, the trainers should be very competent in the subject and only previously tested and successful skills should be taught. The training programmes are not a place to try new techniques that risk deteriorating the situation any further.

■ II.IV.1 Training specialists

The initial food security assessment may identify local animal specialists in the zone. These specialists could already have formal or traditional training and are often well respected among the population. If this is the case, it could be interesting to involve them in the training, so that they can later apply the techniques in the villages. This system is very attractive because it reinforces the local capacities and provides a permanent resource for the livestock producers. Unfortunately, there are not always such specialists in each zone, in which case it is possible for the community to select one or several people to participate in the training. These persons must meet pre-established criteria, and they can eventually be asked to commit to stay in the village for a certain period of time, be available to dedicate a certain amount of hours to the training and practice; they should have some previous knowledge or skills, be literate, etc.

It is not necessary for the specialists to be volunteers; they are using their time and knowledge to perform a service, for which they can choose to charge the village households. ACF-IN has witnessed many cases where this income generating methodology was successful applied thus ensuring the sustainability of the activities after the end of the programme. See Appendix 20 for training manual developed in Ethiopia. You can also refer to the capitalisation report done in 2006 on “*community based animal health care programmes*”.

Example 28: Veterinary training in Ethiopia

Ethiopia, 2001

The Somali Regional State, located in south-eastern Ethiopia, is largely pastoral and livelihoods mainly depend on livestock rearing. Since 2001, Action contre la Faim has implemented animal health activities as part of a food security focus in the area. Activities included training a total of 65 Community based Animal Health Workers (CbAHWs) on delivering animal health services to their communities on a cost recovery base. Six drug vendors, who managed veterinary stores, were also trained. The training targeted both men and women, the involvement of women proved especially important during periods of seasonal migration when most men left the zone.

The formal training lasted a total of 15 days and included veterinary training as well as simple administrative skills. Each CbAHW was individually supported through regular monitoring visits by the training team. The communities also participated to information campaigns to promote the services of the CbAHW.

■ II.IV.2 Training of individual families

Individual families can also be trained depending on the needs identified during the food security assessment, or as a result of the recommendations made in the animal recapitalization programme. When considering this type of training, it is important to take into account that rural families are usually very busy and their time is quite limited. The training should also be adapted to the educational level of the participants, many of whom having received little or



no formal education. When the individual families are directly targeted, it is recommended to cover only one subject per training session.

III. COMPLEMENTARY ACTIVITIES

The food security assessment may also identify other critical factors affecting livestock production such as lack of available water or feed for livestock. The causes of these factors should be identified and may eventually spur recommendations for activities that are out of the scope of food security. If this is the case, joint water and food security programmes can be implemented, as is the case of animal drinking holes in pastoral contexts. If ACF-IN does not have the technical capacity to address the identified problem, lobbying campaigns can be envisioned.

Chapter 6

FOOD DIVERSIFICATION PROGRAMMES



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Summary

- Programmes aiming to diversify the family diet should first consider the pre-crisis activities and foodstuffs.
- Food diversification programmes can be implemented in coordination with existing food aid or nutritional programmes to provide more sustainable food alternatives.
- Before beginning any food diversification programme, limiting factors affecting the current activity must be identified. The identified limiting factors will determine the necessary stages to activate (or reactivate) the activities.



At times the nutritional causal analysis may identify the lack of food diversity as one of the main causes or risks of malnutrition. In this case, it is important to determine whether this lack of diversity is due to a lack of access or availability of certain foodstuffs (or preference or local belief systems). Once this question has been answered, the appropriate recommendations can be made. The short-term response could require food aid or an alternative to food aid programme, but more sustainable or longer-term solutions might also be needed. This chapter will discuss various programmes that ACF-IN has implemented in order to increase the dietary diversity of households. The gardening, fishing and fish-farming activities discussed here are not the only possible activities to diversify the family diet; the initial food security assessment could identify other types of activities which may be more appropriate in other contexts.

I. FAMILY GARDENING ACTIVITIES

Family gardening activities relate to any type of small vegetable production intended for family consumption. Larger scale vegetable production activities may share some of the same tools and methods explained in this section, but should adhere to the principles highlighted in the *"Income Generating Activities"* book. Small family gardening programmes offer a multitude of advantages including:

- Short cultivation cycles
- Small areas of land required
- Sustainable sources of vitamins and minerals available for the family diet
- Relatively low initial investment
- Gardens can be cultivated in both rural and urban contexts

It is necessary to determine why the vulnerable populations are not currently involved in gardening activities, despite the advantages they can offer. The reasons will help decide the feasibility and the value of this type of programme.

■ I.I BENEFICIARIES

Gardening programmes have been successfully implemented in both crisis and post-crisis situations targeting returnees, refugees, displaced, and local populations. The length of time required to harvest the largest quantity of vegetables (2 to 5 months), is also very attractive for population groups who are temporarily displaced but wish to return home in a relatively short period of time. Despite the simplicity of gardening programmes, it is still necessary to ensure that the beneficiary population has some previous agricultural knowledge, access to small land plots with a water source and the physical capacity to undertake the activity. Vegetable gardening can be implemented on a family or group level depending on the crop and access to land (see chapter 3, section II for more information).

■ I.II IMPLEMENTATION

Gardening programmes, like all other programmes, should be adapted to the given context and objectives, and must be implemented according to the agricultural calendar. If the programme's objectives are to increase a specific micro nutrient in the household's diet, vegetables high in the given micro nutrient should be selected. Similarly, if the programme aims to help families diversify their diets during the hunger gap or winter months, the vegetable chosen for the programme should be adapted to easy post-harvest conservation. In any case and whatever the objective, traditional eating habits and local culture must be respected.

When planning any type of gardening activity, the programme should aim to make the limiting factor available to the population. The limiting factor could be seeds and tools (see chapter 4, section 1), access to land, lack of know-how, etc.

■ I.II.1 Seed selection

Vegetable seed selection should follow the same principles highlighted in chapter 4. The main distinction that is made between vegetable seeds and other seeds is that the quantities and size of vegetable seeds are much smaller and should be individually packaged for each family to reduce losses due to humidity or mice consumption. Simple family-sized packages should be labelled with the type of seed and sowing instructions (in the local language if possible). The population should actively participate in the selection of the varieties that are best suited to their cooking and eating habits. The selected seeds can be distributed directly by ACF-IN or can be distributed using vouchers or subsidized sales.

Example 29: Subsidized sale of vegetable seeds in the Democratic Republic of Congo

Democratic Republic of Congo, 2003

Family gardening is a traditional part of the rural Congolese family food supply. Eight years of civil war greatly reduced the economic and productive opportunities for many rural families, leading to increases in malnutrition rates. A nutritional causal analysis showed that many families, who originally cultivated vegetables in small gardening plots, were no longer practicing this activity because the seeds available in the local stores were too expensive. The families' diet consisted primarily of manioc, which is a poor source of vitamins and minerals.

A gardening programme was initiated in the zone, providing the most vulnerable households with vouchers, which could be used to buy vegetable seeds in the local stores. This system of distribution allowed the families to buy seeds at reduced prices at their own leisure.

■ I.II.2 Training

All gardening programmes do not require specific training. If a population is used to gardening, but is unable to continue this activity due to a lack of seeds, or land in the case of displacement, the programme should not waste the valuable time of the participating families by trying to train them in a subject they might already master. Training is only appropriate if new seeds or techniques are introduced as part of the programme. The same concept applies to cooking demonstrations, if the participating households already use the vegetables in the gardening programme; there is absolutely no need to teach the families to use them in new recipes. However, if the vegetables are not common in the existing diet, but are rich in the lacking minerals or vitamins, cooking demonstrations may be considered.

■ I.II.3 Monitoring and evaluation

Gardening programmes should follow the same PDM and PHM format as other crop production programmes. Additional information (according to the programme's objective) may be added to the PDM and PHM questionnaires. Information concerning dietary intake and nutritional status can often be useful indicators.



II. FISHING AND FISH FARMING

Fishing and fish-farming activities can also be alternatives to promote dietary diversity or income generating activities. If the programme objective is to increase family revenue, the conditions and methodologies should follow those highlighted in the *Income Generating Activities* book. Fish are rich in proteins and minerals and can be an excellent complement to the household diet. Any type of fishing or fish-farming activity should be based on traditional dietary patterns and take into consideration the potential impact that these activities may have on the environment.

■ II.I BENEFICIARIES

There are many different types of fishing or fish-farming activities that require different levels of technical skills, initial investments and physical requirements. All of these aspects should be taken into consideration when initiating the planned activity. Fish farming activities can be extremely labour intensive during the construction phases and generally require the involvement of several families or daily workers. The land can also be a limiting factor for many households, as the activity requires a clay type soil with a continuous water source. Fishing activities can be less restrictive, but great attention must be given in order to avoid over-fishing and to promote sustainable fishing techniques. Fishing programmes generally target families who had prior experience in fishing, before the crisis.

■ II.II. IMPLEMENTATION

■ II.II.1 Fish-farming

The choice of fish variety is essential to the success of the programme. If possible, local varieties should be favoured because introduction of exotic varieties into the ecosystem may have negative impacts on the existing flora and fauna. Tilapia is an example of a fish that can adjust relatively well in many different environments, but some tilapia species are extremely aggressive and will eliminate any other traditional fish varieties that exists. Some varieties of fish reproduce quite easily and others require sophisticated techniques and hormones to reproduce favourably. All of these subjects should be analyzed in coordination with the local veterinary or fish authority in the zone before beginning the activity.

Transport of fry is also a very delicate process, made even more difficult considering the remote locations of many of the ACF-IN programmes. Distribution channels could represent a problem throughout the programme, as the mother stock must be regularly revitalized every several years. If the distribution channels prove to be extremely difficult during the preliminary assessment, the project should be seriously re-evaluated.

Here is a list of some of the conditions a good farming fish must meet:

- It must be able and willing to share a limited space with other fishes, since the aim is to farm many fish in a small area;
- It must grow fast, for faster the fish grows, the sooner the fish farmer can harvest;
- It must eat easy to find and relatively cheap feed;
- It must reproduce easily. Otherwise, a source of fry must be available to re-start the stock;
- It must be resistant to transport and handling;
- It must not be susceptible to disease;
- It must be appreciated by consumers.

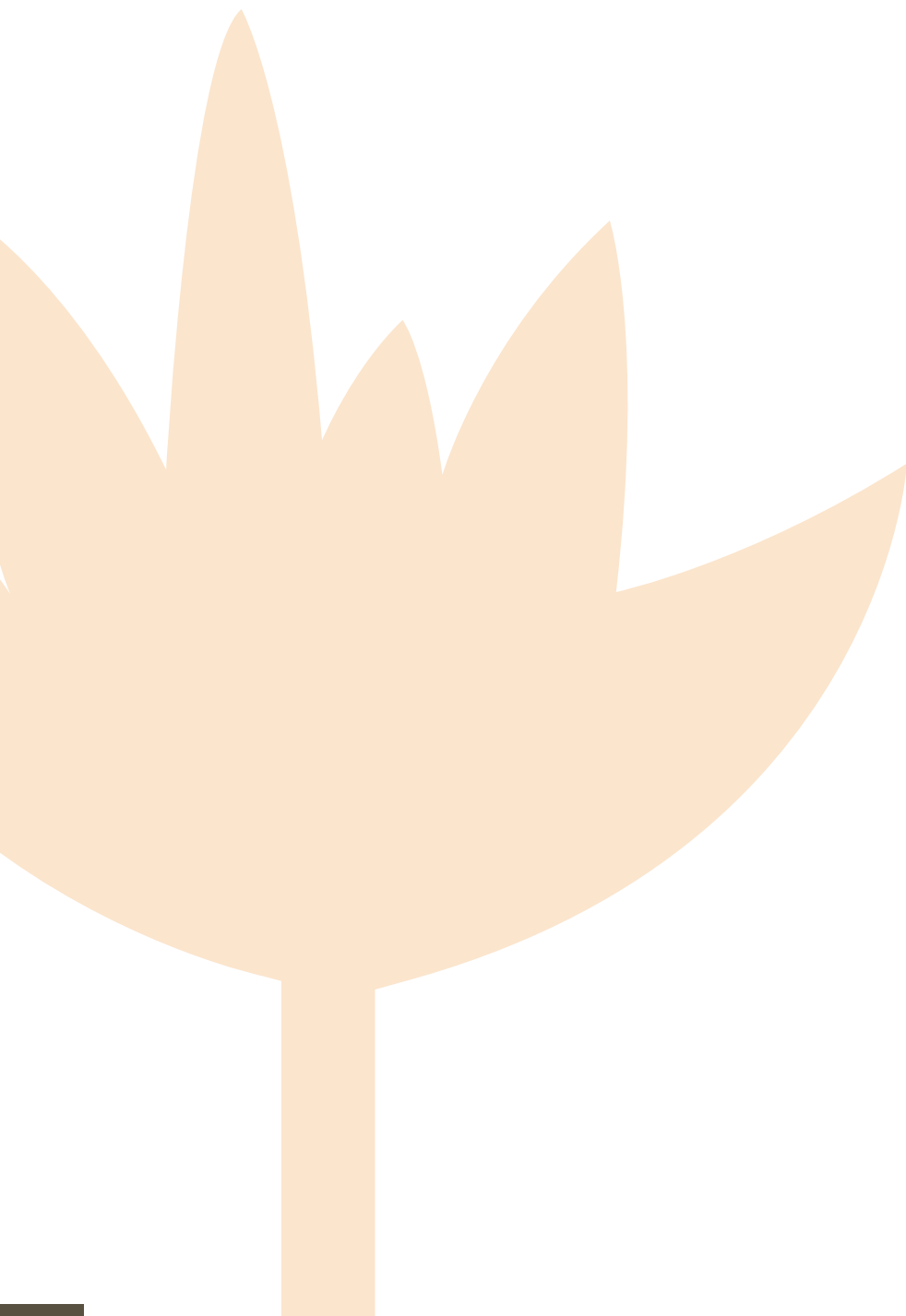
Example 30: Fish-farming activities in Kivu, Congo

The civil wars in Burundi and the Congo have had a negative impact on the fish supplies in Lake Tanganyika. Pollution, bombings, and over-fishing have all played a role in reducing fish reproduction and limiting fish availability. As the larger fish became rarer, many vulnerable families began fishing using mosquito nets, thus compounding the problem of over-fishing.

To compensate for the lack of fish availability through traditional fishing activities, Action contre la Faim decided to implement a fish-farming programme. The programme targeted families living along the river system, with access to clay soil. ACF and a local institution trained each fish farmer on fishpond construction. The participants were responsible for preparing the land and the pond, which usually required 15 to 25 man-days of work. Once the ponds were constructed, ACF provided the necessary materials and fry to begin production. After one year, the average fishpond had produced enough to sell on the local market. Some of the participants specialized in fingerling production in order to replicate the activity in the zone.

■ II.II.2. Fishing

Fishing activities can be very lucrative and ensure a constant protein source for the family diet; however, the type of fishing should be based on the pre-existing systems. Fishing can be heavily regulated and taxed in many zones, or restricted due to political instability in others. Any attempts to improve pre-existing fishing techniques should be fully analyzed and the impact and capacity of the fish population are important for determining the feasibility of the programme.



Chapter 7

FREQUENTLY ASKED QUESTIONS



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■ I. WHAT IS AN AGRICULTURAL PROJECT?

An agricultural project is a food security programme that aims to help **populations meet their food needs on their own, either through self-production or exchange**. The programmes generally target more rural contexts; however, they can also exist in urban and semi-urban contexts when land is available. Agricultural programmes can include agricultural or livestock rehabilitation activities; optimize production tools through the support or creation of agricultural stores or seed production centres; or promote the dietary diversity of vulnerable populations through family garden or fishing activities.

■ II. SHOULD SEEDS AND TOOLS BE DISTRIBUTED IN EVERY POST-CRISIS SITUATION?

No, seeds and tools programmes should be implemented, just as any other food security programmes, after the context, needs and coping mechanisms of the population groups have been analyzed and after it has been determined that they represent the adequate response to the identified problems. If seeds and tools are not among the limiting factors affecting agricultural production and food security, this activity should not be implemented.

If however the food security assessment identifies that seeds and tools are a limiting factor affecting the food security of the population, seeds and tools can be distributed. The type of distribution scheme should be based on the availability or access of the seeds and tools in the zone.

■ III. WHEN SHOULD ANIMAL RECAPITALIZATION PROGRAMMES BE IMPLEMENTED?

Animal recapitalization programmes should be implemented only after the socio-political or environmental conditions have returned to a relatively normal state. Recapitalization programmes do not generally target the most vulnerable households because this type of activity requires a certain level of household economic stability. However, the re-introduction of livestock can have an indirect impact on the most vulnerable groups by increasing the availability and accessibility of animal products in the zone.

■ IV. WHAT ARE FOOD DIVERSIFICATION PROGRAMMES?

At times the nutritional causal analysis may identify the lack of food diversity as one of the main causes or risks of malnutrition. In this case the food security team should work together with the nutrition team to determine the elements lacking from the household diet. If the deficiencies are very important and can cause an immediate impact on the population, food aid programmes may be required. For longer term, more sustainable solutions, gardening, fishing or livestock activities can supply essential vitamins and minerals, thus improving the daily dietary intake.

■ V. WHAT IS THE RELATIONSHIP BETWEEN AGRICULTURAL REHABILITATION PROGRAMMES AND THE OTHER FOOD SECURITY PROGRAMMES?

Depending on the context, agricultural programmes and food aid programmes can be implemented simultaneously, or consecutively, in order to slowly phase out food aid activities. In rural environments, agricultural programmes can be linked with income generating activities to help families recover higher levels of food security. When agricultural programmes intend to improve the income opportunities of vulnerable families, the operational methodology should respect the principles outlined for both agricultural programmes and income generating activities.

