

*Assessment and Programme
Formulation Guidelines for
Agriculture Emergencies (APF)*



Assessment and Programme Formulation Guidelines for Agriculture Emergencies (APF)

Food and Agriculture Organization of the United Nations

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ABBREVIATIONS AND ACRONYMS

AGAP	Animal Production Service, FAO
APF	Assessment and Programme Formulation Guidelines for Agriculture Emergencies
CAP	Consolidated Appeals Process
CPF	Country Programme Framework
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization of the United Nations
FIVIMS	Food Insecurity and Vulnerability Information and Mapping System
ILO	International Labour Organization
LEGS	Livestock Emergency Guidelines and Standards
LFA	Logical Framework Analysis
M&E	Monitoring and Evaluation
MIRA	Multi-cluster Initial Rapid Assessment
NGO	Non-governmental organization
OCHA	Office for the Coordination of Humanitarian Affairs
PRA	Participatory Rural Appraisal
PSC	Project Support Cost
RBM	Results Based Management
REIA	Rapid Environmental Impact Assessment
SWOT	Strengths, Weaknesses, Opportunities and Threats
TCE	Emergency Operations and Rehabilitation Division, FAO
TCI	FAO Investment Centre
ToR	Terms of Reference
UN	United Nations
UNEP	United Nations Environment Programme
VDC	Village Development Committee

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This document has been prepared with generous input from experienced FAO staff, both at headquarters and the field. In addition, the document incorporates significant comments and inputs from a number of international consultants. The most significant suggestions and comments have been received from Mr Ron Ockwell. The document draws on a large number of experiences, guidelines and other papers that are relevant to each of the sections. All efforts have been made not to repeat existing documents and only provide instructions in a form that would assist field practitioners in assessment and response formulation processes. This document provides practical tips and pointers to techniques and processes enabling practitioners to have easy access to proven methodologies and experience. In addition, these guidelines include a series of annotated templates to help practitioners to organize their outputs in a recognized and standardized format.

The initial draft was presented to FAO staff for comments through a series of meetings and workshops. This document reflects comments and discussions from a large number of experienced colleagues in FAO. The guidelines are intended to remain dynamic and regularly updated, reflecting emerging literature and experiences. Users of the guide are encouraged to share their views, comments and suggestions to:

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1. INTRODUCTION

The great majority of communities affected by disasters in developing countries are directly or indirectly dependent on agriculture for their livelihoods. Early investment in rehabilitating the sources of livelihoods not only reduces the risk of protracted relief operations and displacement but also provides a sustainable and efficient means of return to normality. The Food and Agriculture Organization of the United Nations (FAO) is the lead agency for agriculture and has significant experience in almost all developing member countries, with the backing of specialized and highly competent technical divisions in all subsectors of agriculture, namely crops, livestock, fisheries/aquaculture and forestry. Therefore, FAO has the greatest technical comparative advantage to assist member countries in rehabilitating and building improved and more resilient livelihoods.

FAO strives to ensure that national and international technical standards, norms, policies and strategies are taken into account in all interventions, emergency or otherwise. The 'Assessment and Programme Formulation Guidelines for Agriculture Emergencies (APF)' is an attempt to highlight some of these standards and to ensure that damage and needs assessments and analysis are of the highest technical standard that guide and inform intervention options.

These Guidelines draw on a number of tested best practices, guidelines and papers. No attempt has been made to develop additional methodologies and tools if they already exist. In addition, a series of templates have been prepared with sufficient instructions and hyperlinks to various tools, guidelines and best practice examples to assist individual experts and teams of experts in: (i) damage and needs assessments; (ii) formulation of appropriate response options; and (iii) building synergies across rehabilitation interventions and long term strategies and policies (i.e. a smooth transition from emergency to long-term development objectives). This is a living document and as such, it has to be adapted to changing circumstances and draw on new guidelines and tools as and when made available.

These Guidelines also draw on the [FAO Project Formulation Toolkit](#), a web-based, dynamic set of guidelines and best practice examples on project/programme formulation.

Purpose of these guidelines

The main objective of these Guidelines is to assure the quality and efficacy of FAO post-disaster damage and needs assessment and response formulation in the agriculture sector by providing such missions with relevant tools, guiding notes and templates. The Guidelines also aim to standardise the assessment and response formulation processes of FAO in emergencies to better reflect the Organization's mandate, strategic objectives and principles.

How does the APF relate to other FAO corporate processes and products?

APF and Country Programme Framework (CPF): The CPF is FAO's main corporate strategic and coherent country programme framework. The CPF highlights country priorities, FAO's contribution to the achievement of the country's strategic objectives and provides synergies with other strategic and programme processes, i.e. national programme for food security (NMTPF), PRSPs, UNDAF, CAP and others. The CPF is usually prepared under non-crisis conditions, reflecting the country's needs and strategic

objectives in the absence of a disaster. The APF, however, is designed for a post-disaster/crisis situation (protracted or sudden) and aims to fill the emergency-development gap.

When a CPF already exists in a country, the APF will ensure that all emergency-rehabilitation efforts are in support of CPF as a strategy and ensures that immediate needs of the affected population are met while contributing to the objectives set in the CPF. In cases where CPF has not yet been developed in a country, the APF will be the basis for the eventual CPF development. Consequently, there is a two-way relationship with a view to ensure that the development plans and strategies incorporate emergency and rehabilitation needs and the emergency interventions take into account development strategies and needs.

APF and the FAO Project Cycle: FAO has recently developed a corporate Project Cycle Management, which is designed to standardise project process and documentation as well as supporting results based management (RBM). The project approach and the FAO project cycle are processes to address specific problems, usually a specific subject matter or sub-sector. The approach rarely has sufficient scope to holistically assess and analyse various aspects of the agricultural sector in particular and rural livelihoods in general. A more holistic view in a post disaster situation is particularly important simply because the disasters are usually indiscriminate and affect all aspects of livelihoods. The APF is designed to focus on overall needs of the affected population following a disaster. The APF also considers several response options ensuring synergies between emergency, rehabilitation and development continuum, in addition to linkages with existing projects and initiatives. More importantly, the FAO corporate project cycle process and documentation formats will apply when funds are made available for specific components or sub-components of the overall emergency-rehabilitation programme. Therefore, the APF is part of the process focussing on overall emergency-rehabilitation strategy and programme informed by a thorough assessment of damages, losses and above all needs of the affected population.

APF and the National Programme for Food Security (NPFS): The NPFS is a government document developed through a highly participatory process with technical assistance from FAO. Similar to the CPF the NPFS is usually developed in non-crisis/emergency situation focussing on agricultural development issues, chronic or transitory. In countries where it has been developed, the NPFS will strategically guide the APF with a view that the emergency-rehabilitation programme would contribute to the objectives set in the NPFS while addressing the immediate needs of the affected population. In countries where NPFS has not been developed, the APF and the resulting emergency-rehabilitation programme will contribute to the development of the NPFS.

APF and other FAO Guidelines: All relevant guidelines that have been prepared by various Technical Divisions in FAO, have been referenced in relevant sections of the APF. Indeed the list may not be exhaustive and the references will have to be periodically updated to reflect new guidelines and those that have not been referenced.