APPENDICES



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LIST OF FIGURES

Figure 1: Conceptual Framework of Malnutrition	6
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LIST OF TABLES

Table 1: Typology of food security activities	7
Table 2: Possible scenarios for beneficiary identification	26
Table 3: Desired impacts and risks related to seeds and tools distributions	39
Table 4: Guide for determining seeds and tools distribution methodology	40
Table 5: Positive impacts and potential risks of agricultural stores	50
Table 6: Positive impacts and potential risks of seeds production centres	50
Table 7: Risks and Solutions for livestock recapitalization programmes	57
Table 8: Risks and Solutions for animal husbandry training programmes	60

LIST OF EXAMPLES

Example 1: Seeds and tools distribution in Indonesia	11
Example 2: Agricultural rehabilitation programme for Liberian refugees returning home	11
Example 3: Goat distribution and training in Sri Lanka	12
Example 4: Balanced targeting in Indonesia	13
Example 5: Types of productive farm capital	18
Example 6: Structural and Crisis related factors in Sierra Leone	18
Example 7: Summary of the necessary resources for the 3 principal production systems	19
Example 8: Uses of agricultural surface area	19
Example 9: Responses according to types of need.	21
Example 10: Implication of rural development structures in Laos	24
Example 11: Population's understanding of humanitarian organizations in South Kivu	25
Example 12: Activities targeting individual families	27
Example 13: Activities targeting pre-existing local organizations	27
Example 14: Activities developed with newly formed groups	28
Example 15: Importance of community participation in the selection of beneficiaries	28
Example 16: Targeting the most vulnerable through direct or indirect activities	29
Example 17: Importance of community participation in establishing types of activities	29
Example 18: Using agricultural activities to indirectly impact the most vulnerable population groups	30
Example 19: Partnerships with local organizations	32
Example 20: Free seed distribution in South Kivu, Congo	40
Example 21: Seeds-for-work in Afghanistan	41
Example 22: Seed specifications from Sierra Leone	44
Example 23: Post-harvest storage in Chad	47
Example 24: Post-harvest improvements in Luang Namtha, Laos	48
Example 25: Local shops in Sekong, Laos	51
Example 26: Seed production centers in Burundi	51

Example 27: Goat distribution in Burundi	58
Example 28: Veterinary training in Ethiopia	61
Example 29: Subsidized sale of vegetable seeds in the Democratic Republic of Congo	65
Example 30: Fish-farming activities in Kivu, Congo	67

LIST OF APPENDICES

Appendix 1: Abbreviations	74
Appendix 2: Glossary of Key Terms	75
Appendix 3: Summary of the objectives and beneficiary selection in the Ivory Coast	79
Appendix 4: Summary file of production systems and techniques	82
Appendix 5 : Agricultural calendar from Kono, Sierra Leone	84
Appendix 6 : Problem tree from Trincomalee, Sri Lanka	86
Appendix 7: Examples of beneficiary lists	87
Appendix 8: Food security team management	88
Appendix 9 : Example of an agricultural programme job description	92
Appendix 10 : Example of an agricultural job posting	93
Appendix 11 : Example of seed tenders from Sierra Leone	94
Appendix 12 : ACF-IN policy relating to GMO	96
Appendix 13 : Procedures for germination tests	99
Appendix 14 : Example PDM questionnaire from Guinea	100
Appendix 15 : Post-harvest monitoring questionnaire in the Ivory Coast	104
Appendix 16 : Post-harvest monitoring in Malawi	109
Appendix 17 : Examples of traditional post-harvest storage facilities	121
Appendix 18 : Subcontractor agreement contract for agricultural training	122
Appendix 19 : Example of responsibilities for a rotating goat distribution	126
Appendix 20 : Example animal training guide from Ethiopia	127



Appendix 1: Abbreviations

ACF-IN	Action contre la Faim International
FAO	Food and Agriculture Organization
FFW	Food For Work
FS	Food Security
GIS	Geographic Information System
ICRC	International Confederation of the Red Cross
IDP	Internally Displaced Person
INGO	International non-Governmental Organization
GMO	Genetically Modified Organisms
HH	Household
HoM	Head of Mission
LEZ	Livelihood Economic Zone
LNGO	Local non-Governmental Organization
LFA	Logical Framework Analysis
MoA	Ministry of Agriculture
MoH	Ministry of Health
MoU	Memorandum of Understanding
NCA	Nutritional Causal Analysis
NGO	Non-Governmental Organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PCM	Project Cycle Management
PDM	Post Distribution Monitoring
PHM	Post Harvest Monitoring
PRA	Participative Rural Appraisals
SFC	Supplementary Feeding Center
TFC	Therapeutic Feeding Center
UN	United Nations
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
VAC	Vulnerability Assessment Committee
VAM	WFP Vulnerability Analysis and Mapping Unit
Watsan	Water and Sanitation
WFP	World Food Programme
WHO	World Health Organization

Appendix 2: Glossary of Key Terms

Bias knowledge: The fact of collecting information on a one-off basis, on a restricted number of sites and individuals could lead to the introduction of a bias in the information. It is important to be aware of this to reduce the influence in the interpretation of observed phenomena.

Causal analysis: In a causal analysis, one starts from the identification of a problem and then proceeds to identify the causes of the problem, the causes of the causes and so on. The result is a “problem tree”, in which the logical sequence of causes and effects is presented. To each cause, a solution or objective is assigned. This method is used to define intervention strategies (it can be used for a log-frame analysis, for example).

Closed questionnaire: A questionnaire in which the interviewee chooses from a selection of pre-defined responses. Closed questionnaires are usually implemented when there is already some previous knowledge of the situation and aims to give more statistical information.

Coping strategies: Practices that the households fall back upon in order to minimize the risks threatening their survival in the more or less long term. These strategies allow households to maintain their diet, preserve their capital and the necessary resources to ensure their livelihood and that of future generations.

Cropping system is a grouping of all the crops which are related either within an agricultural exploitation or because there is competition for space, time, or other rare resources.

Database: A table that organizes various data concerning a particular entity or variable.

Exit strategy/phasing out: Strategies outlining the stages to gradually end a project or close a mission. It can involve stopping the activities completely or handing over to another agency (other NGO, local authorities, international organization, etc.).

Evaluation: Periodic assessment of a project (at mid-term and upon completion). It assesses the relevance, efficiency, effectiveness and sustainability of the project in relation to its objectives.

Family food basket: The household food basket corresponds to basic products, food and non-food, needed by an average household.

Farm profiles: A geographic representation of the different ‘types of farms’ or typical or atypical systems of production.

Focus group discussions: Managed discussions with selected small groups of people on a particular topic.



Food Aid: Making foodstuffs available and accessible to a given population, in terms of adequate quality and quantity, in such a way as to avoid malnutrition and diseases.

Food security: Food security is ensured when all the people, at all the time, have access economically, socially, and physically to sufficient, safe, and nutritious food that satisfies their nutritional needs and their dietary preferences, allowing them to lead active and healthy lives. Food security of the households corresponds to the application of this concept on the family level, with the centre of attention focusing on the individuals making up the household (FAO, 1996).

Food security surveillance: A continuous system of collection and analysis of information the output of which is to describe and foresee the development of the food security situation, with the goal of informing and permitting the definition of adapted strategies to help vulnerable populations.

GIS (Geographic Information System): A system which combines a computer mapping programme with a database including geographical information, in order to make a map on a topic of interest. It can be done for many types of data (e.g. malnutrition rates by area or neighbourhood, type of livelihood by region, etc.).

GPS (Geographic Positioning System): The GPS is a device that gives the exact latitude and longitude of a particular site. It is used for navigation and mapping (e.g. in the GIS system).

Hunger gap: Phase between the last of food reserves and the following harvest.

Hypothetic-deductive (or iterative) approach: The analysis of information little by little in order to permit revisions of the initial hypothesis and to delve further into the most important elements.

Impact evaluation: A study that measures the realization of the fixed quantitative and qualitative objectives and determines the positive and negative effects of the activities.

Income Generating Activities: Any type of activity that enables a person or a household to generate revenue. Income generating activities are important in terms of creating sustainability and improving accessibility to basic food and non-food products.

Indicator: A measurement that shows the changes or the results of an observed activity.

Institution: A public organization, that offers social services. It is an establishment that supports vulnerable populations (socially, psychologically, or physically vulnerable). These include, for example, schools, orphanages, health centres, etc. This definition is essentially relevant in countries with a state welfare system (e.g. socialist or former communist countries in Eastern Europe).

Livelihood Economy Zones (LEZ): an area presenting similar general internal characteristics: within a given zone, the same opportunities and constraints exist for the whole population.

Log Frame Analysis (LFA): The logical framework analysis is a tool for programme planning. It presents, in a matrix form, the relation between the programme's overall objective, the specific objectives, the expected results, and the activities. For each of these, the following must be specified: objectively verifiable indicators, sources of verification, and assumptions or external factors. The inputs (costs and resources) are also included. The LFA serves as a basis for the proposal.

Monitoring: Monitoring is a continuous process of data collection and analysis, which should take place as the project is being implemented. It is based on indicators that are collected regularly. The actual progress is compared to the planned outcomes and activities, in order to identify necessary remedial actions.

Participative approach: Developing an analysis of the situation by involving the populations (we do not gather information ON the population but WITH the population). It is in this way that we can identify priority problems and propose appropriate solutions to which everyone adheres.

Preliminary assessment (base line study): The initial study that analyses the situation and identifies the needs of the population; this involves understanding the global context, identifying the different possible alternatives and judging their respective pertinence. This initial assessment serves as a benchmark to determine the evolution of the situation.

Project cycle management: The project cycle includes the various stages of a project: programming, identification, formulation, financing, implementation, and evaluation. PCM is an approach that aims to improve the management of the project cycle, using various tools (e.g. causal analysis, LFA, monitoring and evaluation techniques, etc.)

Productive capital: Any type of asset that contributes to the family economy. Productive capital can be tools, animal or land that aid in an economic or subsistence activity.

Ranking: A ranking exercise can be done in order to assess preference, importance, dominance, etc. of different activities or things.

Resource people: People in the community having knowledge on the themes covered in the investigation. The reference people can be chosen based on their position, experience, or responsibilities and should be involved in the analysis during the group or individual interviews.

SPHERE Project: Project aiming to set universal minimum standards for humanitarian interventions (qualitative and quantitative). For example: maximum number of patients in a TFC, staff/beneficiaries ratio, etc.



Systematic analysis: Placing the populations in their contexts and asking ourselves questions about the relationships of the cause and effect among the different elements participating in the definition of those contexts.

Targeting: The selection of certain individuals or groups of individuals based upon pre-defined criteria.

Transect: Illustrates the natural context, the agricultural systems, the possibilities of production and the diverse ecosystems of the intervention.

Triangulation: This principle stipulates that addressing a problem starting from a single perspective, a single tool, could lead to erroneous information. All information should be cross-checked for verification: diversity and plurality of information sources are indispensable. Triangulation in its strictest sense means using at least three points of view in the analysis of a phenomenon.

Typology approach: The identification of different population groups based on similar characteristics (social, economic, productive...), capacities and/or vulnerabilities.

Appendix 3: Summary of the objectives and beneficiary selection in the Ivory Coast

AGRICULTURAL PROGRAMME FOR FOOD SELF-SUFFICIENCY OF LIBERIAN AND IVORIAN POPULATIONS

BASIC MARKET GARDENING SECTOR 2nd YEAR – Agricultural Campaign 97/98

■ INTRODUCTION

Since the elections in the month of July 1997, the political situation in Liberia has progressively stabilized, and voluntary repatriation has been encouraged. Some refugees have already returned to their countries of origin and an even larger return can be expected at the end of the year or the beginning of next year. Nevertheless, some refugees hope to settle in the Ivory Coast or do not plan to return to Liberia before the harvest of the 97/98 agricultural campaign. Activities must be modified in order to adapt the current agricultural programme, in the Tabou prefecture, to the new constraints in order to increase the refugees' food autonomy as well as to re-establish food security. Refugee movements have effectively destabilized the Ivorian population's food security.

■ MAIN OBJECTIVES

- Improve the food ration of recipient families during the hunger gap through the production of basic vegetables (peppers, green cabbage, eggplants).
- Train farmers in the techniques of market gardening.
- Support the general policy of the return of refugees to Liberia.
- Participate in the integration of the remaining Liberian populations in the Tabou prefecture.

■ STAGES

- Inform and register recipient candidates.
- Monitor and write up definitive lists of beneficiaries.
- Distribute tools and seeds to carry out market gardening (peppers, cabbage, and eggplants).
- Post-distribution monitoring (after the distribution of tools and seeds).
- Ongoing training in market gardening techniques for beneficiary families.
- Technical follow-up and supervision.
- Evaluation.

■ BENEFICIARIES

Faced with the new general situation and new constraints of the prefecture, the goals of this sector have changed since the last agricultural campaign of 96/97. The numbers have gone down from 4,800 beneficiary units in 96/97 to a total of 500 for the current agricultural campaign. Even so, the beneficiary villages and families of this year will undergo very strict targeting in order to identify the families truly without necessary resources and in need of a market gardening programme.



It is obvious that we cannot work with all the needy families wishing to participate in our market gardening programme because there is a limit of 500 beneficiaries. It is for this reason that we ask of the village chiefs, heads of districts and chairmen for a close and genuine collaboration with our supervisors in order to identify within their villages or districts **the most vulnerable families** among the families meeting the conditions below.

Initial breakdown of the 500 beneficiaries is as follows:

- 125 units for our partners in the 96/97 campaign (ADRA and Catholic Mission schools)
- 250 units for previous beneficiary families of the 96/97 campaign
- 125 units for new families or partners

■ VILLAGES/CONDITIONS

- Accessibility of the vehicles in the villages (distribution, technical follow-up of nurseries and gardens....).
- Cities or concentrations of high population density (homes of families with noted food vulnerability)
- Motivated villages or districts (results of agricultural campaign 96/97).
- Good Ivorian/Liberian integration (results of agricultural campaign 96/97).
- Availability of land to carry out community nurseries and gardens with a permanent water point throughout the year.

The low number of beneficiary units prevents us from working in all the villages or districts, even those which have shown motivation and which have had good results during the first agricultural campaign. This is why we have chosen villages and districts that best meet the conditions outlined above.

■ BENEFICIARY FAMILIES/CONDITIONS

- 1 family (home) = only 1 beneficiary / market gardening sector.
- 1 family (home) = beneficiary of only one sector of an Action contre la Faim Agricultural Programme.
- No access to work contracts (entire family included) (perennial crop plantations, NGOs....).
- No access to land to have a rice field.
- Motivation (results of the 96/97 campaign).
- Access to assigned land to create community nurseries and gardens (certification: village chief and/or refugee chairman).
- Permanent water point in the land throughout the year.
- Stability in the village and presence during the 97/98 agricultural campaign.
- No problem individuals.
- Acceptance of the list of beneficiaries by the head of the village/district and/or the refugee chairman.
- 50 % Ivorian, 50% Liberian out of the totality of the sector

FOOD CROPS SECTOR **2nd YEAR - Agricultural Campaign 97/98**

■ MAIN OBJECTIVES

- Increase food autonomy of the populations remaining in the Tabou prefecture through the cultivation of rice and maize.
- Estimated average food cover (Action contre la Faim + local rice) of the families: 5 to 8 months, with a total sown surface area of approximately 0.6 to 0.8 ha/family.

- Estimated average food cover (maize): 1-2 months.
- Support the general policy of the return of refugees to Liberia.
- Participate in the integration of the remaining Liberian populations in the Tabou prefecture.

■ STAGES

- Inform and register recipient candidates.
- Monitor and write up definitive lists of beneficiaries.
- Distribute tools and seeds to carry out food crop farming (rice and maize).
- Post-distribution monitoring (after the distribution of tools and of seeds).
- Technical follow-up and supervision.
- Evaluation.

■ BENEFICIARIES

Villages/conditions:

- Accessibility of vehicles in the villages (distribution, follow-up....).
- High population density.
- Availability of land to be farmed.
- Motivation (results of 96/97 agricultural campaign).
- Good Ivorian/Liberian integration (results of 96/97 agricultural campaign).
- No access to work contracts (perennial crop plantations).

Beneficiary families / conditions:

- 50 % Ivorian, 50% Liberian out of the totality of the sector
- 1 family (home) = only 1 beneficiary / food crops sector.
- 1 family (home) = beneficiary of only one sector of an Action contre la Faim Agricultural Programme.
- Access to land:
- Ivorians: typical agricultural practice
- Liberians: access to land certified by the Ivorians of the village
- Stability in the village
- Ivorians: typical agricultural practice
- Liberians: presence in the Ivory Coast during the 97/98 agricultural campaign, children enrolled in school, etc.
- No problem individuals or people at risk of leaving the village before the end of 1998.
- Acceptance of the list of beneficiaries by the head of the village/district and/or the refugee chairman.

Maximum of 6,000 beneficiaries including:

5,000 previous (beneficiaries of tools and/or seeds in the 96/97 agricultural campaign)
1,000 new
making up approximately 3,000 Ivorians and 3,000 Liberians.

10 / 11 / 97, in Tabou

José Luis FERNANDEZ
Agricultural Programme Director - Tabou



Appendix 4: Summary file of production systems and techniques

Characteristics of the pre-crisis farming system:

Standing production system	Agricultural Agro-pastoral Pastoral Sedentary lifestyle Nomadic
Mechanization level	Wooden manual tools Metallic manual tools Materials based on human power Materials based on animal power Motorization
Use of inputs	Improved seeds Seed conservation products Chemical preservation products Pesticides Chemical fertilizers
Specific farming techniques	Fertilization by: - Fertilizer - Manure - Compost - Green manure - Intercropping

Example 1 : Animal husbandry file

Files by type of herd and use may be established by specifying the type of livestock (meat herd), breeding, shelter and conditions (feeding, reproduction, vaccinations, and veterinary care), associated production (milk, cheese, leather, etc.).

Dairy farm	
Type	
Headcount	
Number of gestating females	
Number of heifers	
Average production in litres	
Production moyenne en litres	

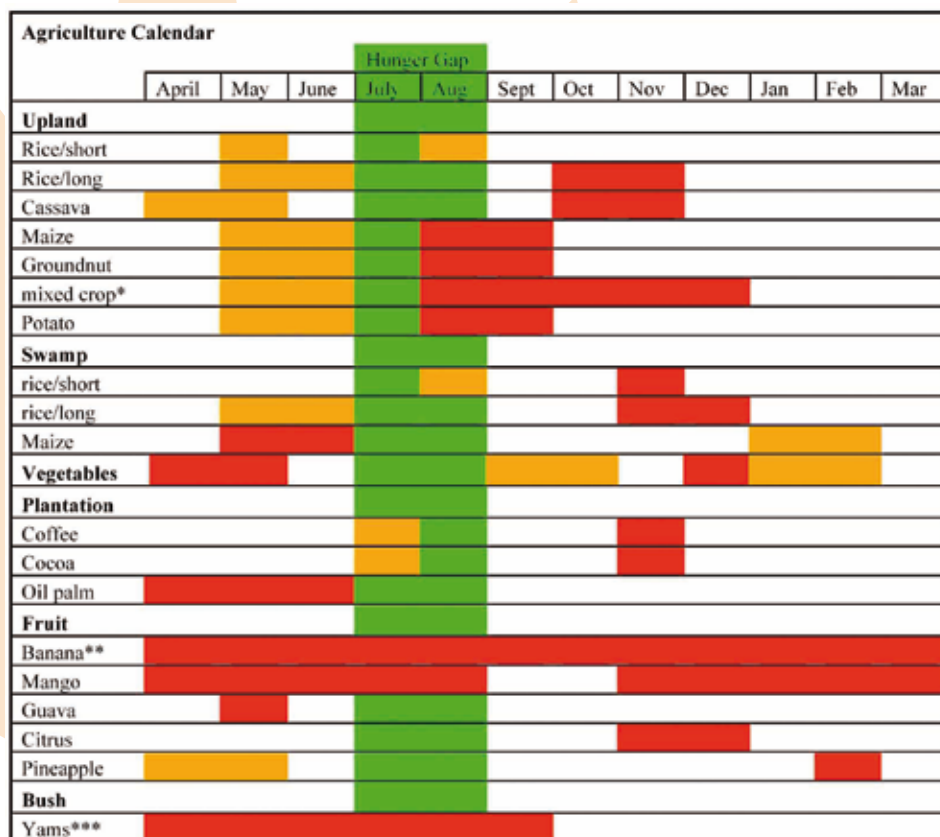
Example 2: Crop file

The same format can be applied to crop production, specifying the type of crop, planting conditions, cultivation techniques, harvests and use.