How does the APF relate to the inter-agency processes?

APF and the Consolidated Appeals Process (CAP): The CAP process and format allows participating agencies, sectors and clusters limited space to provide in-depth analysis, only a summary of proposed activities are presented. The APF is designed to provide the strategic depth, analysis and coherence of proposed emergency and rehabilitation interventions based on a thorough damage, loss and needs

assessment. The contents provided to the CAP will be a direct output from the assessment and programme document as a result of using the APF. This will also provide in-depth analysis and indicate the emergency-development continuum as well as show the basis for the proposed activities.

APF and the Flash Appeal (FA): The FA are usually released within a very short time following a disaster, which leaves very little time to conduct the APF. The Multi Cluster Initial Rapid Assessment (MIRA) of the NATF has been designed to contribute to the FA. However, the APF is necessary to inform the second revision of the FA and provide in-depth analysis and evidence base for the proposed emergency and rehabilitation interventions.

APF and UNDAF: The UNDAF represents the UN's consolidated development assistance framework in a country, which includes FAO's policies and strategies as well. Usually there are direct links between the UNDAF, CPF and the NPFS and by extension with the emergency-rehabilitation programme resulting from the APF. Where UNDAF has been developed, the APF would build on the strategies and policies reflected in the former. Indeed, the APF would strongly contribute to the revision of the UNDAF, which is usually necessary following a disaster.

APF, Post Disaster Needs Assessment (PDNA) and Post Conflict Needs Assessment (PCNA): Both PDNA and PCNA are inter-agency processes involving the UNDG, EU and the WB. The APF has been designed to contribute to both the PCNA and PDNA processes.

APF and the Needs Assessment Task Force (NATF) of the IASC: APF is directly relevant to the NATF Operational Guidelines as it covers Phases III and IV. The first two phases are primarily joint preliminary assessments, first 72 hours and within the first 2 weeks of the disaster, respectively. Phases III and IV are sector and cluster-specific needs assessment and response formulation. The APF has been designed to serve these purposes.

Who should use these guidelines and how?

The main intended users are FAO staff and consultants engaged in post-disaster agricultural assessment and rehabilitation response formulation missions in the weeks following a disaster.¹ This may include missions providing inputs into inter-sectoral post-disaster damage and needs assessment (PDNA) missions led by the government with the support of the UN, EC and World Bank, or post-conflict needs assessments (PCNAs). The Guidelines may also be useful to anyone involved in any other form of post-disaster assessment and response formulation in the agriculture sector.

This document is organized in eight sections, 12 annexes and 9 appendices. Section 2 explains the purpose of an emergency agriculture assessment and response formulation (APF) mission and the role, mandate and main principles guiding FAO's involvement in emergencies. Section 3 explains how to proceed in planning and undertaking such a mission. Section 4 briefly describes general principles of conducting situation analysis. Section 5 provides summary guidance for conducting damage and loss assessment using the methodology adopted for PDNA. Section 5 is based on the Economic Commission for Latin America and the Caribbean (ECLAC) methodology for estimating damages and losses and is designed to serve the PDNA

¹ Separate guidelines are being prepared for Rapid Agricultural Assessments to be conducted in the first few days following disaster onset.

purposes but can be adapted for other post disaster damage and loss assessments. Section 6 highlights procedures for estimating post disaster needs, adapting systems approach. Section 7 highlights the main elements of a Recovery Analysis Framework, which is an analytical process endeavouring to determine the best response to address needs. Section 8 describes the process of formulating response programme or project. The annexes provide more specific guidance on particular aspects of assessment, response planning, and programme (or project) formulation, as well as contributions to appeals processes.

How to use these guidelines?

A number of generic **Terms of Reference (ToR)** are included in [Appendix 1](#), which may be downloaded and adapted to specific contexts.

When time is short, the appropriate template from the Appendices may be downloaded, which include instructions on the specific sections or annexes of this guide to be consulted. For example, if a project needs to be prepared for rehabilitating the seeds sector, the mission may download the **project template** from [Appendix 3](#) and if a rehabilitation programme is to be developed covering multiple sub-sectors, the **appraisal document** in [Appendix 2](#) may be downloaded. The downloadable templates include detailed annotation and cross references to specific sections/annexes of the APF Guidelines. [Appendix 8](#) is a template specifically designed for the **agricultural chapter of the PDNA reports**, which is to be used in conjunction with Sections 5 and 6.

Appendices 1-4 and 8 may be downloaded as soft copy from the accompanying CD Rom or internet (www.fao.org/emergencies/resources/tools/apf), but are also accessible in hard copy at the end of this document. All other appendices are only accessible from the CD Rom and online at the above link. Key readings have been suggested under each topic, most of which have internet links, but some are only available in hard copy. Users are encouraged to use alternative sources and methodologies. The material presented in this guide should be viewed as suggested sources and not obligatory.

2. PURPOSE OF - AND FRAMEWORK FOR - AN APF MISSION

Purpose and expected output

The purpose of the Assessment and Programme Formulation Guidelines for Agriculture Emergencies (APF) Mission is to conduct a thorough damage, loss and needs assessment and formulate appropriate rehabilitation response using programme or project formats. The programme approach is intended for holistic and multi-sector interventions that include a number of subsectors. Whereas the project format is intended to address specific subsector needs.

Specific Terms of Reference (ToR) are defined for each mission taking account of the local situation and circumstances, the timing of the mission, and any other assessment relevant activities (recent, ongoing or planned).

The main output is a concise report that presents the mission's findings, analysis and specific recommendations for response in the form of a coherent programmatic response. Depending on the ToR, the recommendations may be for specific FAO response activities, a project or a programme or an overall sector response, e.g. a rehabilitation programme. The standard outline for a mission report is shown in Table 1. This may be adapted to the specific situation and the emphasis/scope of work of the mission but, in general, the headings and subheadings shown should be used. Detailed, annotated outline for programme and project formats are respectively provided in [Appendix 2](#) and [Appendix 3](#).

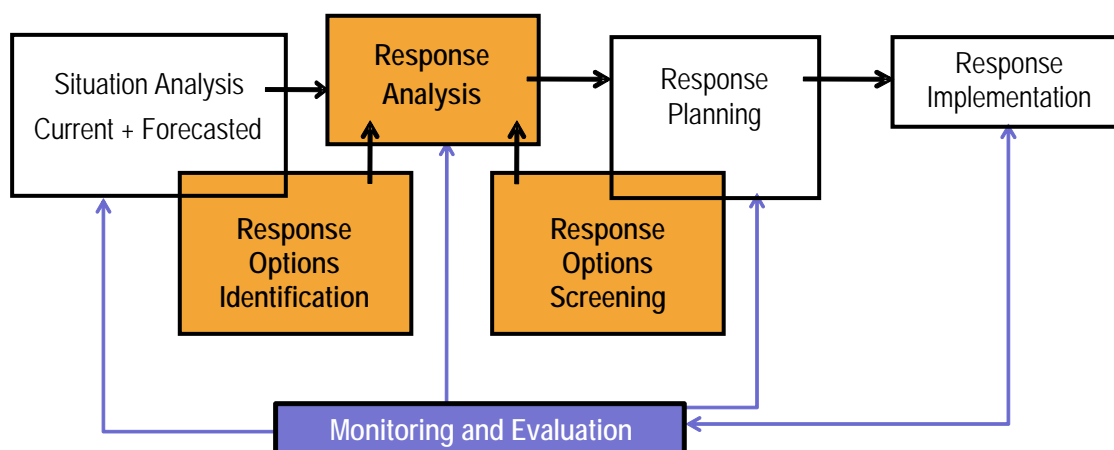
Table 1: Standard outline for an APF mission report