Crop	Beans
Type of soil	Light, sandy, humus rich
Vegetation cycle	November to February
Soil preparation	Weeding and ploughing
Sowing	Direct. Plan for 28 to 30 pots/ha
Planting distance	25 cm x 25 cm, or 160,000 plants/ha
Irrigation	Every week by submersion
Pesticide treatment	Nuvacron: one spraying/campaign
Duration of vegetation	3 to 4 months
Average harvest return	80 to 150 pots/ha
Average yield of the harvest	There is a large gap between the yield in dry crops obtained with the common bean in traditional crop systems - 200 to 500 kg/ha - and that which is obtained in an experimental station or in modern cultivation with improved cultivars and optimal phyto-technical conditions - 3000 kg/ha for the dwarf varieties, to 6,000 kg/ha for some twining varieties.
Climate	Tropical, mesothermal humid climates
Maintenance	Hoeing and weeding after emergence and a light ridging of the plants

Appendix 5 : Agricultural calendar from Kono, Sierra Leone

The agriculture calendar highlights the available harvest during the hunger gap. The short-duration variety of rice is included in the chart even though it is not common in much of the area. It is more common in the Nimiya chieftdom due in part to the existence of an agriculture research station in the area. Most farmers grow the long-duration rice.



Notes: The red colour indicates harvest period

* Mixed crops are intercropped with the upland rice and can include beans, okra, pumpkin, cucumber, and pepper

** Bananas are generally available all year but are harvested unripe during the hunger gap

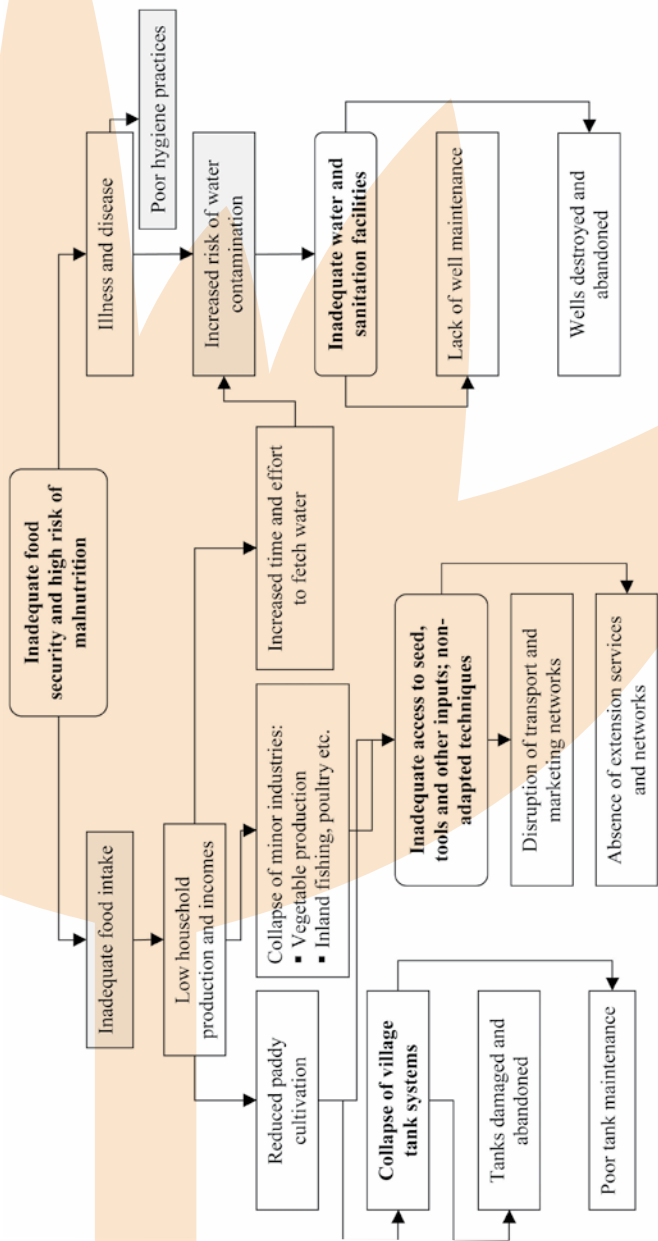
*** Bush yams are harvested March through Sept but early yams are of less quality

The chart shows that the long-duration rice harvest is in October and December. It is also reveals that the major part of the planting occurs before the hunger gap and that harvest generally follows. A few crops are available throughout the hunger gap, namely a variety of

vegetable crops, maize, and groundnuts. Generally this produce is sold for cash, though some is consumed by the grower. Bananas and bush yams are staple crops.



Appendix 6 : Problem tree from Trincomalee, Sri Lanka



Annexe 7 : Exemples de listes de bénéficiaires



Village:

Date:

Team leader:

Responsible for the Distribution:

[illegible]

Signature

Signature

Head of Village

ACF Food Security Programme Manager



Appendix 8: Food security team management

Once on site, the teams must get acquainted with the situation and the dossier and at the same time, **identify one or two resource persons** who can help them better understand the area, organize the remainder of local team, and plan the activities.

Recruitment

There are generally three types of positions that need to be filled:

- An expatriate assistant project leader who will be the expatriate's right hand and who will ensure the liaison between two successive expatriates. This person often has technical skills in the engineering field in order to strengthen or complement the project leader's competency.
- Technicians-leaders-monitors who ensure the implementation and monitoring of the activities within the intervention zone. They are native to the area and, if possible, agricultural technicians.
- "Contact" farmers to ensure the branching out and the diffusion of information to other farmers in their area, and who act as resource persons to familiarize other inhabitant with the site.

Any mission already in progress generally has a reserve list of potential recruits. Information relating to the opening of an agricultural programme often spreads and the mission receives many CVs.

The composition of the team should take into account the fact its members are not seasonal workers, but involved in the project for its duration. It is important to construct a "multidisciplinary" team whose members have complementary skills.

Knowing what training sessions are provided in the country (or were provided, in the case of destructured countries) allows for a better identification of available skills. The list of training courses is generally available at the Department of Agriculture.

Agronomy department of a university (engineer)

School of agriculture (high-level technician)

Internal training courses from the Department of Agriculture (technician)

When working with refugee populations it may sometimes be useful to enquire about training provided in their country of origin. Languages spoken by the refugees may be different from those of the local populations.

However, one must be aware of the laws that regulate the work of foreigners in the host country.

Example: Liberian refugees in the Ivory Coast or in Guinea often have a higher level of education than the local people of the host areas.

Position profiles

The positions to be filled are defined according to the context of the intervention. For each type of position, it is useful to describe the job requirements and to set the priorities. The following questions should be addressed:

- Should candidates be chosen based on their knowledge of the area and of the rural environment, or on their mastering of the English, Spanish or French languages?
- Must candidates know how to write a report?
- Must candidates be specialized in a particular type of production?
- Should candidates have a previous experience in a defined skill such as socio-economic analysis?

The profile of the position summarizes the position, its location, its responsibilities, and the specific skills required. It should be established prior to the recruitment.

To facilitate recruitment, tests may be designed to determine the candidates' technical level and their understanding of the project. For programme assistants as well as for technicians, tests can be tailored according to the level of the position,

The tests may include:

- A technical part with questions requiring precise responses (definition of a sowing density, an agricultural calendar, and of some general agricultural techniques);
- A part with a concrete case study related to the type of position or responsibility for which the candidate has applied. (You are organizing a meeting about such and such crop. On the day of the meeting, no one shows up; what do you do?).

Example: exam for agricultural technician candidates, Ivory Coast.

Exam duration: approximately 45 minutes.

DATE: LAST NAME, First name:

AGE:

IMPORTANT: Provide accurate responses to the following questions.

CAN YOU DRIVE A MOTORCYCLE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
DO YOU HAVE A VALID MOTORCYCLE DRIVER'S LICENSE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
CAN YOU LIVE PERMANENTLY IN TABOU?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
CAN YOU LIVE PERMANENTLY IN GRABO?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

I. In the context of an agricultural programme (distribution of seeds and tools, supervisions of farmers and monitoring of the agricultural campaign) with refugees and the local populations:

1/ Give three conditions a family must fulfill in order to become a beneficiary of such a programme:

2/ List 5 tasks a supervising and managing agricultural agent and should complete:

II. Market gardening nurseries:

1/ When and why is it a good idea to cover the nursery' beds with dry leaves or grass? (3 sentences)

2/ In the following list of 5 vegetables, which can be sown directly in the field and which require seed beds? Write a D for direct sowing and an S for seed beds next to each word.

1. Carrot
2. Cabbage
3. Pepper
4. Eggplant
5. Squash

III. Pluvial food crops

1/ Briefly explain how to estimate a farmer's rice production and return. (5 lines)

2/ What are the different farming operations which occur successively in maize farming? (5 lines)

IV. Low land rice farming

1/ What are the average dimensions of a seed bed of irrigated rice, and how many seed beds can there be per hectare?

2/ Give the principle and the calendar of rice farming fertilization in converted shallows.

Once the tests are corrected and analysed a preliminary list of potential candidates can be selected, while those less qualified for the post, and whose job profile is the farthest from the desired one can be eliminated.

Individual interviews may then be conducted with the potential candidates: this means reviewing the



information provided on the CV; going over the candidates' experiences and motivation more thoroughly; by asking technical questions and evaluating their approach to the intervention and listening to their questions.

Additionally, during recruitment, it is important to keep in mind that the gaps in each candidate's profile may be filled by adapted training and by the multidisciplinary character of the team. Generally, in agricultural programmes, it is preferable to recruit people for their knowledge of the area and the environment, their technical skills, and their mobility rather than for their knowledge of a foreign language.

Management of the agricultural team

The site team is often composed of technicians selected among candidates from the intervention zone; they generally have an in-depth knowledge of the area. Being given the opportunity to participate in this type of programme is very motivating for them. It is essential to always have them participate in the decision-taking, especially those relating to distribution dates and villages, to vegetable varieties, farming techniques to be taught, etc. All technical and methodological decisions come from team dialogue and are taken during meetings. This requires great involvement of the agents and allows us to benefit from their knowledge of the environment.

Team organization

The organization of the team goes through the use of work planning tools which facilitate the implementation of the project and its monitoring. Programme participants should have a global vision of the project and of the activities to be carried in order for them to be able to establish a monthly and weekly schedule of their tasks. When the entire team has mastered the planning tools, coordination of the programme is facilitated. This will also enable the management of the service providers' work-related travels according to the available logistical means.

Planning is indispensable for a programme to function properly. In the absence of good planning, coordination between technical and leadership tasks becomes impossible. Nonetheless, good planning is not sufficient in itself; it must be respected, and efforts must be made to prepare, carry out, and follow up on the activities included in the plans.

Meetings

Regular meetings allow us to face situations experienced by each staff member (sometimes scattered throughout a large area); to deal with problems encountered, and to benefit from everyone's participation to resolve them. Meetings also encourage transversality and exchange of information within the intervention zone.

Example of a regular meeting agenda

Security in the zone and monitoring of the agriculture situation.
Objectives of the elapsed period and realizations.
Problems encountered and discussion on possible solutions.
Miscellaneous.

Meetings frequency is variable and often depends on the context of the programme (types of intervention in progress, security¹⁰, etc.). Frequency and conditions should be agreed upon ex ante and tested in the work context. Those who participate to these regular meetings are members of the agricultural team; ex-patriates; local leaders responsible for the supervision; and those from on the field. Exceptional meetings may be scheduled during crucial stages of the project (activity orientation, evaluation, training...) or in the event of major problems.

10 / It may be indeed dangerous sometimes to travel regularly on some roads.

Reports

Regular collection of information on the programme, but equally on the more general situation, also goes through the writing of activity reports. Standard information on the schedule of visits is generally complemented with two or three pages of information per village or per nature of activity (free write-up).

Assessment

Setting up a staff assessment is an exercise which may seem complicated and daunting, but which proves to be extremely useful and often positive: taking the time to talk individually with each team member often allows to (re)motivate them; to better understand the causes of any decrease in motivation and the difficulties they encounter; to self-assess (true for the expatriate as well as for the person assessed), etc. Assessments are particularly important when there are many local teams (if several technical departments live together on a base) and if there are different levels of responsibility, pay, or qualifications. The assessment is carried out by the expatriate accompanied by his or her “right hand”.

The assessment form should be adapted to the agricultural sector. It is filled out by the expatriate in charge of the programme, who when assessing technicians, will be assisted by their immediate superiors. The assessment is completed by a focussed interview to know how the employees fit into the team, their opinions of management; their aspirations with regards to the programme; their ideas about which elements require improvement; and their unexploited skills. The goal of the evaluation is to establish a dialogue with the personnel, the hierarchical superiors, and the expatriates. It may be used to negotiate a raise, but this should not be the objective in itself.

Continuing education of the agricultural team

The team should be able to benefit from a continuing education programme on subjects or fields of knowledge where deficiencies have been identified. This training may be carried out by project supervisors and/or by third parties if provided for in the budget. A training course should be planned as an activity in its own right, and paid as a standard day of work. According to the objectives of the programme, specific themes are addressed such as leadership techniques, cash book management, use of pesticide

In order to increase collaboration with local agricultural organizations, and to always support the strengthening of local skills approach, these training programmes may be open to institutional partners who are interested in taking them.

In addition to offering teams cyclical and thematic trainings, they must also be able to “self-train”. This can be achieved by giving them access to a library, providing in-house workshops, or encouraging discussions between different team members that will allow them to exchange technical expertise.

In the short term, these elements promote team motivation; in the long term, they encourage the collective and individual development of the personnel.



Appendix 9 : Example of an agricultural programme job description

Position profile for an agronomist / programme assistant for agro-economic studies in Haiti

Position: Agricultural programme assistant in the Columbier valley with a socio-economic specialization, to work under the immediate responsibility of the village project leader

Position Location: Gonaïves

Programme title: Emergency aid and support measures in the agriculture and environment fields

Responsibilities:

- Conceive and realize socio-economic and technical surveys in order to determine intervention sites and activities to be carried out appropriately, according to the needs of the population;
- Monitor, supervise, and manage the surveys to capitalize and analyze them;
- In collaboration with the team of agricultural leaders and the community, define and implement all activities that favour the improvement of agricultural revenues and the valorization of irrigated water;
- Calculate the cost-effectiveness of the operation, and operation and infrastructure expenses;
- Define and assign tasks among the project, the beneficiaries, and other possible actors;
- Allow the populations to establish autonomous structures of work management through a participative approach;
- Identify the training needs of the communities and create modules adapted to the context and to the beneficiaries in collaboration with the management team;
- Ensure monitoring, training, and supervision of agricultural leaders in collaboration with the coordinator;
- Present the project to the beneficiaries as well as to the institutional and technical authorities during visits or official inaugurations;
- Write regular technical reports for the monitoring and evaluation of the programme.

Skills: The candidate must be an agriculturist or agricultural economist specialised in socio-economic issues. He or she must have an experience of the rural environment and ideally leadership skills as well. The candidate must be qualified to write reports and documents in French.

Contract and salary:

- Defined-term contract ending.....with a trial period of..... months beginning on the date of the signing of the contract.

Appendix 10 : Example of an agricultural job posting

The information contained in this document provides a job posting which may be distributed in schools of agronomy or agricultural departments of universities, and in the main administrative offices, and annexes, of the Department of Agriculture. This stage may be mandatory depending on the country's labour laws.

Action against Hunger is recruiting:

8 HIGH-LEVEL AND EXPERIENCED AGRICULTURAL TECHNICIANS.

REQUIRED SKILLS

High-level of education and training as an agricultural technician.

Experience in agricultural development programmes (food crops and/or market gardening) / refugee assistance / rice-farming in shallows.

Bilingual French/English — Motorcycle driver's license preferred

JOB DESCRIPTION

- Participate in the identification of programme beneficiaries and lands to be farmed.
- Responsible for the supervision of beneficiaries in a given geographic zone.
- Monitor field preparation.
- Participate in the distribution of seeds, tools, etc....,
- Supervise farmers during sowing, maintenance, and harvest activities.
- Assess the harvest in his/her area.
- Be responsible for, and monitor the conversion and farming of selected marshes.
- Report to the agronomist and to the programme leader of the village.

REQUIRED QUALITIES: Team spirit, mobility, attention to detail

LOCATION

Permanently based in the Prefecture of Tabou (City of Tabou or Grabo) with travel within the given area.

Résumé and cover letters should be addressed to Mr. _____ at the Tabou office of Action **against Hunger** (postal or physical address) by _____.

Short-listed candidates will be requested to complete recruitment tests.