- A. Introduction
 - B. Background to the national economy
 - C. Emergency challenge: country context, recovery strategy, rationale for the proposed programme
 - D. Damage and needs assessment
 - E. Institutional assessment (National, sub-national, regional and community levels)
 - F. Socio-Political Context
 - G. The programme summary
 - H. Appraisal of programme activities
 - I. Implementation arrangements and financing plan
 - J. Monitoring and evaluation framework
-
- Annex 1: Damage/loss assessment by sub-sector and programme component
 - Annex 2: Detailed programme costs
 - Annex 3: Monitoring and evaluation
 - Annex 4: Maps or any other documents

Elements of assessment and response formulation

The essential elements of the process of assessing the situation through to the formulation of proposals are shown in Figure 1.

Figure 1: The analysis and response planning process



Note: Situation analysis and forecasting in the case of sudden-onset emergencies refer to damage and needs assessment, whereas project design and operational planning refer to project or programme formulation.

Principles and standards for FAO assessments and response formulation in emergencies

The main principles guiding FAO's assessment and response formulation work are:

- Evidence-based assessment and response – Response formulation is evidence-based informed by thorough damage and needs assessment of the affected population and their resources. Lenses of gender, age and diversity specific to the context are used to disaggregate needs and vulnerabilities. All response options need to be well-targeted and based on a comprehensive assessment of the damages and needs of the affected population, reflecting the post-disaster realities.
- “Build back better” – This principle assumes that the pre-disaster system may have been itself inefficient or the post-disaster conditions do not allow for the pre-disaster system to be efficient or effective. This may require alternative perspectives, systems and natural resources, all of which may be rather dissimilar to the pre-disaster conditions. There is no presupposing that the existing system is necessarily faulty and has to be changed. The key here is to reduce or eliminate pre-existing vulnerabilities to disaster and improve resilience.
- “Do no harm” – The least an emergency intervention should do is not to undermine long-term sustainable agricultural development, which is usually articulated in the government’s strategy or the FAO Country Programme Framework (CPF), as well as the country strategies of other international

partners. This requires a review and understanding of these policies and strategies, which should be reflected in the emergency rehabilitation projects and programmes.

- “Emergency-development continuum” – the emergency interventions should be compatible with and contribute to the achievement of medium-term rehabilitation and development plans and strategies. There may be an operational or at times donor-defined division between emergency, rehabilitation and development stages, but in practice these theoretical divisions are rather difficult or counterproductive to define. Therefore, linkages with medium- to long-term policies and strategies should be an integral part of the design process and FAO technical divisions should be actively involved from formulation to the closure of emergency projects/programmes.
- “A single, coherent FAO programme” - emergency/rehabilitation programmes should be developed in such a way as to reflect FAO’s policies and strategies in the country and include previous FAO experience and general principles in a particular country. This would allow FAO to present itself as a unified technical organization under one structure, rather than competing structures, with sound technical substance to its intervention plans. This would also pave the way for a smooth transition from emergency interventions to long-term development plans and policies as part of FAO’s regular programmes.
- “Cluster coordination” – The APF mission should contribute to and may benefit from the collaboration of organizations participating in the cluster: when (a) the food security/livelihoods/agriculture cluster mechanism ensures effective coordination and collaboration among UN agencies, international and national NGOs and others working in the sector, as well as coordination with relevant national authorities; and (b) where FAO is designated as lead or co-lead of a cluster, it assures broad participation, effective leadership, a shared overall analysis of the situation and agreement on a common response strategy.

Clusters and FAO

The cluster approach is an organizational arrangement that aims to improve the efficacy of humanitarian response/s by establishing a clear system of leadership and accountability for all of the key sectors or areas of humanitarian activity in a given country, as identified by the HC and the country team. More specifically, the cluster approach aims to: (i) ensure accountable leadership; (ii) improve field-level coordination and the prioritization of activities that respond to the distinct needs and realities of beneficiaries-men/women and other social groups; (iii) build and strengthen partnerships among various international agencies; and (iv) develop and maintain adequate capacity in key areas requiring response. The cluster approach does not aim to replace existing structures of coordination and groupings, but rather it is applied to enhance their effectiveness.

For further information and guidance on what is expected of FAO see the Cluster Coordination Guidance: www.fao.org/fileadmin/templates/tc/tce/pdf/FAO_Cluster_Coordination_Guidance.pdf

- “Institution-building/-strengthening” – Sustainability requires building on or rehabilitating key institutions. Lack of information on national, sub-national, local and community-based institutions, their

strengths and weaknesses within the context of a long-term strategy for the sector in question may inadvertently harm local systems and undermine long-term development goals. It may also be argued that some institutions are ineffective or an impediment to long-term development goals and should not be strengthened.

- “Participatory” – Needs assessment, response formulation, implementation and M&E should be participatory, involving equal numbers (as possible) of males and females who represent the diversity in the target beneficiary communities, community-based institutions, government institutions, non-governmental organizations (NGOs) and other relevant stakeholders. However, full participation in emergency situations may not be always feasible. All efforts should be made to at least consult relevant stakeholders and promote gender-balanced participation as much as feasible.
- “M&E” – A dynamic M&E system should be prepared at the time of project formulation to ensure that the proposed interventions achieve their set goals and to draw lessons for future interventions (see [Annex J](#) for developing an M&E framework).

FAO’s objectives in emergencies and transition

Three out of four people in developing countries depend on agriculture for their livelihoods and emergencies tend to have the most severe impact on the agriculture sector. Climate change has been linked to the substantial increase in frequency and severity of disasters in the recent past and the forecasts indicate worsening conditions in the years to come. Proactive strategies, plans and actions are necessary to avoid large-scale loss of life, livelihoods, infrastructure and derailment from the development path.

In view of these challenges, FAO has revisited its strategic objectives to assist member countries to better prepare for and respond to emergencies. The most directly relevant objective, among the existing 14, is Strategic Objective I, which stipulates:

“Improved preparedness for, and effective response to, food and agricultural threats and emergencies.”

Strategic Objective I is to be achieved through three Organizational Results, namely:

1. Countries’ vulnerability to crisis, threats and emergencies is reduced through better preparedness and integration of risk prevention and mitigation into policies, programmes and interventions;
2. Countries and partners respond more effectively to crises and emergencies with food and agriculture related interventions; and
3. Countries and partners have improved transition and linkages between emergency, rehabilitation and development.

FAO’s experience in agricultural development and emergency interventions throughout the world over decades has rendered it competent to assist countries with Organizational Results 1-3. These Guidelines are designed to specifically address the specified Organizational Results under Strategic Objective I.

3. PLANNING AND UNDERTAKING AN APF MISSION

Pre-mission planning and process

The quality and usefulness of the mission's work, report and recommendations depend heavily on good preparation prior to the arrival of the mission in country and good organization of the mission's time and resources while in the capital and on field visits. The following are some of the pre-mission activities, which are believed to have contributed to successful post disaster damage and needs assessment and recovery formulation missions.

1. In-country: FAO staff to collate and synthesise initial disaster reports from national authorities, local media, the UN agencies and other national and international organisations. A preliminary report (even if in the form of an e-mail) should indicate the (i) extent and severity of the disaster; (ii) location of the disaster; (iii) possible number of people affected (estimates disaggregated by sex, age and social group if feasible); (iv) potential/planned response; (v) suggestions for potential FAO response; and (vi) contact list in FAO office and the emergency coordination mechanism if established.
2. FAO-HQ: (i) Review initial reports from the field and if the extent of the disaster requires extraordinary response, (ii) appoint a small team of experts (mainly from within the Division with support from Technical Divisions) to follow up on the disaster. (iii) Based on the preliminary reports from the field and further clarifications and contacts, the appointed '*response team*' may decide to facilitate a **Rapid Needs Assessment** and subsequently a **Comprehensive Damage and Needs Assessment and Recovery Framework**. It is essential to coordinate needs assessment and response formulation with interagency processes, which may have been rolled out in the country such as NATF, Early Recovery, PDNA, PCNA and others. If circumstances permit, the comprehensive assessment and response formulation mission may be launched without having to conduct the Rapid Needs Assessment or indeed the former may not be necessary following the latter.

The Response Team in HQ need to compile project documents, monitoring/progress reports, evaluation reports and others for all relevant projects (current and recently closed), CPF, other policy/strategy papers, National Programme for Food Security (NPFs); Economic Intelligence Unit (EIU) country reports and country profile; WB country reports; IFAD country strategy and Regional Development Bank country strategy. Most of these documents are available on-line and a package may be compiled electronically.

Response Team – HQ (RT)

Process: The Service Chief or the Desk Supervisor, based on field reports, appoints the RT, who would dedicate part or all of their time for the emergency over a defined period of time. The RT would follow up on the developments, liaise and coordinate with Technical Divisions (TD), national authorities, international partners and others in close collaboration with the Country Team.

Composition: Usually the HQ-RT should include the relevant senior desk officer, the country operations officer, programming officer from TCER, reporting officer and the relevant operations clerk. The RT may draw upon the relevant TD, procurement unit, human resources and others if and when required. It is necessary to include TD and others in the planning process from the beginning, even if they are not strictly part of the Response Team.

Main Activities:

- Collate background information on relevant current/past projects, policy, strategy and country reports and other data. Priority will be placed on information that is disaggregated by sex, age and context-relevant vulnerabilities;
- Assist the country team to collect/collate information on the disaster, relevant background documents and identify relevant human resources for specific tasks;
- Assess the need for surge capacity and provide appropriate assistance to the field to ensure effective coordination with partners in the field, adequate and timely response;
- Liaise with TDs and Service Support Units (procurement, HR) to ensure effective participation and collaboration for a comprehensive response;
- Draft TORs and provide other necessary documents and guidance to any mission that might be fielded to the country;
- Provide regular information to management on a regular basis;
- Liaise and coordinate assessments (joint or harmonised) and response with other international partners and processes at HQ level.

Country Team (CT)

The FAOR, as the main official representing FAO in a country, would appoint a number of staff to follow up on the emergency and liaise with the HQ-RT. See box below on Surge capacity. The CT may be comprised of national or international staff or consultant. The FAOR or the Emergency Coordinator, if available, would usually lead the CT.

Main Activities:

- Collect/collate information on the emergency and share with HQ-RT and other partners;
- Participate/lead the food security/agriculture cluster in the emergency related meetings and coordinate activities with national and international partners;
- Assess the need and suggest options for surge capacity;
- In consultation with HQ-RT and in collaboration with national and international partners, conduct field visits or any situation analysis that might be necessary;
- Prepare mission schedule/itinerary and logistics for any mission that might be coming from HQ or the Regional Office;
- Perform any other tasks that might be suggested by HQ-RT and the FAOR.

3. The Response Team at HQ may provide instructions to the **country team (CT)** at the latter's request to compile a set of relevant information, some of which may typically include the following. The CT would lead the process and the HQ-RT would provide assistance, some of the information stated below may be compiled at HQ level as well.
- (i) Exact location of the disaster: the government and the UN agencies may have developed disaster maps and various other disaster-related information;
 - (ii) Livelihood profile of the affected area: Some national and international institutions may have sub-national level data on the main sources of livelihoods in the affected areas;
 - (iii) Agriculture baseline data: Compile information from all accessible sources on the following data sets for the affected areas: (a) Crops: Cropping calendar, area planted by crops annual and perennial (sub-divided as irrigated and rainfed), average yield; (b) Livestock: Livestock census for

the affected area by type; (c) Fisheries: infrastructure (aquaculture ponds by size and output), capture fishery gear, infrastructure and landed fish season⁻¹ or year⁻¹; (d) roles of women, girls, boys and men in the production cycle of key crops, livestock production, fishing and post-catch activity, and natural resource harvesting.

- (iv) Agriculture institutions: briefly describe what institutions exist in the affected areas, government and other.
- (v) Irrigation infrastructure: General description of the system (e.g. source, types of canals and distribution system) and command area.
- (vi) Latest government strategy/programme documents for the agricultural sector.
- (vi) Contingency plans: Compile any contingency plans and experience from past emergencies with a view to build on preparatory efforts and similar past experiences.

Surge Capacity

The FAO country teams usually do not have sufficient staff and financial resources to compile such data and follow up with the events (coordination, assessment and liaison with other partners). Most decisions on assessments and response are made during the initial few weeks following a disaster. It is, therefore, imperative that FAO has sufficient capacity to address some of the issues on a timely manner. The following may be considered for surge capacity, each option with their own pros and cons.

1. Redeploying staff temporarily from other projects

Advantages: Takes relatively less time to redeploy staff within the country; staff are already familiar with the country conditions and systems, how socio-cultural issues interface with food security, and existing networks; structures and resources may be used effectively to follow up on the emergency response; there is a good chance of continuity and building synergies with existing projects and programmes; and redeploying staff may be more cost-effective.

Disadvantages: Redeploying staff may delay or, worse, derail the existing project activities; bureaucratic rigidities may not allow timely redeployment of staff, especially if projects are managed by different technical divisions; project staff may not have the required skills.

2. Deploying HQ or International Consultants

Advantages: Highly skilled and experienced personnel are deployed, who would adequately represent FAO and its principles; initial coordination and response formulation is very important for future country profile development, hence experienced personnel may be necessary.

Disadvantages: International staff are usually very costly; the returns on the investment, in the form of recovery projects/programme, are uncertain; appropriately skilled and experienced personnel may not be readily available; deploying FAO staff may disrupt existing schedules; and knowledge of the country context may vary.