Appendix 11: Example of seed tenders from Sierra Leone

Quote comparison request for corn

ACF 2002 Second cropping distribution for 13,000 farming families in the Bombali district of Sierra Leone

QUOTE SPECIFICATION		Mantah		Kamtech		CTC		FARMCO	
Type of seed	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn	Corn
VARIETY	Western Yellow	Western Yellow	Western Yellow	Western Yellow	Western Yellow	Western Yellow	Western Yellow	Western Yellow	Western Yellow
Quantity	26 Mt	26 Mt	26 Mt	26 Mt	26 Mt	26 Mt	26 Mt	26 Mt	26 Mt
Delivery location	Makeni	Makeni	Makeni	Makeni	Makeni	Makeni	Makeni	Makeni	Makeni
Delivery date	15/09	3 weeks	As stated on the bid	As stated on the bid	4 weeks to 6 weeks	15/09	15/09	15/09	15/09
Germination	85 min	85	85	85	85	85	85	85	85
Physical purity	99	99	99	99	99	99	99	99	99
Varietal purity	90	90	90	90	90	90	90	90	90
Moisture content	7	7	7	7	7	7	7	7	7
Insect diseases	free	Free	Free	Free	Free	Free	Free	Free	Free
Packing	PP 2kg sacks printed with logo	Yes	As stated on the bid	As stated on the bid	As stated on the bid	As stated on the bid	As stated on the bid	As stated on the bid	As stated on the bid
Guarantee of quality									
Imported/local			Imported	Imported	Local	Local	Local	Local	Local
Cost per tonne \$		700	850	850	197.0	197.0	197.0	197.0	197.0
Total cost \$		18,200	22,100	22,100	51,220	51,220	51,220	51,220	51,220

Rate of exchange:
2,000LE = \$1

The difference in price can be explained as follows:

Kamtech and Mantah are proposing corn that have already been harvested while CTC and Farmco are proposing corn that will be harvested in August.

There is a difference in quality that is reflected in the price.

In order to be able to supply 26 Mt of corn harvested in August, on the 15th of September.

The suppliers are facing important constraints particularly related to drying the seeds

They can guarantee a higher quality but at more than double the price

Kamtech and Mantah can meet our quality standards for a lower price but we will have to conduct a thorough quality control

Results of the quote comparison related to vegetable and corn seeds. Second crop seeds distribution Bombali district 2002.

With regard to seeds quality, it seems that Mantah is offering the best (year of production, expiry date) however they are also the most expensive.

Concerning the price, CTC is offering the lowest price for onions, eggplant and okra. The quality they offer seems to be acceptable.

For pepper, Kamtech is offering the best price, which in fact seems too low to be trusted, but they confirmed it was not a mistake.

All the suppliers contacted by phone guaranteed they would be able to provide a phyto-sanitary certificate and a certificate of seeds analysis, issued by the supplier in Europe, and corresponding to the lot number of the seeds they will supply. They can also provide a document that will mention the date the lot was imported into Sierra Leone. The quality of the seeds depends on the storage conditions and very few suppliers are able to meet those conditions in Sierra Leone. It is therefore important to obtain a guarantee that certifies the seeds were indeed imported in August.

Good quality control means that ACF must conduct a germination test. If the result is under 85% the whole lot is rejected (instead of imposing a fine for each % under 85%): this clause must be written in the contract. Some people believe that suppliers can too easily corrupt the laboratory in which Veritas conducts the test.

Therefore our selection would be as follows:

Eggplant:	CTC	\$5,330
Onion:	CTC	\$7,280
Okra:	CTC	\$3,770
Pepper:	Kamtech	\$7,475

Cost for a total of 13,000 kits: \$23,855. Total cost is low compared to the first quotes we received for the whole package because of the low price of pepper seeds from Kamtech.

26 July 2002
David Bourdin
FS/Agricultural officer Makeni



Appendix 12 : ACF-IN policy relating to GMO

ACF-IN's technical positioning towards genetically modified organisms (foods and seeds)

By the Technical Department of Action against Hunger

Action against Hunger (ACF-IN) intervenes in many countries worldwide and provides humanitarian assistance to more than 5 million people. ACF-IN is engaged in the treatment of acute and moderate malnutrition; the distribution of food aid; and provision of various agricultural inputs such as seeds, tools, livestock and trees. ACF-IN is also involved in water, sanitation and primary health care programmes. One of the key issues facing ACF-IN today is that of Genetically Modified Organisms (GMOs) and their possible presence in the food and seeds that are distributed and their effect on the populations with which ACF-IN works. The GMO debate started to evolve many years ago and ACF-IN is directly involved because of its numerous programmes dealing with food and seeds. This paper will only tackle a small part of the much wider issues concerning genetically modified (GM) foods and seeds.

ACF-IN's main objective is to save lives and livelihoods. Through appropriate, adequate and timely assistance a positive impact on the health of its beneficiaries is ensured. ACF-IN is very concerned with food safety issues and those related to GMOs. Whilst ACF-IN does not regard GMO technology as the first solution to alleviate food insecurity among its beneficiaries, the organization is not against the development of new technologies or foods. The text which follows is not intended to be a practical guideline or operational document on how to manage GM food or seeds, but will illustrate ACF-IN's technical position regarding the current debate on GM food and seeds.

ACF-IN emphasizes the need to distinguish between the two major components in the GMO debate: food and seeds. The paper is structured around this distinction and will be subject to revision or reconfirmation each year, or on an ad hoc basis, as new knowledge and experience become available.

Position on GM FOOD – the rationale

The quality of food ingredients should be the main concern where inferior quality could become, and has been proven to be, a real threat to human health (either in large doses or as a cumulative effect of small doses). These include **microbiological** aspects of the foodstuffs (bacteria, mycotoxins) as well as their **physical** properties (insects, stones, other foreign bodies, and oxidation) and the presence of other **chemical** contaminants (insecticides and fertilizers, heavy metals, poisons, amongst others). The choice of foodstuffs should take into account their end use, their **cultural acceptability** and a **nutritional composition** (macro and micro nutrients) adapted to the needs of the target population. Before looking for genetic modifications in the foodstuffs, quality control must first look for those characteristic known to be harmful and which are detectable, take them into account and analyse them. Concerns surrounding the safety of GM foods on human health have been evoked, but have not been proved. The World Health Organization states that consumption of GM food currently available on the international market is not likely to present risks for human health¹¹. These foods are commonly used in the USA and no harmful effects have been detected on healthy humans who consume them. However to our knowledge, no tests have been carried out on acutely malnourished patients, with impaired enteric, immunity and metabolic functions.

A proportion of the food which ACF-IN distributes is genetically modified: this mainly concerns corn or soy based foodstuffs of US origin. Whilst it can be assumed that a large proportion of food aid originating in the USA contains GM material, no distinction is made between GM and non-GM crops

11 / www.who.int/fsf 20 Questions on Genetically Modified (GM) Foods

during storage or transport and the products are not labelled. Therefore, ACF-IN is unaware of the proportion of GM food it distributes annually.

As well as being sophisticated, very expensive and time consuming, the technology currently available to detect genetic modifications in food is unable to identify the exact modification, and cannot establish with any certainty the presence or absence of genetic modifications in a specific food product. This is the reason why ACF-IN does not consider testing a viable option.

ACF-IN is highly dependent on food donations and is currently unable to take an informed decision as to whether or not to distribute GM foods. It is currently unrealistic to systematically look for an alternative to the American suppliers, for the majority of the donations come from the US. However ACF-IN is committed to finding other supply channels, free from genetic modification, and to lobby its financial backers to that effect.

ACF-IN does not consider GM food a first choice and prefers, whenever possible, to purchase food locally, as long as the negative consequences on the market are limited. At the same time ACF-IN does not advocate a ban on GM food distributions at the expense of people dying from hunger. ACF-IN will act in compliance with the principles of the recipient country, which will determine whether GM foods will be accepted or not.

ACF-IN is very careful when it comes to the quality control of the distributed food: microbiological, physical and chemical contaminations are scientifically proven risks for which detection technology exists. ACF-IN is committed to ensuring this quality and stresses that the nutritional composition of the food ration is just as crucial.

If ACF-IN is forced to distribute genetically modified food, it is only in order to save lives and prevent disasters. Every effort is made to find alternative food suppliers in order to obtain non-genetically modified foods and to lobby donors on this issue. This position will be maintained unless it can be proved that genetically modified food is harmful to human health, and until tests to detect genetic modifications in food are reliable and easily accessible.

Action contre la Faim has undertaken to follow the results of the latest research in this field in order to adjust its positioning if proven to be necessary.

Position on GM SEEDS – the rationale

Through the distribution of seeds, ACF-IN aims to restore or maintain agricultural autonomy within communities just after, or in prevention of, a critical situation. These can be staple crop seeds such as rice, wheat, maize or sorghum, or vegetable seeds aimed at smaller scale farmers or individual households. ACF-IN's objective is not to improve the agricultural systems through the introduction of new technologies or the development of higher yield varieties, even if this type of activity is sometimes implemented in some contexts. Longer-term development programmes may be more involved with introducing and monitoring innovative technologies and varieties¹².

ACF-IN encourages distribution of locally or regionally purchased seeds. This is particularly important since these varieties are well adapted to the environment and known by the community, and because local cultivation techniques and equipment are suited to them. They may include high yield or resistant varieties, but only those which have stood the test of time in the local environment. ACF-IN establishes strict specification guidelines for suppliers to ensure, in as much as it possibly can, that the seeds selected are of appropriate varietal purity and of optimum quality. Specialists or specialized organizations are consulted throughout this quality control process.



Planting alien seeds poses a threat to the local varieties known by the community, and which have resisted and adapted to their specific environment. Whilst these seeds are not necessarily genetically modified, there is a risk of “out-breeding” or crossing with the local varieties, or propagation of certain unwanted or unnecessary traits, with potentially damaging effects on the agricultural systems. Action contre la Faim distributes varieties of seeds which are well known in the environment and accepted by the community¹³. Optimum quality and origin of the seeds are ensured through strict specification guidelines.

Action contre la Faim will be transparent in its programmes and decisions, and will not withhold any information concerning the characteristics of the food or seeds distributed. Food aid in the form of seeds (and not flour or cracked grains) represents a risk if the grain containing GMOs are used as planting seeds. This is especially true if the distributed seeds are the preferred or traditional crops in the area¹⁴ and there is no concurrent distribution programme of suitable seeds. This risk should be avoided by making the food aid unsuitable for cultivation, such as by milling the grain into flour or grits¹⁵.

Concurrent agricultural and food aid programmes will be implemented during the sowing season when appropriate.

Food aid should be distributed in the form of unviable seeds.

Action contre la Faim advocates:

- Regular internal monitoring of scientific developments for products containing GMOs, with the support of ACF-IN's Scientific Committee.
- More media-oriented, and thus accessible, research on the effects of genetically modified on human health.
- Research into the physiological and other effects of genetically modified food when fed to malnourished or ill patients.

13 / ACF-IN takes the responsibility of monitoring the countries' production system so that more informed choices can be made and to thus limit local purchases which are likely to contain genetic modifications.

14 / E.g. massive distribution of Wheat grain in Afghanistan 2001 and 2002 and of Maize grain in Zimbabwe 2002 (provided as food aid).

15 / This relates mainly to maize, sorghum and wheat, given that soy is rarely delivered as food aid in its bean form.

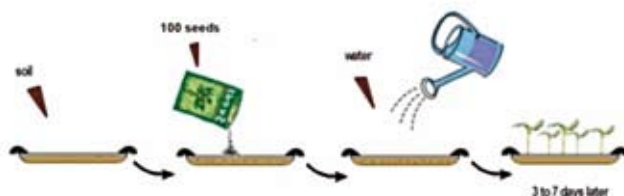
Appendix 13: Procedures for germination tests

A representative sample of the seed lots to be tested is taken. Each lot should be tested separately, especially if the seeds come from different sources; likewise, it may be worthwhile to compare seeds which were stored in different places. Each lot to be tested should comprise at least 400 seeds, which will then be divided into packages of 100 seeds each.

The trials can be carried out in the soil, or in a container filled with 10 to 12 cm of sand (or cotton). (It is also possible to use soup plates, trays, etc.). The second option may be preferred in order to reduce the risks of unknown effects of parasites or other uncontrolled parameters (humidity). The sand in the container can also contain weed seeds which will germinate as well and thus should be distinguished from the rest. The container can be placed inside or outside, but not under direct light. There must be drainage holes in the bottom of the container in order to ensure proper drainage and to avoid mildew growth.

Large seeds (maize, peanuts...) should be planted at intervals of 3 cm and at a depth of 2 to 3 cm; small seeds (millet, rice...) at intervals of approximately 1 cm and at a depth of 1 to 1.5 cm, all in identical rows. The seeds should be placed in such a way as to be able to distinguish the young plants from the weeds.

The evolution will be monitored daily. The sand should also be checked to ensure that it is not turning too dry, or too wet. The container may be covered with a sheet of plastic or glass to keep the contents from drying out.



Germination trials can also be performed by placing the seed samples in paper napkins or toilet paper, which is kept wet.

The number of days before one can make a definitive tally of the plants depends on the crop. For example:

Crop	Time (in days)
Rice	14
Millet	7
Cow peas	8
Peanut	10
Maize	7
Sorghum	10
Beans	9

After counting the plants (young sprouts) in each container, we use average number to determine the germination rate. Acceptable rates vary according to the crop, but a rate of 75% is generally acceptable. Germination rates which are inferior or superior help calculate the appropriate sowing density (and also determine the quantity of seeds to be distributed). If the germination rate is inferior to 50%, it is clear that the sowing density must be increased. In such a case, a decision should perhaps be made to either select anew the seeds or reject the lot in question.



Appendix 14 : Example PDM questionnaire from Guinea

POST DISTRIBUTION MONITORING Gardening Programme

Camp Name:

Family Description

Head of family name:

Name and ages of family members:

Age groups	Male	Female
0-5 years		
5-19 years		
19-56 years		
>56 years		

- Where does the family come from?

- When did they arrive to the camp?

Reception of the seeds and tools

- Did you receive a vegetable seeds and tools kit?

☐ yes

☐ no

- Were the items that you received in good condition?

☐ yes

☐ no

If not, explain in what state they were and the reasons why according to you.

.....

.....

.....

.....

.....

Tool Quality:

Tools	Good	Average	Poor
Bucket			
Rake			
Shovel			
Hoe			

Out of the distributed tools, which are the most useful to you?

.....

.....

.....

.....

.....

- Were the seeds adapted to the region? (Check the appropriate box below)

Seeds	Good	Average	Poor
Rice			
Beans			
Okra			
Corn			
Peanuts			

- Are you satisfied with the types of seeds? ☐ yes ☐ no

If not, which seeds would you have preferred?

.....

.....

.....

.....

.....

Use of the kit

- What have you done with the seeds and tools ?

Seed type	Planted	Sold	Exchanged	Stored	Shared	Other*

**Specify the use*



- If the items were sold or exchanged, ask:
 - . Why?
 - . Who bought/received the seeds and tools?
 - . What were they exchanged for (or at what price)?
- If the items have not been used or are stored, ask:
 - . Why?
 - . When or whether the family plans to sow?

Fill-in the tables below for each type of seed planted
Rice:

First sowing			Second sowing		
Quantity	Portion of the seeds sowed	date	Quantity	Portion of the seeds sowed	date

How was the germination?

.....

.....

.....

.....

Okra:

First sowing			Second sowing		
Quantity	Portion of the seeds sowed	date	Quantity	Portion of the seeds sowed	date

How was the germination?

.....

.....

.....

.....

Peanuts:

First sowing			Second sowing		
Quantity	Portion of the seeds sowed	date	Quantity	Portion of the seeds sowed	date

How was the germination?

.....

.....

.....

Corn:

First sowing			Second sowing		
Quantity	Portion of the seeds sowed	date	Quantity	Portion of the seeds sowed	date

How was the germination?

.....

.....

.....

Have you experienced any specific problems with your planted crops? ☐ yes ☐ no

If yes, what were they?

.....

.....

.....



Appendix 15 : Post-harvest monitoring questionnaire in the Ivory Coast

I/ IDENTIFICATION

AGRONOMIST ZONE
VILLAGE/DISTRICT INVESTIGATOR'S NAME

ACF leader
Farmer contact

BENEFICIARY
Number of the people in the family
Number of children (under12) in the family

IVOIRIAN	
LIBERIAN	
OTHER	
Previous beneficiary	
New beneficiary	
Males	
Females	

ORIGIN (county/region)

LOCATION OF FIELD EVALUATED

0-1Km	2-3Km	4-5Km	5+ Km

ON WHAT TYPE OF LAND HAS THE FIELD BEEN LAID?

VIRGIN FOREST	SECONDARY FOREST	FALLOW LAND

DO YOU HAVE ANOTHER FIELD IN LIBERIA? /_ / yes /_ / no

SOIL

SANDY	
SANDY-SILTY	
SILTY	
CLAY-LIMESTONE	
CLAYISH	

II/TECHNICAL ITINERARY

SOIL PREPARATION

	CLEARING	FELLING	SLASH-AND-BURN
DATE (weeks)			
DAY/WORK *			

* Day/work = number of people _ days worked per activity

TOOLS

	ACF - 96/97	ACF - 97/98	OWN
RECEIVED			
USED in 1997/1998			

SEEDS RECEIVED IN 1997/1998

	TYPE	QUANTITY (kg)
RICE		
MAIZE		

CULTIVATED SPECIES

	IGUAPE			LOCAL
ACQUISITION *	ACF-97/98			

* Acquisition: purchase / donation / loan / exchange / own stock / harvest ACF-1996/1997

CROP ASSOCIATION

MAIZE	MANIOC	OKRA	PEPPERS	OTHER

SOWING METHOD AND PERIOD

CLUSTER / BROADCAST	C / B
DATE (weeks)	



QUANTITY SOWN (Kg)

	TYPE	0	1-14	15-29	30-44	45-60	61+
RICE ACF-97/98							
MAIZE ACF-97/98							
RICE ACF-96/97							
MAIZE ACF-96/97							
local RICE							
local MAIZE							

PROBLEMS ENCOUNTERED

	GERMINATION	INSECTS	DISEASES	RODENTS
DATE (weeks)				
INTENSITY	0 / + / ++ / +++	0 / + / ++ / +++	0 / + / ++ / +++	0 / + / ++ / +++
	BIRDS	RAIN	LACK OF WATER	OTHER
DATE (weeks)				
INTENSITY*	0 / + / ++ / +++	0 / + / ++ / +++	0 / + / ++ / +++	0 / + / ++ / +++

* Intensity: 0 (none); + (low); ++ (moderate); +++ (high)

III) RICE AND MAIZE PRODUCTION

	SURFACE AREA (m2)		PRODUCTION (Kg)		YIELD (T/ha)
	YIELD SUR-FACE	FIELD	YIELD SUR-FACE	FIELD	
RICE ACF - 97/98	1 m2				
RICE ACF - 96/97	1 m2				
LOCAL RICE	1 m2				

TOTAL (KG)

MAIZE HARVEST

	DATE (weeks)	BEG. CONSUMPTION	END CONSUMPTION	TOTAL DAYS CONS.
MAIZE ACF- 97/98				
MAIZE ACF- 96/97				
LOCAL MAIZE				

IV/HARVEST DESTINATION

	sowing		sale		exchange		Debt repay- ment		other		autre	
%	rice	maize	rice	maize	rice	maize	rice	maize	rice	maize	rice	maize
0												
1-24												
25-49												
50-74												
75-99												
100												

V/ EARNINGS

	QUANTITY SOLD		PRICE/ Kg	TOTAL CASH
RICE				
MAIZE				

VI/ FOOD COVER*

	0	1-2 Months	3-4 Months	5-6 Months	7-8 Months	9-10 Months	11-12 Months
FARMER'S RESPON- SE							
INVESTI- GATOR'S ESTIMATE							

*Food cover: how many months' worth of food will they have as a result of their harvest?