3. Hiring National Consultants

Advantages: Local experts usually have extensive contacts within the government and among international organisations; compiling information and verifying their validity may be relatively easier for a local consultant; costs are significantly low; some governments may favourably consider partnerships if nationals are proactively involved.

Disadvantages: National consultants may not understand FAO systems and mandate; cannot represent FAO in inter-agency meetings; uncertainty about technical capacity, which may significantly delay operations. National consultants may or may not be committed to, and have skills in, facilitating equal voice and participation of women and men. Notwithstanding these issues, national consultants may be hired to carry out parts of the envisaged activities, in particular compiling requested information, and conducting preliminary damage assessments and attending some meetings under the supervision of an FAO staff.

In the absence of additional capacity in the FAO country team, it is ideal if a local consultant is hired to compile relevant information, assist with mission logistics and schedule and remains with the team throughout the process. In general, however, different institutions and individuals will have different potential roles throughout the process. A balanced judgement will have to be made weighing all pros and cons.

Multi-cluster Initial Rapid Assessment (MIRA)

An initial assessment is necessary to provide basic information on the situation and some baseline data on the affected area. The MIRA has been developed as an inter-agency process to guide field staff to conduct a rapid damage and needs assessment and to provide adequate and verifiable information on the emergency to facilitate informed decisions on next steps. It is advisable to conduct a MIRA using country resources as much as feasible. Deploying an international consultant or HQ staff may take longer and hence diminish the use and usefulness of the assessment. Details of process and planning are included in the MIRA.

Guidelines and the overall architecture of various joint and harmonized assessments are detailed in NATF guidelines. The RADA is necessary if basic information on critical parameters of the emergency for a general situation analysis is not available. Some of this information may be summarised as follows: (a) the extent of damage, measured by areas and population; (b) the severity of the disaster, measured by the losses in the sub-sectors and number of people lost/injured; (c) the affected sub-sectors (fisheries, livestock, crops, forestry, irrigation and fisheries); and (d) the exact area affected by the disaster. If this information is already available, the RT may begin planning for the Comprehensive damage and needs assessment. Indeed, the RT may also decide that no further action is required, based on the available information. However, the MIRA is a multi-cluster process and FAO should take part in that process.

Slow-Onset or Protracted Emergencies

Slow-onset or protracted emergencies may allow stakeholders additional time to prepare for the mission in advance. Wider consultations, otherwise not feasible in sudden onset emergencies, are possible with relevant national and international institutions as well as with the communities at large. Building early partnerships and exploring various rehabilitation and development options involving communities, national and international institutions are feasible. Consequently, the comprehensive needs assessment and response formulation process in addition to a wider consultation process may be pursued.

An exception may be cases where contingency planning and better preparedness improve post disaster planning in sudden-onset emergencies.

Comprehensive post-disaster needs assessment and response formulation

Following the initial reporting from the field and situation analysis, the HQ-response team may decide to field a comprehensive needs assessment and response formulation mission. Usually these missions are rather costly and only relatively large scale emergencies should qualify. The comprehensive needs assessment and response formulation should be conducted only if the magnitude and severity of the emergency are exceptionally large and outweigh national capacity to respond. The decision on whether to conduct an assessment and formulate a response and what shape it would take will also be made in consultation with other partners, cluster or otherwise.

1. Objectives, scope and team composition

Based on the information from the field either as part of the formal Rapid Assessment (RADA) or a compilation of latest situation and country reports, the RT would need to decide on objectives, scope of work and mission composition in some detail.

The **ToRs** should clearly define **objectives**, expected **outputs**, methodologies to be used and deadlines for outputs, which are clear, concise and understood by all concerned. It is advisable to draft TORs for individual mission members with clear indication of activities and expected outputs together with lines of reporting. [See Appendix 1](#) for sample TORs.

The Mission **composition and draft TORs** for individual mission members need to be discussed with relevant technical divisions with a view to solicit their inputs and participation in the mission. All efforts should be made to ensure that someone from the technical division participates in the mission under the mutually agreed TORs. If no staff members from Technical Divisions (TD) can participate in the mission, an appropriate candidate should be endorsed by the TD with the understanding that the consultant's outputs ultimately represent the TD's views and principles.

All efforts should be made to ensure that most of the mission members are from within the country or the region. International consultants should only be relied upon if adequately skilled national consultants cannot be found within the specified time. Experts from the relevant departments in the ministry of agriculture should also be included in the mission wherever possible. It is important to work together with the government and field joint missions, in lieu of sustainability and government buy-in.

The **scope** of the mission, expected outputs and sectors to be covered (e.g. fisheries, seeds, irrigation, forestry, livestock, etc.) should be carefully discussed and appropriate TORs and mission composition need to be prepared in consultation with relevant TDs. **Time** is of essence in such missions as outputs are expected within a short period of time. Therefore, mission duration and finalisation of outputs need to be appropriately timed with a view to meet time-critical objectives. It is helpful to provide flexible **templates** to the mission before leaving HQ. [Section 7](#) provides instructions on how and when to use programme or project approaches to an emergency rehabilitation. [Appendix 2](#) and [Appendix 3](#) provides downloadable, annotated and formatted templates for project/programme documents. The templates are flexible and need to be adjusted according to the country situation.

2. Mission schedule, itinerary and briefings

It is essential that a tentative mission schedule is prepared and shared with all mission members. Initial draft to be prepared by the country team with adequate time allowed for field visits and consultations. Some of the main features of a mission scheduled could include: Initial meetings with relevant government counterparts, donors, relevant international agencies (UN, NGOs and others), field visits, which include discussions with women and men in affected communities as well as their formal and informal leaders, and debriefings for various stakeholders.

Assuming the mission originates from HQ, **briefings** are highly beneficial with TCE operations officers, relevant ES officers (in particular ESTG), Investment Centre Division and relevant technical divisions (Fisheries [FI], Agriculture [AG] and Forestry [FO]). If time allows, it is advisable to hold joint meetings followed by individual meetings with relevant technical divisions.

3. Arrival in the country

- Briefing with FAO country team and an update on the latest situation;
- The mission should seek advice from the country team and jointly develop/revise the mission objectives, expected outputs and schedule;
- Review and if necessary revise the mission schedule to serve specific targets;
- Brainstorming among mission members - this should include – individual mission member tasks, communication, methodology for analysis, consultations among mission members and other stakeholders;
- Review templates and expected outputs from all mission members;
- Split the mission into smaller groups to cover as much area as feasible – all attempts should be made to meet every evening to discuss the day's findings and plan for the next.

Meetings – in chronological order

- Meet the FAO office in the country, FAOR, ERCU, project staff and others;
- Meet with officials in Min. of Agric. (livestock, crops, forestry, aquaculture, statistics and others);
- If a cluster mechanism has been activated, organise briefing sessions with all members with a view to solicit participation in the mission and agree on mission outputs;
- Meet with the UN country team – this is particularly important if a 'one-UN' policy is adopted;
- Meet with donors (if feasible joint, otherwise individual); and
- Meet with NGOs and other institutions active in the agricultural/rural development sector/s.