VII/ USE OF CASH

%	FOOD	SCHOOL	MEDICAL CARE	CLOTHING	DEBTS	OTHER
0						
1-24						
25-49						
50-74						
75-99						
100						

VIII/ PROGRAMME SATISFACTION

TOOLS

	LARGE MA-CHETE	SMALL MA-CHETE	FILE	AXE	HOE
YES					
NO					

SEEDS

PREFERENCES

	TASTE	PRODUCTION
ACF RICE - 1997/1998		
LOCAL RICE		
ACF MAIZE		
LOCAL MAIZE		

LEADERSHIP

ACF LEADERS	0 / + / ++ / +++
FARMER CONTACTS	0 / + / ++ / +++

COMMENTS AND OBSERVATIONS

Appendix 16 : Post-harvest monitoring in Malawi

ACF Food Security Livelihoods Intervention Ntchisi District Malawi 2003-2004

Post Harvest Report
by
Maja Munk & Neil Fisher

■ EXECUTIVE SUMMARY

ACF's food security livelihoods programme in Ntchisi was designed to alleviate some of the pressure on vulnerable households by improving their food security through increased crop production, diversification and livestock restocking.

ACF implemented an experimental methodology in Ntchisi to target AIDS affected and/or vulnerable households. Instead of the conventional proxies: death of family members, presence of orphans, chronic illness female/child headed households and a high dependency ratio¹⁶. ACF developed a food/labour dependency ratio. This ratio evaluated a household's vulnerability by ascertaining the number of calories each active member needed to bring into the household through farming or cash earnings.

Targeted households were subdivided into two groups: households with sufficient labour capacity and land to cultivate, but too poor to purchase needed agricultural inputs. These households received agricultural inputs. Households who lacked the labour and/or the land needed to cultivate. These households received chickens and chicken feed. This report monitors only the impact of the crop production programme.

■ INTRODUCTION

In 2003, ACF conducted a needs assessment in Malawi's central district of Ntchisi. This assessment was carried out during ACF's existing nutrition and food security activities in the region. Primary sources included interviews and discussions with households, key informants, stakeholders and NGOs active in the area, as well ACF nutrition surveys. Secondary sources included, VAC assessments, and reports/surveys/assessments conducted by other NGOs.

ACF's nutrition department conducted three rounds of nutrition surveys in Ntchisi District from August 2002 to May 2003¹⁷, the food security department was particularly active in the second and third rounds of the survey. While, in general, the global acute malnutrition (GAM) rate was not alarming,

16/ A household's dependency ratio is found by comparing a household's productive members to its dependents. I.e. a household with one productive adult and two young children would have a dependency ratio of 1:2

17/ Round 1: Aug/Sept 2002; Round 2: Nov/Dec 2002; Round 3: Apr/May 2003



Ntchisi was the only district, which showed a continuous increase of the GAM rates from September 2002 to April 2003.

Food security focus group discussions were an integral part of the third round of nutritional surveys. These discussions found that, of the surveyed Districts, Ntchisi was the one most vulnerable to food insecurity. Ntchisi had the highest rise in instances of mortality, the lowest reported proportion of home production in a normal year, claimed to have received the least amount of food aid, and reported the highest use of abnormal foods during 2001-2002¹⁸.

Despite Ntchisi's vulnerability ACF found that in 2003, few NGOs were active in the district—World Vision International was reported to be implementing programmes of assistance to AIDS-affected families in Nthondo TA; the Malawi Red Cross was responsible for the general food distribution in the district.

While much of Ntchisi's food insecurity is chronic, ACF felt that Ntchisi had been under served by the 2002-2003 general food distribution and the OFDA seeds distribution both of which were run by the Malawi Red Cross. ACF found that many of the farming families that lived on the plain of Ntchisi would be food insecure in 2004, with very poor maize yields, little or no cassava or sweet potato, limited cash crops, and very little winter cropping.

METHODOLOGY

Targeting Methodology

ACF implemented an experimental methodology in Ntchisi to target AIDS affected and/or vulnerable households. Instead of the conventional proxies: death of family members, presence of orphans, chronic illness female/child headed households and a high dependency ratio¹⁹. ACF developed a food/labour dependency ratio. This ratio evaluated a household's vulnerability by ascertaining the number of calories each active member needed to bring into the household through farming or cash earnings.

Questionnaires

Three different questionnaires were used during the span of the programme: a rapid questionnaire was used during the beneficiary selection interviews; a five-page questionnaire was used during the BPS; and a nine-page questionnaire was used during the PHM²⁰.

DISTRIBUTED ITEMS

The aim of the intervention was to improve household food security by increasing the food production and income earning capacities of targeted households. Determined by the characteristics of the households, either crop inputs or chickens were supplied to other targeted households. 2,000 selected beneficiary households qualified for crop inputs by having sufficient land and labour. These beneficiaries received:

Item	Amount per Household	Total Households	Total Amount
Beans (Nagaga)	5kg	2,000	10mT
Compound fertilizer	25kg	2,000	50mT
Urea fertilizer	25kg	2,000	50mT

18/ Ibid

19/ A household's dependency ratio is found by comparing a household's productive members to its dependents. I.e. a household with one productive adult and two young children would have a dependency ratio of 1:2

20/ As the PHM was conducted in Chichewa an English translation of the questionnaire used is provided

Vegetable Seeds	5 packets (200gm)	2,000	400kg
Hoe-blade	1 pc	2,000	2,000 pcs
Watering Can	1pc	2,000	2,000 pcs

Beans were chosen for distribution as they are nitrogen fixing and hence increase soil fertility of overworked soil. They can be consumed by the household as a source of protein or sold by the household as a source of income. The fertilizer was distributed to increase household maize production. The hoe and watering can were distributed to support the proper cultivation and maintenance of the households' crops mainly during winter cultivation.

■ PURCHASE AND DISTRIBUTION

All inputs and commodities were locally purchased. Items were pre-packaged to ease distribution and standardize it. Items were transported from Lilongwe to the main Ntchisi storage site at the Admarc²¹. It was also possible to store it in other sites on the eve of the distribution. The items were then dispatched to ten distribution points where the ACF staff would give them out, with the assistance of local leaders. Beneficiaries were called by name to receive their items. The fertilizer, which had to be split between two families, was either divided at the distribution point or at the village.

The distributions began without major incident. However, a few people who were told they were beneficiaries did not have their names on the list. Some groups of vulnerable households (G/VHs) and their relatives used other people's beneficiary cards to receive items that were not intended for them.

There were no reported cases of forced redistribution of items. There were few cases, to our knowledge, of beneficiaries who gave some of their inputs to friends and relatives. However it must be noted that beneficiaries were hesitant to admit they had shared some of their inputs with friends and relatives, for fear it would make them seem less vulnerable. All households that had given some of their inputs to friends and/or family did so because they were asked to; the beneficiaries did not readily offer them. When asked why they did not share their inputs, households responded that they were instructed to use the items themselves and therefore did not want to share and/or that they preferred to share a part of their harvest rather than their seeds.

■ DISTRIBUTION

Haricots

10mT of bean seeds were distributed; each house was to receive 5kg of seeds. ACF ordered a dwarf variety of beans however the supplier sent a climbing variety without notifying ACF²². Although they did not appreciate the climbing character of the bean, the beneficiaries found it was quick to cook and tasty. The beans were a highly valued input for access to them is limited locally.

93% (57HHs) of surveyed households reported they had received bean seeds, and 7% not receiving any. Beneficiary households reportedly received an average of 4.8kg each. The average area sown with ACF seeds was 0.28 hectare. These households sowed on average an additional 0.41 hectare of beans with seeds from other sources. All of the households who received seeds claimed to

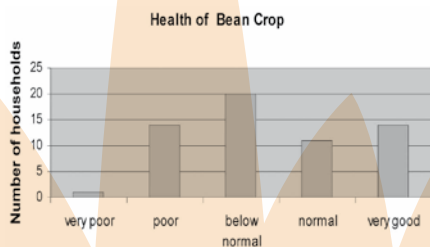
21/ The GoMs agricultural development marketing corporation, where maize is stored

22/ The GoMs agricultural development marketing corporation, where maize is stored



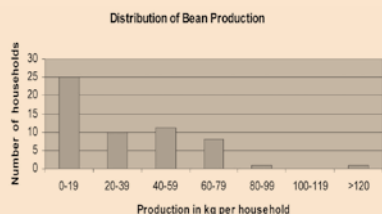
have sown at least some of it. On average, 73% of the seeds were reported to have been sown by the targeted households.

86% (48HHs) intercropped their beans, most frequently with either maize (79%) or tobacco (4%). The average rate of emergence was reported at 79%, which is within normal limits. 58% of the beneficiaries evaluated the health of their bean crop as 'below normal' or worse and 23% reported a healthy crop. The predominant reasons given for poor health were either related to excessive sunshine (48%) or excessive rainfall (36%).



19% of beneficiaries reported eating some, or all, of their bean seeds. Interviews with households who ate their seeds found that those who ate them all did so out of necessity, or because they feared the beans would not grow well; those who ate part of their bean seeds ate those they thought would not be good for planting because they were broken. 5% of the beneficiaries shared the bean seed with relatives. Those who shared them did so because beans are highly valued and their relatives had asked them to.

These two factors are most probably linked, as farmers reported that a dry spell during the flowering stage had killed most of the flowers. The beans distributed were a climbing variety and farmers who intercropped with maize by planting the two seed types at the same time found that the beans had weighed down the maize stalks causing them to break. Many farmers got around this by planting the beans after the maize had been established or by pushing the bean vines down the maize stalks.



50% (28HHs) achieved yields of less than 100 kg/ha and 5% (3 HHs) had more than 500 kg/ha. The average yield of the eight households who sole-cropped was 245 kg/ha; and the 45 households who intercropped had an average of 150 kg/ha. These bean yields are relatively representative of small-scale farming in Africa.

The average reported yield per household was 38 kg, with a median of 36 kg, but there was a wide variation with many households having low yields (See Table). 56% of households reported less than 40 kg; only one household reported more than 100 kg. Calculating yields (Production/Area) gave a mean of 159 kg/ha and a median of 111 kg/ha.

The average reported yield per household was 38 kg, with a median of 36 kg, but there was a wide variation with many households having low yields (See Table). 56% of households reported less than 40 kg; only one household reported more than 100 kg. Calculating yields (Production/Area) gave a mean of 159 kg/ha and a median of 111 kg/ha.

Vegetables

400 kg of tomato, Chinese cabbage, cabbage, onion, mustard, canola, and carrot seeds were distributed. Each household received a variety of five packets of seeds. 97% (57 HHs) of beneficiary households reported they had received vegetable seeds, and 3% (2 HHs) that they did not. 40 households received tomato seeds, 40 HHs canola seeds, 39 HHs cabbages, 33 HHs mustard, 26 HHs onions, 20 HHs Chinese cabbages and 5 HHs received carrots. Most households received more than one variety of seeds.

At the time of the assessment 80% of surveyed recipients had not planted their vegetable seeds. These households claimed they intended to sow their seeds in the dry cool season, in April or May; at the time of the assessment, many dimba lands were waterlogged. However, follow-up visits revealed they had not planted the vegetable seeds. Few vegetable gardens were seen along catch basins which may be due to the population's lack of interest in cultivating vegetables. Follow-up visits in the north of the catch basins also revealed there were fewer waterholes than in other parts of the country, which may explain the population's lack of interest in cultivating vegetables during the cool season.

Of those households who had planted their seeds many had planted them on high lands. Reported emergence rates of those who had planted their seeds were 80% or better, which are good rates. Most households who had already sown their vegetables reported that the health of the plants was 'below normal' or 'normal'. The main reasons for a below normal health were insects and pests—the most commonly reported pest being grasshoppers. Due to the low numbers of households cultivating the vegetable seeds this information is unreliable.

33% (21 HHs) of beneficiary households grew vegetables last year and 20% (13 HHs) had never grown vegetables. Had they not received seeds, 23 households reported they would have grown tomatoes in the cool dry season (winter); 22 HHs would have grown mustard; 6 HHs cabbage; 6 HHs canola; 4 HHs onions; 3 HHs Chinese cabbage and 2 HHs pumpkins. In the wet summer season only 5 households would have grown tomatoes, 2 HHs onions, 2 HHs canola, 2 HHs pumpkins and 1 HHs cabbage.

Fertilizer

50mT of Urea and 50mT of Compound (23:21:0+4S) were distributed. The fertilizer was by far the most valued input—Urea was more valued than Compound as it was seen as better for the crops, most probably because of its immediate impact. Each beneficiary household was supposed to take a 50% share of each of the 50kg bags of both fertilizer types. However, as the fertilizer was so highly valued and some households favoured one type of fertilizer over the other (because they had access to other sources of fertilizer, and depending on what type they already had in stock) the bags were not necessarily divided without contention. Most disagreements between beneficiaries were settled amicably, a few had to be settled by local leaders—the fairness of the final decision most often based on the social hierarchy between the two parties.

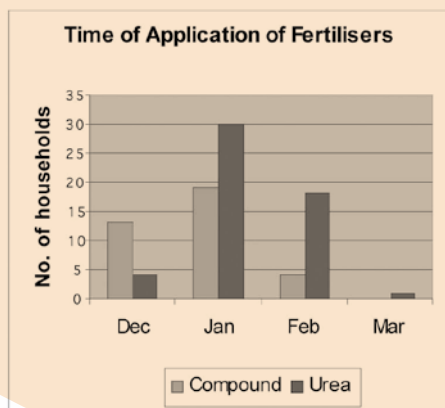
98% (60 HHs) of surveyed beneficiary households reported they had received fertilizer. The average quantity they used was 28kg of compound and 29kg of urea. This average is higher than the intended amount per household and may be a result of the way the fertilizer was finally distributed between beneficiaries. As the fertilizer was not always shared between households, in some cases a household would take more than its share, overall more fertilizer ended up in the hands of fewer households, increasing the average kilograms of fertilizer received per household.



92% (55 HHs) households reported they had applied fertilizer only to maize; 7% (4 HHs) split it between maize and tobacco and one household used it all for tobacco. The use of fertilizer for tobacco is most certainly under reported, as it is the priority cash crop. Interviews with beneficiary households showed that within households there were debates as to what crop the fertilizer should be applied to. Men gave priority to tobacco for its cash potential; women gave priority to maize for its food value. These arguments were predictably settled to favour the authority of the house—but settlements were often a compromise between both priorities. Enumerators estimated that of the households they interviewed, in 64% of cases it was the man who decided where the fertilizer was applied, in 29% the women, and in 7% it was a shared decision. If their estimates are correct, then the fertilizer was applied to much more tobacco than was reported during the assessment.

The average area over which the ACF fertilizer was spread was of 0.37 ha. This represents an average of 17 kg elemental N per household or 47 kg of N per hectare. Although it is only about 40% of the recommended rate for maize, it is still able to increase yield by up to 350 kg per household (based on 20 kg maize per kg N). 32 households reported they purchased additional fertilizer and used it on an average of 0.22 ha.

The reported month in which fertilizer was applied suggests that both the Compound and the Urea were applied a little late, but that recipients understood the need to apply the compound earlier than the Urea. Households were asked to estimate their yields of both fertilized and unfertilized maize. 46 households responded to the question.



These households' predicted an average yield of 1,500 kg/ha for fertilized maize; 26 households predicted the yield of their unfertilized maize, with an average of 308 kg/ha. The difference between expected yields seems a little exaggerated for the local variety of maize. However, field visits to adjacent fertilized and unfertilized maize stands clearly showed the effect of the fertilizer. Farmers clearly understood the impact of fertilizer on their over-cropped soils, which is why this input was so highly valued.

Watering Can & Hoe blade

Each crop input beneficiary received one watering can and one hoe blade. The PHM found that the watering cans and hoes were present in targeted households; the hoes were being used to prepare land and water their fields and/or gardens.

■ CROP PRODUCTION BY NON-BENEFICIARIES

118 non-beneficiary households were interviewed to serve as a base for comparison with the beneficiary households. These households were asked similar questions pertaining to farming practice, yields, etc. Overall there weren't many differences between beneficiary and non-beneficiary households. Their area of cultivation and use of the production were similar.

Crops

63% of non-beneficiary households grew beans. The majority of these households expect to use

their beans at home. There were two purposes for growing vegetables were dual-purpose: to consume them and to sell them.

Only 33% of the interviewed households declared that they grew vegetables. However, observation suggests that most families intercrop pumpkins with their maize and use the leaf as a vegetable. The households grow *Amaranthus*²⁴ nearby and harvest leaves from cassava and a variety of perennials. Somehow, these are not perceived as 'vegetables'.

The reported median of 0.2 hectare of beans intercropped with maize is credible but most of the single-crop farming groundnut plots that were observed in the district are closer to 0.1 ha (1/4 acre) than to 0.2. Similarly, field observations suggest that the areas of vegetable cultivation are greatly exaggerated, or that the question was misunderstood. Even allowing for the low percentage of households who claimed to grow vegetables, there simply is not enough vegetable production in the targeted TAs and the areas stated would require quite a massive effort to water by hand. The most important vegetables in the winter season in descending order are: tomatoes, mustard, onion, cabbage and canola. In the summer season there are tomatoes and pumpkins.

Households	Beans	Ground-nuts	Vegetables
Growing crops, %HHs	63%	72%	33%
Mean area, hectares/HH	0.39	0.45	0.53
Median area, hectares/ HH	0.20	0.20	0.50
Intercropped, % HHs	93%	0%	n/a
Sell all produce, % HHs	2%	3%	11%
Use all at home, % HHs	56%	31%	41%
Sell some, use some at home, %HHs	42%	67%	48%
Never grown the crop, % HHs	26%	29%	n/a

Beans

When the acreage sown with ACF beans is excluded, we notice that crop beneficiaries and non-beneficiaries grow roughly the same areas, 0.41ha and 0.39 ha respectively, of beans. Slightly more non-beneficiary households - 93% - intercropped their beans than beneficiary households- 86%. The intended usage of the beans was similar: 2% of non-beneficiaries and no beneficiaries planned to sell all their harvested beans; 56% of non-beneficiaries and 46% of beneficiaries planned to consume all their harvested beans; 42% of non-beneficiaries and 54% of beneficiaries planned to both consume and sell their harvested beans. 26% of non-beneficiaries as opposed to 32% of beneficiary households had never grown beans before.