** Proactively ensure input from males and females at all levels and record the sex of all sources.*

Note: in all meetings, explain the mission objectives and how the mission will conduct its activities – Liaise with other missions (assessment, formulation etc.) and ensure that synergies are built from the start. The government should be assured that it is a joint Govt/FAO mission – the donor's views should be sought right from the beginning – the UN, the national government and NGOs should be assured that FAO is not doing its mission in isolation but as part of a team.

Field visits

(Subject to security clearance from the United Nations Department of Safety and Security [UNDSS])

- Try to cover as much area as feasible – farmers are the best source of information and they also know the solutions. Wherever possible, hold separate discussions with men and women active in farming. Although some roles may be shared, often women, girls, boys and men have separate roles. Pulling this information together provide a deeper analysis of needs and solutions;
- District and other sub-national institutions should almost always be visited as well as community organisations – assess the capacities of sub-national government structures and community organisations,
- Local and national NGOs are also good sources of information and should be consulted as much as feasible;
- Build a livelihood profile of each sub-national area – i.e. what do the target beneficiaries, men and women, depend on for their livelihoods and how have the sources of their livelihoods been affected, etc. (See [Annex B for instructions](#)),
- Exchange views and ideas as frequently as feasible (every evening or as deemed appropriate); and
- All mission members should be given a chance to express their views on specific proposals and interpretation of findings.

Before leaving the country

- Prepare an aide memoir – highlighting mission activities, main findings and salient aspects of the proposed rehabilitation programme/project;
- Translate the aid memoir in local language, whenever possible, and share with government (Ministry of Agric. and the national emergency coordinator) at least 2 days prior to the last presentation;
- Make a presentation to the government authorities – a power point presentation normally works well;
- A similar presentation to the humanitarian country team, donors and other partners; and
- Arrange individual meetings, if necessary with various donors and other partners – separate meetings with major donors in the country are worthwhile.

Note: it is necessary to be very brief but clear and convinced of the proposed programme – the presentation and meetings have to answer very clearly – What, Where, When and How.

Preliminary costs or a range of costs can be shared subject to further review. Usually the donors and the humanitarian country team would like to know details of findings – this can be shared but subject to FAO-HQ review, without having to contradict oneself later on, after analysis.

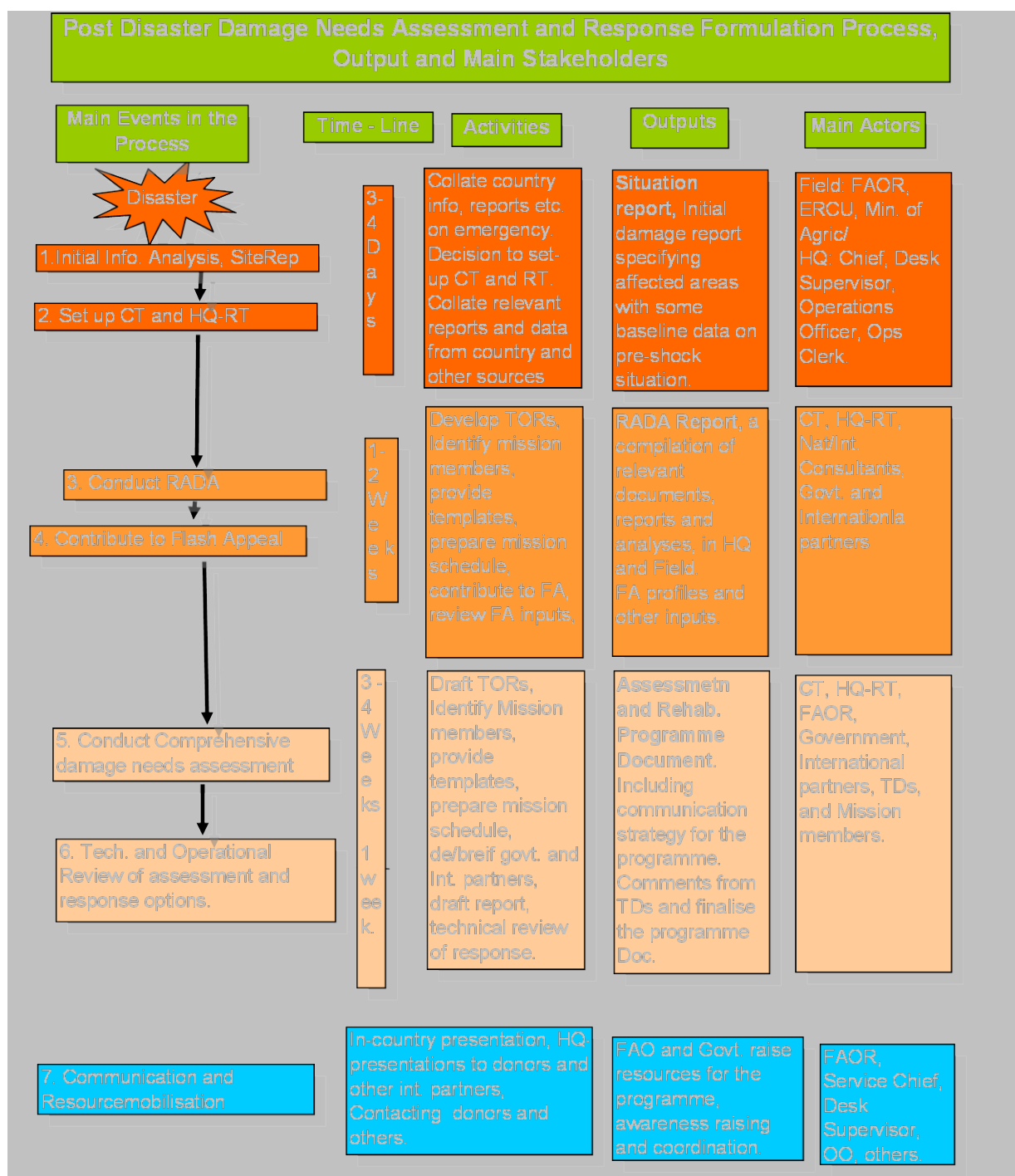
The mission leader – should ensure that everyone in the mission understands exactly what to do and how, before everyone departs from the country as there is only one week before a final draft needs to be submitted to TCE.

Review and Technical Clearance (HQ) – one week in total

- The mission leader (if invited to HQ) meets relevant Technical Divisions with a view to solicit their views on the proposed interventions and revises the report accordingly. If major revisions are required the relevant mission member will be contacted to revise the section/s;

- The responsible officer in TCE reviews the report with a view to ensure that the mission findings (damage and needs assessment are comprehensive) and the proposed interventions conform with FAO principles (see [Section 2](#));
- TCE reporting unit reviews the report for language comprehension typos and formatting;
- The responsible officer shares the report with the focal points of relevant Technical Divisions highlighting specific and relevant pages for review; and
- The responsible officer incorporates all comments received from Technical Divisions and presents a final report.

Figure 2: Timeline, process and main outputs of assessment and response formulation mission



4. CONDUCTING DAMAGE AND LOSS ASSESSMENTS

This chapter is based on the Economic Commission for Latin America and the Caribbean (ECLAC) Damage and Loss Assessment (DaLa) methodology, which is used for the Post Disaster Needs Assessment (PDNA) jointly conducted by the WB, EC and the UN. The methodology may also lend itself to assessments other than PDNA for estimating and valuing damages and losses following a disaster. It is important to note that the DaLa is only an accounting methodology and does not lend itself to estimating needs. However, the DaLa may indicate the magnitude and type of needs in general.