Vegetables

Due to the low number of beneficiary households who cultivated their vegetable seeds it is not possible to reliably compare beneficiary and non-beneficiary vegetable cultivation.



Water

Of the beneficiary and non-beneficiary households who grew vegetables, the majority drew their water from a shallow well or directly from a stream. They used a bucket or watering can to carry the water, except for very few respondents who claimed to have access to a treadle pump.

Fertilizer

56% (61HHs) of respondents used fertilizer other than TIP²⁵. Of those households who did not have access to fertilizer, 24 households said its high cost was the reason why they could not afford it, and 16 households complained of lack of availability. Most of the fertilizer was used on maize (averaging 1.5 bags for those who used it, median = 1 bag) and tobacco (1.73 bags but for a smaller number, median = 1 bag). The mean usage was 2.2 bags/acre with a median of 1.4 bags. Assuming equal parts compound and urea, this equates to 95 kg of elemental nitrogen per hectare on average and 60 kg/ha at the median, which is quite a generous dose. However, it should be remembered that almost half of the non-beneficiaries used no fertilizer except for the very small amount they may have received from the TIP. Of the 50 respondents who indicated where they had obtained their fertilizer from, 24HHs had traveled to the District Boma²⁶, 11HHs had traveled to some other market, and 15HHs had purchased it in a village.

According to 58 respondents, the yield of fertilized maize, corresponded after conversion from the local units, to a mean of 1,500 kg/ha and a median of 1000 kg/ha. 68 respondents gave their estimate on unfertilized maize; it computed to 500 kg/ha at the mean and 340 kg/ha at the median. These are in line with ACF's field observations which took into account harvested cobs and those still in the fields. Assuming 56% fertilizer usage, it would imply an average yield for the catch basins of 1,060 kg/ha, which is very close to the national average maize yield prediction for 2004. However, distribution is very skewed and median household yields are only around 800 kg/ha or 500kg for a family growing 0.6 ha. If 80% of the calories need to come from maize, this amounts to about a seven-month supply for a family of five.

■ IMPACT OF THE DISTRIBUTION

By attributing a monetary value to the yield estimates gathered during the PHM and follow-up field visits, ACF was able to estimate the output value of the intervention²⁷. The total value added for all the inputs is estimated at 147,300€ or 19.3 million Kwacha.

Beans

95% of the bean seeds were planted. The average product per household was 38 kg. The yield ranged from zero to 100 kg for a 0.28 ha area (typically 245 kg/ha when single-cropped and 150kg/ha when intercropped with maize). The current village market price for beans is 45Mk/kg, which would mean that each household could potentially earn 1,710Mk should they sell all of their beans. If we combine the earnings of all the households, this would represent 3.25 million Mk. As the vast majority of households intercrop with maize, one can assume that had they not received bean seeds they would have sown only maize, therefore no adjustment needs to be made. However, some households stated that they would have grown soybean instead of beans. It is estimated that for an area of land equal to that used to plant beans, those few households who would have cultivated soybean would have been able to cultivate 80 kg of such seeds. The market price for soybean is taken as

25 / The GoM and DFID's Targeted Inputs Programme

26/ District capital

27/ The watering can and hoe blade are not included in the value added as it is difficult to capture their value.

25Mk per kilogram, this brings the value to 2,000Mk per household and 200 thousand Mk for all of the beneficiaries combined. This makes the potential earning from the distributed bean seeds 33.05 million Mk or 23.28 thousand euros.

Vegetables

1% of households used their vegetable seeds. While all vegetables have different market prices, a good crop of tomatoes from a household plot is worth 400 thousand Mk per household. This makes the total potential earning from the vegetable seeds for all the beneficiaries, an estimated 400 thousand Mk or 73 thousand euros.

Fertilizer

All of the distributed fertilizer was used. Reports from beneficiary and non-beneficiary households, as well as field visits, estimate that the average yield for fertilized maize is 600 kg (based on 0.4 ha at 1500 kg/ha) and 120 kg for unfertilized maize (based on 0.4 ha at 300 kg/ha). This would mean that the fertilizer increased household yields by 480 kg. The market price for maize is 10Mk per kg, making the total value per household 4,800Mk, and the total value of all the beneficiaries combined 9.6 million Mk or 73.28 thousand euros²⁸.

■ CONCLUSIONS & RECOMMENDATIONS

It was difficult to capture the full benefit the intervention had on the beneficiaries as, due to the funding timeframe, the PDM was conducted when the maize was still in the field and the vegetable seeds had not been planted. The true impact of the distribution on the targeted households will only be realized in February 2005²⁹. However, subsequent field visits have found that the distribution was successful. This was not only measurable in the added monetary value of an average of about 74€ per targeted household, but in the overall food security of the visited households.

Discussions with households found that the added yield of beans and maize (due to the fertilizer), had both improved yield and allowed the households to sell some of their production for cash. In a development context, long-term benefits are just as important as short term ones. ACF will therefore be monitoring the impact of this intervention in the coming year so that the continuing benefits of the intervention can be fully measured.

Inputs

Village interviews found that households view the lack of sufficient staples as a major constraint in their life. This is why the fertilizer was so highly valued and why most interviewees wanted maize seeds to accompany the distributed fertilizer. At the time of the PHM the items that were deemed to be mostly likely to improve household food security through income generation and/or improved household food production were: Fertilizer, beans, and lastly vegetable seeds.

Beans

Valued as a cash and food crop, the bean seed was highly appreciated. Seeds represent a high proportion of the cost of growing the crop and despite a dry spell that decreased yields, beneficiaries rated beans as the most important seed input. While farmers did have problems with the climbing variety, it was appreciated because it cooked fast and tasted good. For future distributions ACF should crosscheck that the variety ordered is actually the one that will be delivered.

28/ It should however be noted that if households hold their maize until October they will be able to get significantly more money for their maize.

29/ ACF intends to follow the impact of the distribution into 2005



Vegetable Seeds

The failure of Malawians to appreciate the dietary and agricultural value of diversity may explain why the households did not quite appreciate the vegetable seeds or, in the end, bother to cultivate them. They are not seen as significantly contributing to a household's food security³⁰ via improved staple yields or cash generation. There is a major need for sustained training campaign on the subjects of culture respect and the use of vegetables, which was always well outside the scope and timescale of this programme.

Fertilizer

Field observations of the PHM enumerators found that most households used the fertilizer on maize, with tobacco taking a close second, and that some households applied it to both. As tobacco is the cash crop of the central region this would be logical. In principle, using fertilizer to improve tobacco yields, and hence the inflow of cash into the household, could lead to improvements in household food security as great as improving maize yields. However this depends on the cash raised from tobacco sales being used responsibly, which, given that it is usually controlled by the men, who often do not prioritize household food security, is often not the case.

This irresponsible expenditure was evident during the PHM as it was conducted during the tobacco-sales period. The presence of tobacco traders in the villages, and the number of farmers preparing their tobacco for sale, showed that money was indeed flowing into the hands of local farmers. However, the instance of drunks, prostitutes, and seasonal shops concentrated around the boma indicated that money was being quickly spent. There were instances during the assessment when discussions with beneficiaries or local leaders could not be conducted due to drunkenness. What is particularly problematic is that while women contribute to tobacco production they do not control the money gained from it, and often do not even know how much money was earned. Rural Malawian women have little control over household cash income and expenditure but they do have some control over food. However, women were interviewed who had left their husbands due to (physical/mental) mistreatment of the family. This is often a bold step if she has left her native village to be with her husband: leaving him can mean that she is alienated from her husband's village while no longer being considered part of her native village.

Group discussions with both beneficiary and non-beneficiary women indicated that if the inputs were directly given to the women of the house they would have more leverage when the household decides how the inputs should be used. Additional post-distribution monitoring would also encourage proper use of the distributed items. (That said, the PHM found that the fertilizer was overwhelmingly applied to maize). While it remains to be seen if giving items directly to women is feasible in Malawi, it should be taken into consideration and monitored in subsequent programmes.

Distributing fertilizer is contentious as NGOs and donors are trying to move away from dependence on chemical fertilizers in order to try to resolve Malawi's problem of over-used poor soils. However, due to the low number of livestock per household and the small amounts of nitrogen rich refuse produced by the household, it's difficult to produce sufficient amounts of effective compost. What may be a possible solution is a combination of compost, chemical fertilizer and crop rotation until Malawians modify their dependence on maize in favour of root crops and add legumes into their cropping system so that nitrogen can be captured. The impact of the fertilizer should be monitored over time and, if deemed appropriate and possible, compared to the impact of composting programme in the area.

Watering Can & Hoe

The PHM was not able to assess the overall value of the watering can and hoe to the household.

30/ Although it should be noted that households do value vegetables as a relish that frequently accompanies meals. Women sundry flash-boiled leafy greens to preserve them, this method keeps the greens for up to 6 months.

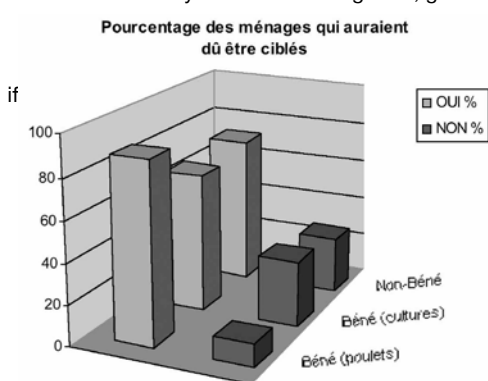
Household visits indicated that the appreciation of these items seemed to be related more to the fact that they were a free bonus to the household than because they were needed.

Targeting

Malawi's chronic poverty and chronic malnutrition in the context of development, rather than emergency, raises the question of the level at which targeting should take place: individual, household, community, district, or region. The piloted targeting methodology addressed vulnerable households within a vulnerable district. While the evaluation of the methodology itself is annexed, it is important to look at targeting itself in a broader picture.

Historically the primary social-safety net of rural Malawi revolved around the extended family. This safety net is weakening as society adjusts to increasing population density, foreign influences, aid interventions, changing priorities, and increasing pressure—the extended family is weakening as the concerns of the nuclear family take priority. This erosion can be readily seen in the number of elderly persons who do not receive support from their adult children and in the declining practices of collective working groups like *chidyerano*, a labour sharing system, literally translated as 'you eat, I eat'.

Arguably, programmes that target individuals strengthen this trend that extols the interests of the individual to the detriment of the community. The power of collectivism has distinct benefits as it maximizes labour resources, and time, the very things that will be increasingly rare as HIV/AIDS spreads throughout the country. Community-based programmes or interventions could be used to revitalize the extended family network in a long term, ground-up, and in a sustainable way.



During the PHM enumerators were asked, given the context of the villages they visited, and the households they met with, to decide the interviewed beneficiary and non-beneficiary households should have been targeted (See graph below). The enumerators felt that 76% of the targeted beneficiaries should have been targeted and that 72% of the non-beneficiaries should have been selected.

While these numbers only represent the enumerator's personal opinions, they are valuable because the enumerators were able to see the households in their entirety and within the context of the surrounding village.

The percentages given indicate that despite

the fact that about two thirds of the beneficiaries were selected through the piloted methodology and one third by local leaders the majority of the households were targeted correctly. The fact that the beneficiaries report the lowest instances of correctly targeted households (67%) may indicate that the high monetary value of the distributed fertilizer led to more misallocation of beneficiary cards to beneficiaries. In addition to this inclusion error, the percentages given by the enumerators for the non-beneficiaries also indicate a large exclusion error. There is little difference, between their assessment of the people who were targeted and those that were not.

MISALLOCATION

It is a risk inherent to any distribution to find that the distributed items reached other people than those they were intended for: beneficiary to G/VH or G/VH relative, beneficiary to non-beneficiary, less favoured wife to more favoured wife, etc. Misallocation can be due to NGOs and communities having differing priorities; a lack of dialog; or sectors of a community wanting to profit from NGO interventions. However, given that Malawi's situation has been upgraded from "emergency" to "de-



velopment”, that its social and communications infrastructure are developing, and that the level of education in rural areas is improving, it is possible to mitigate the prevalence of corruption. While the time allocated to wrap up the programme limited ACF’s ability to fully develop a dialog with the involved communities, measures should be taken to ensure that future programmes have the necessary mechanisms to implement dialog and adopt a more participative approach with these communities.

Transparency and collaboration with the community is essential. Because of the nature of the piloted targeting methodology and time constraints, ACF did not readily inform communities of the nature of the intervention—even well after the distribution, beneficiary households did not know why they had been targeted. This was deliberately done to prevent the population from knowing the answers that were more likely to get a household targeted, so that the methodology could be successfully used in subsequent distributions. However, while informing communities of the criteria used to target households can in part bias the answers, general dialog as to the intent of the intervention is essential, for it increases cooperation and accountability. While time constraints greatly affected ACF’s ability to conduct the necessary fieldwork—ACF should place more of an emphasis on community interaction and follow-up for any subsequent interventions.

Household interviews found that ACF’s distribution was prone to misallocation by the G/VHs because of a lack of dialog. GV/Hs may have wrongly informed non-targeted households and may have told them, instead of the intended beneficiaries, to collect beneficiary ID cards.

It should be noted that the villages in Ntchisi are more often small, consisting of about ten households, and are mainly grouped by family. These sub-villages are part of a larger village³¹. In a typical village a large proportion of the village will be related to the G/VH. A relationship to a G/VH or being the G/VH itself does not necessarily exclude vulnerability. However, when local leaders are selecting beneficiaries they will be more likely to choose less vulnerable, or non-vulnerable, relatives over more vulnerable non-relative households.

There were no instances reported of items being forcibly redistributed after they had been distributed. This means that if checks are put into place to guarantee that the intended beneficiaries personally receive the distributed items, they will retain them. Simple steps can be put into place to facilitate distributed items getting to the intended beneficiaries:

Make communities aware of the nature of the intervention

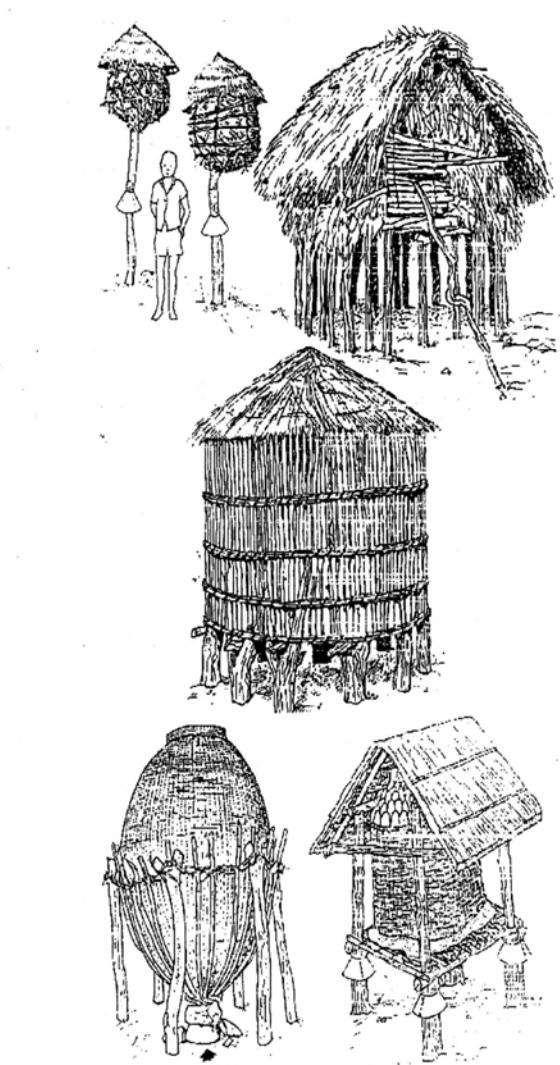
Avoid using the GV/H as an intermediary

Maintain a dialog with involved communities and beneficiaries for the length of the intervention

Follow-up visits are essential. They integrate ACF into the community and support the proper implementation of the programme. They also allow people to voice their opinion. This is particularly important when a G/VH or higher local authority is corrupt, as there is no other reliable channel for the villagers to denounce corruption.

31/ This micro-village set-up is to a degree a product of targeting methodologies, as used for example by TIP, that target a certain number of households per village—so the smaller the village the greater the chance of households becoming beneficiaries.

Appendix 17 : Examples of traditional post-harvest storage facilities





Appendix 18: Subcontractor agreement contract for agricultural training

REPUBLIC OF THE IVORY COAST
Union - Discipline - Work

Action contre la Faim

SUBCONTRACTOR AGREEMENT BETWEEN ***Action contre la Faim AND ANADER***

BETWEEN:

Action contre la Faim, henceforth referred to as “Action contre la Faim”, represented by the Agricultural Programme Director, Mr. Olivier Martin,
AND:

The Agence Nationale d'Appui au Développement Rural (National Agency for the Support of Rural Development), henceforth referred to as 'ANADER', represented by its Regional Delegate, Mr. Augustin Akproh Agnes.

The above mentioned parties have agreed to the following:

■ PREAMBLE

Through co-financing by the European Union and Action contre la Faim, the present programme aims to support renewed market gardening and food crop farming activities in 1996-97, in prospect of 1997-98 in the Tabou Prefecture in the South West Region.

The programme is intended for Liberian refugees (70% of the beneficiaries) and for the native population (30% of the beneficiaries). Motivation will be the primary criterion for selection.

This project is part of a policy aiming to encourage the integration of the refugee populations, evolution towards food independence, and the mastering of farming techniques that the refugees could reproduce on their own in their home of origin and that the native populations may retain.

Implementation of the project is realized by Action contre la Faim, operational partner of the European Union.

This includes three main programmes:

1/ Market Gardening Sector

Up to 4,800 beneficiaries may be eligible for distribution and leadership of vegetable gardens. Community participation will take a major place in this segment of the programme.

2/ Pluvial Crops Sector

In this phase of the programme, about 9,000 families may benefit from the distribution of seeds and tools as well as from management support for the agriculture campaign, up to the evaluation of the production.

3/ Converted Shallows Sector

This sector aims to have the shallows converted or rehabilitated by beneficiaries who are motivated by the mastery of the technique of irrigated shallow-water rice adapted to the zone, and who are concerned with being well-organized. These farmers will benefit from the distribution of seeds, tools, and inputs, and from all training necessary for the valorization of the shallows.

The valorization of the shallows presents a viable alternative to itinerant farming and can ensure continued access to land.

ANADER will provide technical support to Action contre la Faim by its own means in the project zone.