This and [Section 6](#) should be used in conjunction with [Appendix 8](#), annotated template for the PDNA.

Main elements of DaLa

Damage is a stock concept, e.g. irrigation and/or drainage system, livestock, buildings/structures, equipment/machinery, perennial crops, top soil erosion, stored farm inputs and outputs, among others.) A more comprehensive list of typical damages together with estimation techniques are provided in each of the four sub-sectors below.

Loss is a flow concept, e.g. loss of crop production or yields (annual or perennial), increased use of farm inputs such as fertilisers, seeds and other inputs. A relatively comprehensive list of losses together with estimation techniques in each sub-sector is presented below.

Price: Usually farm-gate or spot market prices are used to value damages and losses. However, the disaster may have affected farm-gate and spot market prices. In such cases other reference prices may be considered, see box below.

Ownership: A distinction is made between **private** and **public** ownership of damages and losses. Disaggregation of damages and losses by ownership type would also facilitate response formulation and targeting between public and private entities.

What price to use?

The disaster may have affected the spot market prices and as such would not represent the true market value or the opportunity cost of the products in question. If available, it is good to use an average price from past years for the same season. Alternatively, price for a generally accepted base year, 'normal year', may be used to estimate the value of the products in question. Base year, average past seasonal prices or spot market prices represent only financial market prices, but not an estimate of the true opportunity costs to the economy. In emergency assessments and response formulation, it is not customary to estimate the opportunity cost of goods and services.

Estimating prices for non-tradable goods – most of the by-products and some locally consumed products may not be traded and hence may not have a market price. The price of a close substitute may be used to estimate the market value of the non-tradable good in question. The quality and quantity issues need to be carefully considered when doing so. For example, cereal straw (rice, maize, wheat and others) are usually used as animal fodder. Alternatively a much higher quality product, such as green

alfalfa or other green fodder and concentrates may be used. The market price of the substitute in this case may be much higher than the cereal by-product. Therefore, quality adjustments need to be carefully considered and reflected in the justification of the chosen price.

Key Reading 1: Pricing, costing, and financial and economic analysis of projects.

1. *Financial Analysis in Agricultural Project Preparation – FAO Investment Centre Division, 1991.*
2. *A practical Guide for Costing Projects – WB, 1994.*
3. *Handbook on Economic Analysis of Investment Operations – Pedro Belli, Jock Anderson, Howard Barnum, John Dixon, Jee-Peng Tan – The World Bank, 1997.*

http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2000/08/14/000094946_00072905315620/Rendered/PDF/multi_page.pdf

4. *Economic Analysis of Agricultural Projects – Price Gittinger, WB-EDI series, Second Edition 1982.*

4.1 Damages and losses in crops sub-sector

The crops sub-sector includes annual and perennial crops, irrigation infrastructure and equipment, farm machinery related to crops, storage facilities, farm buildings and stocks.

Typical list of potential **damage categories** following a disaster include but not limited to the following:

- Agriculture Land: Top soil erosion, salinity, toxicity and sedimentation;
- Perennial Crops: Orchards, plantations and other;
- Stored Agricultural Inputs: Stored fertilisers, seeds and agro-chemicals;
- Stored Harvested Crops: cereals, conserved/processed vegetables and other;
- Farm equipment and machinery: tools, tractors, trailers and other;
- Equipment/materials for home-based food processing and preservation;
- Irrigation system and infrastructure: conversion dam, culverts, canals;
- Irrigation equipment: pumps, engines, water distribution equipment;
- Drainage system and equipment: drainage canals, pumps and other machinery;
- Farm buildings and sheds;
- Crop sub-sector related infrastructure: office buildings, research and extension centres, processing structures and other private/public infrastructure.

Typical list of potential **loss categories** following a disaster include but not limited to the following:

- Crop Production Losses: Full standing annual crop loss (main output and by-product), Full perennial crop yield loss (main output and by-product);
- Crop Yield Decline: decline in standing annual crop yields; decline in standing perennial crop yields;
- Quality decline: both annual and perennial crop output quantities may be unaffected but the quality may have declined;
- Increased cost of production: higher inputs required, higher costs of land preparation, increased use of irrigation and increased wear and tear of machinery.

Which crops to assess?

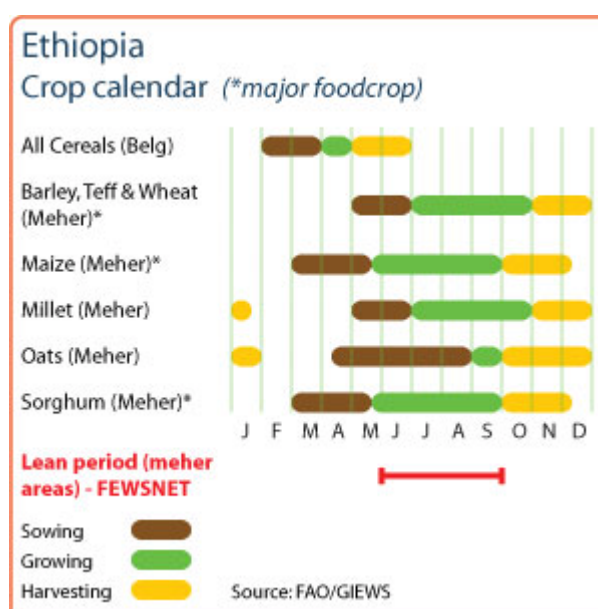
- **Staple cereal crops:** Wheat, maize, barley, rice, sorghum and millet are usually the main staples and cover much of the area planted in a large number of countries.
- **Roots and tubers:** Potato, cassava, yam and other tubers are important food and cash crops in some countries and usually cover relatively large areas of land.
- **Industrial crops:** Oil seeds, cotton and other annual and perennial crops for further industrial processing are the most important crops in some areas, particularly in mono-cropping and industrial agriculture systems.
- **Vegetables and horticulture crops:** Vegetables may not cover large areas but can be very important food and cash crops for household food and livelihood security. In some countries, specific data are not available for all vegetables, but an aggregate estimate of the area planted is usually available with some indicative yield figures.
- **Perennial crops:** Fruit trees, timber, fodder and fuel wood trees are some of the examples. Wooded and forest land area, either privately or publicly owned, are also important sources of livelihoods, protection and biodiversity and the extent of any damage and changes in accessibility should be assessed.

Crop Calendar

The first step in identifying damages to crops and preparing to formulate a response requires a detailed crop calendar. The crop calendar not only allows estimates of direct damages and losses at a particular crop development stage but also informs decisions on response formulation in support of crop production. The following is a typical crop calendar format indicating land preparation, planting, growth and harvest on a timescale.

The same crop may be planted in different seasons, e.g. winter and spring wheat, early and late maize or some crops may be planted throughout the year, all such details will have to be specified to ensure accuracy of information. Crop calendars should only be prepared for crops covering relatively large areas or crops that play an important role in the livelihoods of the area of interest. Where men and women are both active in crop production, they may devote the majority of their farm labour to different crops. If so, ensure that crop calendars are completed for the most important 'male' and 'female' crops. This often helps capture a balance in crops grown for sale and for home consumption.