TITLE I: GENERAL STIPULATIONS

■ ARTICLE 1: GOAL

The present convention aims to define the area of intervention of ANADER in the implementation of the agricultural programme led by Action contre la Faim in the zone of Tabou, by providing assistance to Liberian refugees and Ivorian populations,. The convention also specifies the operational and financial relationships between ANADER and Action contre la Faim.

■ ARTICLE 2: CONSTITUTIVE ELEMENTS

The present convention is composed of the following elements:

- the text of the present convention,
- the appendices, which include:
- detailed fee list for ANADER's services (appendix I)
- details of the cost of an agricultural advisor, letter dated 14 May 1997 (appendix II)
- format of the bimonthly report of agricultural advisors (appendix III)
- table for the management of the "ANADER account" at the Tabou Total station (appendix IV)

■ ARTICLE 3: DURATION

The present convention is established as of 06 January 1997 and shall cover a period of one year (otherwise stated as 06 January 1997 to 05 January 1998) and is renewable.

■ ARTICLE 4: INTERVENTION ZONE

ANADER covers the Tabou zone, comprising the Sub-prefectures of Tabou and Grabo.

■ ARTICLE 5: NATURE OF THE FEES

Action contre la Faim places ANADER, who accepts, in charge of the execution of the following actions:

- Teach programme beneficiary families on the in the issues of food crop farming and market gardening and ensure that knowledge of the technical themes is spread throughout the community.
- Inform and organize beneficiaries into groups.

And, upon express request by Action contre la Faim:

- Participate in the selection of shallows to be developed as well as in their conversion.
- Train Action contre la Faim's representatives in the area.

■ ARTICLE 6: ANADER'S FEES

The cost of ANADER's intervention has been determined to be 33 million CFA. Details of these fees are provided in Appendix I.



TITLE II: OBLIGATIONS OF CONTRACTUAL PARTIES

■ ARTICLE 7: OBLIGATIONS OF ANADER

ANADER agrees to:

- Provide the skills requested by Action contre la Faim and the necessary equipment.
- Ensure training and provide technical support to the project's beneficiaries according to the following:
 - Agricultural advisors will allot 50% of their time to activities specific to Action contre la Faim,
 - Supervisors will allot 20% of their time to activities specific to Action contre la Faim,
 - Specialized technicians will allot 20% of their time to activities specific to Action contre la Faim.
- Structure the beneficiaries into professional agricultural organizations (PAO) of agricultural product commercialization.
- Participate in bimonthly coordination meetings. ANADER participants are the following:
 - The Regional Delegate or a representative,
 - The Zone Director,
 - All other necessary persons.
- Develop technical reports:
 - Bimonthly, written by the agricultural advisors according to a defined outline, to be submitted to Action contre la Faim's technician of the corresponding zone,
 - Monthly, written by the Zone Director, to be submitted to Action contre la Faim's Programme Director,
 - Quarterly,
 - Annually by the Regional Delegate.
- Prepare circumstantial reports following supervisory missions or follow-ups.
- Regularly communicate all information necessary for the monitoring of activities to Action contre la Faim.

■ ARTICLE 8: OBLIGATIONS OF ACTION CONTRE LA FAIM

Action contre la Faim agrees to:

- Register its programme with the Ivorian agricultural policy.
- Ensure the implementation of the programme: selection of beneficiaries, distribution, instruction and training, monitoring of the various kinds of planning according to the changing markets, and evaluation, within the limits of available resources, in conformity with the project proposed to the European Union and foreseen by the Ivorian government.
- In conjunction with ANADER, define the scope of each solicited intervention.
- Make all financial resources available to ANADER in compliance with the jointly approved budgetary stipulations.
- Communicate all pertinent information concerning goal or strategy changes, and any kind of reorientation of the collaboration, to ANADER so they may make adaptations accordingly.

TITLE III: RELATIONSHIPS BETWEEN ANADER AND ACTION CONTRE LA FAIM

■ ARTICLE 8: THE EXECUTION OF THE ACTIVITIES FOR WHICH ANADER IS RESPONSIBLE AS MENTIONED IN THE PRESENT CONVENTION WILL BE ENSURED BY THE SOUTHWEST REGIONAL DELEGATION.

The agricultural programme manager of Action contre la Faim has a functional relationship with the Southwest Regional Delegate of ANADER and also, by delegation, with the Zone Director of Tabou, for questions concerning coordination, supervision, monitoring, and follow-up / evaluation of the project's activities.

TITLE IV: MEANS OF IMPLEMENTATION

■ ARTICLE 10:

HUMAN RESOURCES

- 30 agricultural advisors
- 3 supervisors
- 2 specialized technicians
- 1 Professional Organization Specialist (POS—extra-budgetary)

Each quarter, taking into consideration the beneficiaries' situation, location, and volume of activity, the number of agricultural advisors needed in the programme activities and the level of participation by Action contre la Faim can be re-evaluated.

ANADER will provide specific support through its own resources as needed.

■ MATERIAL MEANS

For specific activities, technical material or supplies can be provided by one or the other of the contractual parties.

TITLE V: MISCELLANEOUS MEANS

■ ARTICLE 11: PAYMENT OF FEES

A sum equivalent to 30% will be advanced to ANADER upon signing of the contract. The remaining amount will be paid in two (2) instalments of 25% each, respectively at the close of the first and second quarter of activity, and a final instalment of 20% shall be paid upon closure of the third quarter.

■ ARTICLE 12: DOMICILIATION OF THE ACCOUNT

The amounts to be paid to ANADER under the present agreement will be directed to Account # 271 300 793 - 23, of the S.G.B.C.I. of San Pedro.

■ ARTICLE 13: MODIFICATIONS

The current agreement will undergo annual review and may be modified upon mutual agreement.

■ ARTICLE 14: TERMINATION

Each party reserves the right to terminate the current agreement provided the motives for such are explained to the other party.

■ ARTICLE 15: ARBITRATION

The contractual parties under this agreement agree, in the case of litigation, to make an effort to achieve an amicable resolution. Should this not occur, their differences shall become the object of arbitration with the Prefect of Tabou, or ultimately with the National Committee for Coordination of Assistance to Liberian Refugees (Comité National de Coordination de l'Assistance aux Réfugiés Libériens (CNCARL)).



■ ARTICLES 16 : SELECTION OF DOMICILIARY ADDRESS

Pour l'exécution du présent accord, et pour ceux qui pourraient suivre, les parties signataires ont choisi les adresses principales suivantes :

PFor Action contre la Faim:
Mr. Olivier MARTIN
Agricultural Programme Director
BP 184 Tabou
Tel: 72 43 93

For ANADER:
Regional Delegate of ANADER
BP 352 San Pedro

■ ARTICLE 17 : DATE OF EFFECT

The current agreement takes effect on 06 January 1997.

COPIES: Coordination Action contre la Faim in Abidjan
General Management of ANADER in Abidjan

Signed in _____, in _____ copies, on _____.
city # date

For Action contre la Faim
Agricultural Programme Director
Olivier MARTIN

For ANADER
Regional Delegate
Augustin AKPROH AGNES

Appendix 19: Example of responsibilities for a rotating goat distribution

ACF Responsibilities:

- Distribute vaccinated, pregnant goats.
- Ensure the presence of qualified veterinary experts at the time of the distribution to guarantee the quality of the distributed animals.
- Ensure veterinary treatment for all goats during the first year of the programme.
- Provide simple animal husbandry training before and after the goat distribution.
- ACF is not responsible for the replacement of any goats that die during the programme.

Responsibilities of the beneficiary groups:

- The first household receives a pregnant goat and is responsible for its care until the birth of the kid. If it is a female, it is given to another family in the group. If it is a male, the families must decide whether to sell it to buy a female, or to keep it as breeding stock.
- If the goat becomes ill, the beneficiary family is responsible for ensuring proper care through the veterinary services provided in the programme.
- When each of the 3 families in the group has one female goat, the group can decide to continue working in collaboration or leave the structure.

Appendix 20 : Example animal training guide from Ethiopia



CURRICULUM FOR COMMUNITY TRAINING IN ANIMAL HEALTH

J. M. Davies

March 2001

Updated February 2002.

Introduction

Within the objectives of this programme of Integrated Animal Health and Water Resources Development in Afar it is stated that Action contre la Faim will “train 400 herdsmen on the use of veterinary inputs (training sessions for 20 - 25 groups of herdsmen).” This part of the proposal has become an important aspect of the para-veterinary (paravet) training programme as a means of reinforcing the job of the paravets and generating support and understanding within their communities. It has been used in different circumstances – both as a part of the introduction process in a new community and as a follow-up measure after the paravets have been trained. In both cases it has proven to be an effective tool in boosting local interest in the programme and developing an understanding of the way Action contre la Faim operates.

The training programme consists of two days of discussion and presentation, although usually it is part of a wider workshop through which the community is not only trained but also participates in setting up of one or more aspects of the programme.

This training programme is as much about promoting Action contre la Faim's paravet approach as it is about formal education of the community. It takes great deal of effort to expound Action contre la Faim's ideas – especially to justify the cost-recovery concept – and it is important that the community members are convinced of this idea if they are to support the paravets in their work and if they are to get the most out of the operation of the paravets.



1. TRAINING METHOD

The first important point is that Action contre la Faim has so far been paying per diem for this activity. This cannot really be justified for a training programme, but it was considered necessary to ensure that people participated. However, so far this has been justified by combining the training with a broader workshop covering the organization of one or another aspect of the programme. In addition, Action contre la Faim would have had to organize meals for the participants had the training been held outside of the communities, so it was considered more practical to pay the per diem (30 ETB per head) and let them take care of their own meals.

The training curriculum itself has proven to be a reasonable activity, although there is room for improvement in the teaching technique. The trick is to keep the participants interested and involved, for it is notoriously difficult to retain their attention. The approach so far has been to start with a group discussion activity, in order to energize the groups and to get them to think about the various subjects (as well as yielding valuable information). This is followed each time by a presentation of one of the four main topics.

A group brain storming was conducted by the animal health team to help select the topics for the training programme. The main question was how “To increase awareness and understanding of animal health and health care”. This was then broken down into four sub questions, which were defined as follows;

- What is animal health? : What are the performances of a healthy animal?
- Why is animal health care necessary? : How can diseases affect the productivity of the herd?
- What is animal health care? : What are the different methods available to avoid diseases?
- How should people use animal health care services? : What are the pros and cons of each method and how to elaborate a better way to take care of animals?

Following the discussion groups, the ACF team shares all the gathered information, focusing on those answers that seemed either wrong or peculiar. Then we discuss the necessity to take these points as examples during the next presentation. For example, if some symptoms of a disease are unclear or misunderstood, this disease should be part of the next presentation. The same applies for traditional treatments that can be harmful to the animals. When discussion groups are divided, make sure to gather kebele elders to get homogenous answers.

These four questions were made the main topics for the four presentations and the associated four discussion groups. The efficacy of the training, however, is not easy to ascertain, and it would be interesting to find a way to test knowledge improvement of the participants.

Emphasis has to be placed on the training technique, which should be as visual as possible, whilst taking into account a near 100% illiteracy rate. The tendency of most veterinarians is to stand up and show how great their knowledge is, rather than to focus on getting a message across to their audience – as a result of which a great deal of the information is not transferred effectively. It is good to take this training curriculum apart and simplify the message into really basic fundamental messages – accompanied by plenty of charts, posters and demonstrations.

One very important point of this community training is to explain ACF's activities and its way of working with the paravets. It is the only time that we can gather such a large number of people from all of the woreda and it will prevent future misunderstandings. This is also necessary for the organization of the paravet training. Elders are often more interested about getting information on paravets, for they can put in into practical use, than about being taught on animal health. It is better and logical to end the training talking about paravets

It is equally important to note that the regional agriculture bureau, the zonal council, and zonal agriculture department have to be informed and involved as well as, naturally, the woreda economics

office and woreda council. They should be at least invited at the end of the training and be given per diem calculated at the government scale.

sur la technique de formation, qui doit être aussi visuelle que possible, tout en prenant en compte le perdiems calculés à l'échelle du gouvernement.

2. SESSION 1 – WHAT IS ANIMAL HEALTH?

Objective of the session – to start the group thinking about what the Afar consider to be a healthy level of productivity and what constitutes a healthy animal.

How is the performance of Afar cattle?

Split into sub groups with a facilitator for each.

Groups must agree on the answers to the questionnaire.

Mortality vs. Morbidity

What is the difference between mortality and morbidity? Mortality may be more alarming but may only affect a few animals. Sometimes morbidity is a greater problem because it may affect many animals at different degrees. Sometimes morbidity is not noticeable, such as light to medium worm burdens, but it is when productivity decreases that the pastoral community discovers this invisible disease.

For example, a cow carrying stomach worms may produce about a quarter less of milk before any other signs of the disease appear – which means that if you have four cows with an “invisible” infection, the quantity of milk produced is equivalent to that of only three cows.

Impact of morbidity (or production deficiency) has been measured in pastoral environments. If two herds live in the same condition and one herd is suffering from the normal range of diseases, and the second receives good veterinary health care – including vaccinations and other routine preventative measures, the first herd will suffer 30% greater losses due to either death of the animals or rapid loss of milk production.

Mortality, on the other hand, is also very serious because fatal diseases can often strike without warning – such as Anthrax. We have seen that in Dokaqa (zone four) for some herders, between 5 and 10 out every 100 animals died from anthrax. Not only do animals die, but each animal that dies raises the risk of an additional animal dying from the disease. In Dubti woreda a similar level of mortality was seen due to contagious bovine pleuro-pneumonia (CBPP).

Common diseases which cause mortality are: CBPP, pasteurellosis (hemorrhagic septicaemia), anthrax etc.

Diseases which cause morbidity are: Internal parasites, post-foot and mouth disease, ticks etc.

Diseases which can lead to other diseases: Foot and Mouth, CBPP (secondary infections), ticks etc

What is a healthy animal?

Signs of a healthy animal are (be careful to avoid contentious points and do not forget the emphasis put on visual recognition): posture, behaviour, gait etc.

- Animal with good appearance – eyes, ears, nose, coat
- Animal with normal posture and movement
- Animal with normal behaviour
- Animal with a good appetite
- Animal has good level of milk production
- Young animal has a strong growth rate
- Animal has strength
- Animal has full reproductive capacity



What fails when animal are unhealthy:

- Milk production
- Growth rates
- Female (and male) reproduction
- Body condition
- Market value
- Body strength
- Drought resistance

3. SESSION 2 – WHY IS ANIMAL HEALTH CARE NECESSARY?

Objective of the session – to explain the real impact of different diseases including the estimated costs in terms of livestock death and morbidity

What are the relative impacts of different diseases?

Use group exercise three, or a variant of it, to get people to look at the comparative impact of different diseases on different aspects of livestock health.

Mortality

Animal death due to disease is very common, especially during the drought season when the animals are weakened by hunger. Often an animal is weakened by a disease during the good season and therefore isn't ready to survive during the dry season. Mortality can decimate a herd, and even leave a family with almost no cattle.

Death from different diseases can be prevented in different ways; by vaccination, treatment of parasites and treatment of disease or wound treatment. Emergency treatments will always be necessary, but efforts to avoid death of livestock are a good use of money.

Milk Production and Quality

Milk production can decrease rapidly when an animal is sick. Even when the disease is mild and the animal looks healthy there is often a slight reduction in milk production for the animal is fighting the disease. At the scale of a single cow, such a decrease is small, but across a herd of fifteen cows it might be equal to the total production of two animals. Add to this the loss of milk when an animal is seriously diseased for a long time and the resultant loss of its calf and the impact becomes very important.

The following example shows an estimation of the cost of improving animal health in cattle through routine interventions.

Type of treatment	Frequency	Cost per cow	Estimated impact
Vaccination against. Anthrax	Annually	0.2 ETB	Saves 3% of cattle
Vaccination against. CBPP	Annually	0.2 ETB	Saves 3% of cattle
Vaccination against. Pasteurellosis	Annually	0.2 ETB	Saves 2% of cattle and 10% of milk
De-worming	Annually	3 ETB	Saves 2% of cattle and 10% of milk
Ectoparasite control	Every 6 months	2 ETB	Saves 10% of milk
TOTAL		6.0 ETB	Saves 10% of cattle and 30% of milk

An average pastoralist with 10 cows will pay 60 ETB and could save the life of one cow plus the total milk production of three cows. Furthermore, this table does not include the cost of calf mortality or the cost of delay in reproduction.

Loss of Breeding

It is one of the less recognized impacts of disease, but one that most herders have noticed – when a cow is sick it takes much longer to get pregnant again – which means more time between calving and therefore a longer period with no milk production. On top of this there is the loss of calves through abortion or death, so the cost is very high.

If on average each cow's pregnancy is delayed by one month, then the impact for a herder with only 10 cows is equivalent to a ten-month loss which is close to one complete lactation cycle and one calf per year (in other words, it is like he only has nine cows).

Calf mortality seems quite high in Afar, and this could be reduced through good animal health care. A healthy mother means a healthy calf so it is necessary to ensure that all productive cows are protected from disease. This gives the calf a better chance to survive.

Growth Rate

Just as animals with a low level of disease can have a reduced milk production, so can young animals have reduced growth. Obviously when an animal becomes sick it stops growing, but even when it is only mildly affected, its growth is slowed. This means one must wait longer before calves reach maturity (for breeding) and lower prices for animals sold at market (because they are smaller). It is also possible that the lifetime productivity of a female may be reduced by diseases during the growing period.

Body condition is weakened by disease, therefore when animals are taken to market people no one will want to buy them. Keeping animals healthy is a way to make sure that they fetch the best price in the market.

Transmission of Disease

Animals which are not protected against diseases not only suffer from the diseases but are a source of infection for other animals. The diseases live in the unhealthy animals, and those which recover naturally still carry the disease and can transmit it to other animals. CBPP is classic example of this – the disease lives in the lung and is transferred by the breath of the animal to a healthy cow. The disease lives on even when the cow becomes resistant, so a healthy cow that meets the resistant cow is at risk.



Strength

For the Afar, even more than for highlands farmers, the strength of the cattle is essential, partly to survive the heat of the summer and the drought and partly to withstand the huge migrations that the cattle have to make. Weak animals that cannot make the migration will be a burden on the herder and ultimately will not survive the journey.

Transmission to Humans

In a few cases it seems possible for the disease to be passed onto humans. An example of this is Anthrax, called Baxalita in humans. This disease can be fatal to humans and many people die from it. It is transmitted directly from the animals and therefore by treating the animals humans are saved. In the case of this diseases the vaccinated animals do not carry the disease.

4. SESSION 3 – WHAT IS ANIMAL HEALTH CARE?

Objective of the session: to explain that there are different types of animal health assistance, both preventative and therapeutic.

It is important to carefully translate this section because there is a tendency to interpret “prevention” as “vaccination” (“Aftabu”) which defeats the purpose.

What forms of Animal Health Care are known to the participants?

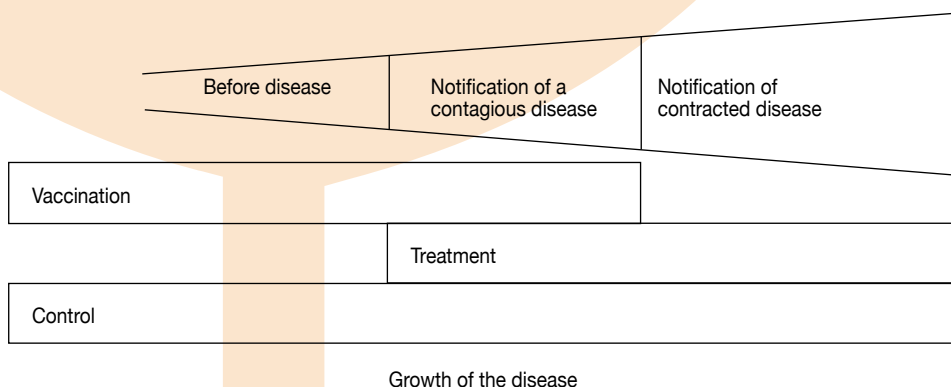
Split into sub groups with facilitator and follow the activity outline for the second discussion.

The groups should give multiple answers, although the objective is not to conduct a thorough survey of the issues to be addressed – it is mainly to start the participants thinking about the different ways they know of looking after the health of their animals.

These are open questions and many answers can be noted.

Components of animal health care

Attempted visualization of the timeframe for implementing different interventions



A rough chart that can show the herders what can be done when a disease affects an animal population. Vaccination can be carried out effectively as long as there are unaffected animals. Treatment is necessary whenever animals succumb to the disease (and whenever it's possible). Control refers to the management practices used to reduce the risk of disease.

Prevention and control – vaccinations (control or eradication?)

Vaccinations are used to prevent a disease from occurring. For this reason it is necessary to vaccinate before the disease occurs. For this there are two solutions;

Most pastoralists know very well when each disease is most likely to occur so they can administer the vaccine just before they expect an outbreak

A better solution is to have vaccines administered routinely every year so that the animals are permanently vaccinated

There must be a recall for most vaccines every year in order to protect the animal. In fact one or two vaccines, such as the one against CBPP, may last for only half a year but if administered at the right time it can protect the animal during the main problem-season.

It is rare to find a vaccine that lasts throughout the animal's life. Rinderpest was one exception and as a result it was relatively easy to eradicate. Do not expect to eradicate other diseases in this way – it is necessary to vaccinate the animals every year to be safe.

Obviously, getting such vaccines every year will not be easy. It is necessary to tackle vaccination in two different ways;

- Emergency vaccination: when needed.
- Routine vaccination against one or two priority diseases: every year for those diseases which pose the greatest problems.

In order ensure vaccinations will be carried out in the future it is necessary for the pastoralist to cover part of the cost. Normally the different departments can organize the materials (vaccines) but not the staff to administer the vaccines. For this reason the herders must get used to covering the cost of the vaccinator.

Explain diseases for which vaccines are available and do not need adherence to the cold chain.

Note for the speaker

We introduced a fixed fee of 20 cents per animal vaccinated. But this price will change from one paravet to another according to their willingness and commercial attitude. A better way, but more difficult to organize, would be to gather the paravets and representatives of the community and discuss a price that will be the same for all.

Show a vaccination gun.

Vector Control

Vectors are insects which carry a disease. For example, Anaplasmosis can be transmitted by ticks – the disease lives in the blood of the animal, so when the tick drinks the blood and then falls to the ground, it can infect the second animal it bites. Flies also carry diseases such as Trypanosomiasis.

These second diseases can be prevented by destroying the first – or the insect. So by spraying the animals against ticks and flies, for example, you can reduce the risk of them catching or transmitting certain diseases.

Traditional practices – immunization, migration from risk areas, quarantine

It is useful to recognize the measures which pastoralists take to avoid diseases. This can include specific migrations away from risk areas, selective pasture usage to avoid, for example, stagnant water or quarantining of sick animals. These are valid practices and should be encouraged.



It is useful to watch for bad practices during the discussion group. A particular favourite is to burn or cut out the lymph nodes when an animal is sick, which seriously undermines their ability to recover. Many pastoralists acknowledge that traditional methods are ineffective.

Traditional methods of immunization are very interesting and show that the Afar already have some understanding of the principle of preventative treatment. Highlight such practices and explain the similarity to modern vaccination.

Treatment of Diseases (show the paravet kit equipment to the participants and explain the use of each component)

Wound treatment – wounds are a very common problem, especially hyena bites and foot-rot. They can be very easily treated by simply cleaning and covering with the wound with antibiotic (purple spray). If the wound is very deep then an injection of oxytetracycline can have surprisingly quick results.

De-worming can be easily carried out by giving the appropriate medicine. The problem is that drugs are often available on the black market but the medication has already expired. If used correctly, however, and at the appropriate time (preferably after the animals are removed from a risky area) then the results are highly satisfactory. De-worming can be used to get rid of all types of worm, including stomach worms and liver flukes.

Ectoparasite control is used to stop biting “insects” from attacking the animals. Thorough spraying has a long lasting effect (several months) so it can also be used strategically to repel the insects as well as to destroy those which have already infested the animal. Spraying destroys ticks and mange and prevents biting flies from attacking the animal.

Blood parasites include Anaplasmosis, Trypanosomiasis and Babesiosis. These are infections of the blood which are transmitted by blood sucking insects. The diseases can be treated in different ways, but Trypanosomiasis is very expensive to treat, so it is better to stop the onset of the disease – i.e. by preventing the flies from biting. Anaplasmosis is relatively easy to treat, but it should not be mistaken for other diseases (especially worms) – misdiagnosis is a likely cause of pastoralists being contemptuous of modern medicines.

Infectious diseases are not all treatable but many of them are. Anthrax often attacks too fast to be able to catch it in time, so it is better to vaccinate the animals. Pasturellosis, however, can be treated easily by antibiotics as long as the drug is both new and has been stored well. Black market drugs are often out of date and have been badly handled, so you cannot guarantee the quality. CBPP can also be treated, as can blackleg and a number of other bacterial infections.

5. SESSION 4 – HOW SHOULD PEOPLE USE ANIMAL HEALTH CARE?

Objective of the session – talk about the pros and cons of different services and elaborate in detail about Action contre la Faim's programme.

Location of health services

To be determined through discussion groups – where can they find assistance? What services have they received in the past and how do they compare with each other?

Seasonality and specific requirements of the Afar region

Discuss the constraints faced by veterinary services in the Afar region: mobility of the population, distance between herds; lack of infrastructure; language of the Afar, etc. How do these factors make the standard Ethiopian approach ineffective?

Quality

What is required to keep drugs in good condition? Drugs need to be kept in correct conditions and should not be kept longer than a certain date – after this date the potency of the drug starts to decrease until it becomes ineffective. The worse the storage conditions are the faster it loses its power.

It is often difficult to read a drug's expiry date, as it is in a European date format. People often do not know about expiry dates; and sometimes those who know may try to sell you cheap but expired drugs.

There are risks involved in using a medication that has lost its potency. Animals may recover from a disease, whether they have been treated or not. However, if an animal that received a weakened drug recovers, the disease can then become resistant to that drug just as the animal became resistant to the disease. In other words, a drug resistant disease is created that will be passed on to other animals, making it even more difficult to treat in the future.

Correct Dosage

It is necessary to use an adequate dosage to ensure the disease is treated correctly. The consequences of an inadequate dosage are similar those of poor quality drugs – the disease can become resistant to the drug and render it less effective in future treatments. Furthermore, a herder who uses insufficient dosages that have no effect on his cattle has wasted his money – it is a false economy. You should seek assistance to determine the use and dosage of each drug. Different types of drugs can treat the same disease. Some are of different colors and sizes but these characteristics are no indication of quality: a big pill can be more or less effective than a smaller one.


How does Action contre la Faim's programme work?

Explain it in to the smallest detail, keeping in mind several points:

- Rumours have been circulating about ACF making profits from the sale of the drugs;
- Some pastoralists think paravets are just drug sellers doing business. Their interest in paravets is only related to the equipment and drugs they have (not the knowledge).
- Pastoralists often complain about the high prices of ACF drugs and refer to the low prices of the government: point out the difference in quality of service between a paravet and the veterinary clinic.
- Everybody expects to get direct benefit from an NGO in one way or another.

Explaining several times, and clearly, ACF's activities can prevent misunderstandings. Be very clear so that they cannot later tell you "we understood something different from what you are saying know".

1. Health care is provided by selected pastoralists (called paravets) who have been trained and equipped by ACF.
2. Paravets are themselves pastoralists; they belong to the community of their kebele; they have animals and they stay with their animals. Their main activity remains pastoralism or agro-pastoralism.
3. The service is paid by the user.
4. The paravet receives only what the user pays him. So, the more he works the more money he makes.
5. If people do not want this system, they simply will not pay for it and therefore it will stop naturally. If they want the service, they need to convince their neighbours to use it too – the more the people who use the service, the more incentive there is for the paravet.
A paravet from one kebele can also work in another kebele according to the movements of his herd.
6. ACF provides :
 - A 15-day free training (with food and accommodation)
 - Free equipment to administer treatments.
 - Free monitoring and technical assistance.



And nothing else: Paravets receive no salary, per diem, free drugs or a diploma recognized by the government.

The only way a paravet can earn money is by living in the bush and treating animals.

7. The paravet buys drugs from ACF
8. ACF guarantees the quality of the drug sold to paravets :
 - No expired drugs
 - Effective drugs
 - Best prices on the market (Addis)
 - ACF always provides the quantity needed by the paravets
9. We pay the government taxes for the drugs we buy, so our drugs are more expensive than the ones you can find in the woreda clinics. But ours are good quality drugs and always available. We also provide some drugs which are unavailable in other clinics.
10. ACF does not make any profit from the sale of the drugs. We sell them at cost to paravets.
11. Paravets sell the drugs at cost to pastoralists but add a fee for their services (working, equipment, knowledge of diseases and proper dosages to use). Drug prices are determined according to those in Addis, which may fluctuate with time.
12. Paravets get the drugs from an ACF drug vendor who is based in a central place of the woreda.
13. The drug vendor is an ACF employee who receives a monthly salary from ACF. But he does not make any profit from the sale of the drugs. He follows the training with the paravets.
14. The drug vendor sells drugs to paravets only because they are the only ones who know the proper medication and dosage to use, and they have the necessary equipment.
15. The drug vendor gets regularly drugs from ACF Dubti according to the needs of the paravets. He must work full time at his workplace, and 6 days a week.
16. Paravets keep records of their activity and give them to the drug vendor. They report cases of new diseases or outbreaks to the drug vendor and to the woreda economics office. One animal health technician of the woreda will participate in the training and be the paravets' future direct contact.
17. The drug vendor reports to ACF.
18. ACF reports special cases to the government.
19. When paravets have a problem with the community (refusal to pay, credit request, need to gather animals for vaccination), they can ask their sponsors to help them.
20. Sponsors are elders of their kebeles (2 for each kebele) who are respected by the communities and who are able to gather paravets and the community to discuss and solve problems. They are also responsible for the paravet in case he is not doing his job properly. They can then complain to ACF and we will discuss to find a solution.
21. Sponsors have the duty to introduce the paravet to the whole community and to spread the right information to the pastoralists about the work ACF and paravets do.
22. Paravets are able to carry out vaccinations for non cold chain vaccines. If paravets report (both to ACF and to the woreda economics office) an outbreak of a disease for which we can perform vaccinations, ACF will probably, according to our budget, carry out a vaccination programme through paravets.

ACF will pay for the vaccines but the pastoralists will have to pay the paravet for his work. The price should be fixed by pastoralists, paravets and ACF.

Example 1 : Brain Storming on the Community Animal Health Training Course

Objective	To increase awareness and understanding of animal health and health care			
Sub Questions	What is animal health?	What is animal health care?	Why is animal health care necessary?	How should people use animal health care?
Components	Animal quality Mortality Morbidity What is a healthy animal? What is normal productivity? Milk production, growth, reproduction, strength	Prevention and control – vaccinations (control or eradication?) Vector control through husbandry practices Traditional practices – immunization, migration from risk areas, quarantine Treatment – wounds, worms, ectoparasites, blood parasites, infectious diseases	Impact of disease Mortality figures Milk production and quality Loss in reproduction (e.g. malnutrition) Slow growth rates Body condition and value (malnutrition) Transmission and disease reservoirs Strength for migrations Drought resistance Human transmission Quality of hides	Where can they find health services? Seasonality of disease and migration Relative quality (black market: good drugs) Accessibility of service and how appropriate is it? Correct dosage Economics – investing in animal husbandry



Example 2: Organization of the Paravet Training Programme

1. Selection of the training activities site

The training will be largely practical, which means that we must have access to livestock during the training period.

- Reasonably centrally placed within the woreda and accepted by everybody
- Accessible by car
- In a livestock area during the time of the training.
- As close as possible to a village where we can find food to eat and good water
- A community that is ready and able to bring us lots of animals for treatment during the training
- A neutral place from a political point of view

ACF will provide food and accommodation during the time of the training for all the participants but no per diem.

Mobile camps are difficult to settle and organizing the training in the woreda economics office often meet several criteria listed below. It is also a good location to accommodate paravets and ACF staff and if there is a veterinary clinic, there will be enough animals available during the training.

The selection will depend on the situation of each woreda.

2. Selection of the Kebele Representative

It should be a serious person respected by the community. He/she will help organize members of the community to treat the animals during the training. He/she will not get any per diem.

3. Selection of Paravets

Above all, repeat again that paravets will not be paid, will not receive any salary or diploma or free drugs.

There will be no other training so the people they select will be selected once and for all, and will not change. So make sure that the paravet you select will provide benefit to your community.

The people present should help to set the criteria for the selection of paravets. The following are Action contre la Faim's main requirements;

Compulsory criteria:

- Honest and Hard working
- Must be a pastoralist or agro pastoralist himself and not a city person
- Must be respected by the community and must respect the community
- Must be physically fit to work with animals and to walk long distances
- Volunteer for the job
- Must have a good experience with animals

Complementary criteria:

- Knowledge of animal diseases
- Well known for administering treatments (traditional and modern) on animals
- Must have already received a training in animal health

Other criteria are flexible. For example in Awra, Gullina and Dubti, we selected the young men who transhume with big herds (dry cattle and camels), whereas for Afambo (agro pastoral area) we selected two paravets for each kebele: one transhuming with the herd, the other one staying at home with the milk producing animals.

Literacy is not essential as the training is translated in Afar and we use pictures for the curriculum. Literacy often leads to the selection of people with a formal education and who may stay longer in the town rather than in the bush.

They can be male or female but this is a difficult issue. If we select females we have to do a special training with only females (men will not want to be mixed with females) and an accurate assessment must be carried out to ensure they will be well accepted.

Kebeles, represented by the sponsors, are responsible for accepting or rejecting candidates and they must ensure they meet the criteria

Reiterate – the paravet will not be paid, except if vaccinations are given (which will not be often). He will remain a pastoralist who may earn a supplementary income from animal health care, so the more he works the more money he makes; and the harder he works the better the service his neighbours will receive.

4. Selection of Paravets Sponsors

Reiterate the role of the sponsors. They will introduce the paravets to ACF the first day of the training and will sign the contract with them.

Selection criteria:

- Must be elders of the kebeles
- Must respect and be respected by the communities
- Must be able to gather pastoralists and paravets together to solve problems and find solutions
- Must be able to travel some distances to meet the people
- Must be listened so that they can spread messages and information easily to the community
- Must be honest, trustful and recognized persons

Sponsors and paravets depend on the decision of the kebele. So each kebele uses its own way of decision making process.

5. Selection of the Drug Vendor

Reiterate the duties and work conditions of the drug vendor. Focus on the fact that he has to stay full time in the place selected by the community to provide drugs and that he should not have another job.

The selection must be made at the woreda level. Give them time during the community training to discuss and decide how to select the drug vendor (ACF notes only their decision and has no voice or influence in the decision making process).

Compulsory criteria:

- Must be honest and trustful
- Must respect and be respected by the community
- Must live in a location close to his work place
- Must be educated : read and write Amharic
- Must be an active person
- Must have good knowledge of the kebele and pastoralism

Complementary criteria:

- Has been already trained for animal health
- Has good knowledge of animal diseases
- A relatively older person who is respected

The participants must also select the place where the drug vendor will stay according to several criteria:

- A central place in the woreda
- A neutral place accepted by everybody
- A location where the drug vendor will be able to work full time (availability of restaurant and accommodation)

The main town of the woreda is often the best solution. If the woreda is too big, two drug vendors can be selected if possible. The place can be the house of the drug vendor himself or can also be a room in the woreda economics office if everybody agrees (it may be more secure).



6. Selection of the Woreda Representative

His role is to control and observe the training so that he can properly report to the economics office on our activities.

7. Organisation of Paravets Training

Propose a starting date and discuss it. Make sure that they have enough time to properly select the paravets.

Stress that Action contre la Faim will provide food, accommodation and water, but no per diem.

8. Summary of decisions to take during the community training

Decision to take	Decision taken by
Go back to the kebele and inform the community	Kebele representatives
Select the paravets	Kebele representatives
Select the two sponsors for each kebele	Kebele representatives
Select a location for the training	Woreda community + administration
Select a location for the drug vendor	Woreda community + administration
Select a drug vendor	They choose their decision making process
Select a woreda representative	Woreda administration
Select a kebele representative or contact person	Woreda administration

Persons who must attend the community training

During all the training : food and accommodation provided or per diem given

- Representatives of the woreda : woreda economics office representative + animal health technician
- Representative of woreda council with per diem at government rate
- Representatives of kebele (administration leaders * 2 + community leaders * 3)

Opening and closing the training

- 1 representative of the regional agriculture bureau with per diem at government rate
- 1 representative of the regional offices with per diem at government rate
- 1 journalist from the Afar radio (40 birr per diem)

Person who must attend paravets training

During all the training: food and accommodation provided

- All paravets
- The future drug vendor: his contract will start after the end of the training
- Woreda representative (animal health technician)

Opening and closing the training: food provided

- 1 representative of the regional agriculture bureau with per diem at government rate
- 1 representative of the regional offices with per diem at government rate
- 1 woreda economics office representative with per diem at government rate
- 1 woreda council representative with per diem at government rate
- 1 journalist from the Afar radio (40 birr per diem)



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