Crop calendars may be available at national level (representing national averages) or for specific agro-agricultural zones. National averages may not be operationally useful and all efforts should be made to



For further information:

<http://www.fao.org/agriculture/seed/cropcalendar/welcome.do>

obtain or, where necessary, develop crop calendars at sub-national level or for specific agro-ecological zones. The necessary data may be collected from the sub-national departments of agriculture (province, district or other geographical denomination), other national institutes or NGOs, or directly from farmers.

4.1.1 Estimating annual crop production losses

Baseline data requirement for crop loss assessment:

- **Area planted by major crops:** Identify main crops (in terms of importance and area planted), Area planted to crops change year after year – if available a 5-year average would be ideal, use either hectares or any nationally recognised unit of measurement. This data is usually available at national statistics office or the ministry of agriculture at national or sub-national offices.
- **Yield by major crops:** Yields are not static and ideally a 5-year average figure should be used. However, exceptional years should be discounted from the estimation to reduce the likelihood of biased estimates.
- **Production:** Average production figures are easily obtained as a product of the average area planted and yield. However, it is advisable to check the estimated production figures with local agricultural officers and key informants as an additional triangulation variable.
- **Output Quality Measurement:** This is a qualitative statement, highlighting the importance of the crop value. Some crops may cover very small areas but their value may be very high – i.e. certain types of cotton, maize, vegetables, spices or cereals that are of high value, some qualitative statement should accompany the crop assessment.

National statistics usually under or do not report on kitchen gardens and other subsistence crops.

The following steps may be used to estimate crop losses in a defined area:

Box 4 - Summary steps to estimate crop losses:

- i. Determine baseline data for the affected area (see previous box);
- ii. Estimate without-disaster crop forecast (main output + by-product);
- iii. Estimate with-disaster crop forecast (main output + by-product). The loss may be total or partial, the latter in terms of quantity or quality;
- iv. Estimate crop losses for future seasons if production is not feasible due to the disaster;
- v. Estimate net loss multiplied by farm-gate price.

Net Loss = (without-disaster output – with-disaster output for all seasons) X Farm-gate Price.

1. Identify a defined area of interest – this would be an affected sub-national area for which boundaries are well defined and recognized. Sometimes the administrative boundaries may have been redefined and the assessment teams will have to be well aware of the changes².
2. Tabulate baseline area and yield figures of major crops for the areas of concern. The main sources for such data are the central bureau of statistics, ministry of agriculture, FAO-Crop and Food Security Assessment Mission (CFSAM) reports, sub-national administrative statistics or agricultural offices,

² This activity is relevant to all assessments in the agriculture sector, not only crops.

project documents, ad hoc reports and papers, and data from other institutions. The team should make every effort to collate data from each of the affected sub-national areas (province, district, union, etc.) before leaving the area.

3. Select Sample Area for assessment: The sample area should at least represent 15-20 percent of the area of concern (affected area) and the choice of areas to be visited should be based on preliminary information on severity and extent of the damages. The sample area should include different categories of damaged area. Remote sensing data, GIS and other proxy data may be used to select areas to be visited. It is advisable to focus the assessment on sample areas rather than attempt to visit all affected areas, as time, resources and logistical constraint may not allow missions to visit all areas of concern.
4. Collate crop damage estimates from government sub-national sources, NGOs and other institutions in the affected sub-national areas. This is usually provided in percentages or fractions, and normally preliminary estimates. Government networks and information gathered in the affected areas should be the primary source of baseline and loss estimates, which is then verified through the sampling exercise. It is vital that the assessment mission provides clear instructions for government focal point to collate latest data from all sub-national areas of interest at the beginning of the mission.
5. Verify yield figures through visual inspection of the sample damaged areas, group discussions, key informants and individual inquiries. Structured or semi-structured surveys are the best methods to estimate crop losses but may not always be feasible under the emergency assessment conditions. Crop calendar as explained earlier is an important source of information to estimate crop losses.
6. Estimate production for the current year as the product of area planted and yield average of the past four to five years, multiplied by the verified percentage loss in yield, assuming the area planted in current year is not too dissimilar.
7. Triangulate the estimated losses with current data from a number of sources, including government institutions at national and local levels, NGOs and key informants in the affected areas to ensure consistency in damage assessments.
8. Compare and contrast the loss of production in the affected areas with the national production figures.
9. Estimate the use value of by-products lost. Usually by-products from crops (straw, crown, stem or tuber) do not have a clear market and monetary value, but are either used as animal feed, fuel and/or construction material. It is useful to estimate the opportunity cost of the by-products or appropriate qualitative measure (i.e. how many livestock could it feed and for how long? etc.).
10. Estimating vegetable production is more problematic for a number of reasons: (i) the area planted with vegetables often varies significantly from year to year; (ii) many different varieties are planted in a small area; (iii) the aggregate quantity of output does not make much sense because high-value, low-volume crops are put into the same basket as high-volume, low-value crops. If vegetables are primarily cultivated for markets, mono-cropping in relatively large areas may be common and estimates are relatively easier to obtain. In the majority of cases, multi-cropping on relatively small pieces of land is common. An attempt should be made to estimate crop losses by common types of vegetables or qualitative statements could be made on crop losses.
11. Estimate potential crop losses (either inability to farm or reduced yields due to the disaster) and increased used of farm inputs for future seasons as part of the overall crop losses;
12. Use Farm-gate prices to value the estimated crop losses (see box on pg. 15 for details).

4.1.2. Estimating Perennial Crop Production Loss

Perennial crops are those that do not require annual planting, e.g. orchards, coffee, tea, pastures, other tree and root crops. Losses in perennial crops refer to production loss, either partial, total or quality decline in one season or spread over multiple seasons. Pastures, planted or natural, are also part of the perennial crops. Use the steps explained in the preceding section (4.1.1) to estimate perennial crop losses.

4.2 Estimating damages in crops sub-sector

Damages are either estimated through direct costing or replacement cost methods. The replacement cost method, widely used in particular in PDNA/DALA, envisages the costs associated with rebuilding the damaged asset and infrastructure. It is possible that the damaged infrastructure may already have lived past its use-by-date or indeed the infrastructure may no longer be necessary or appropriate in its pre-disaster form. Therefore, damage estimates do not at all equal rehabilitation costs.

4.2.1. Perennial crop damages

Crop damages refer to complete destruction of perennial crops and the following steps may be followed to estimate damages:

1. Total damaged area under the crop: there may be mixed orchards and an estimate is necessary to establish the type of species by area. There may be intercropping, which should be estimated using the methodology explained earlier for annual crops.
2. Determine number of damaged perennial crops (e.g. trees) per unit of damaged area (hectare);
3. Estimate total number of damaged trees: total area under the crop (ha) X number of trees per unit of land (trees ha⁻¹);
4. Estimate average (preferably 4-5 year average) annual yield by crop for the damaged area – no. of damaged trees X average yield per tree.
5. Estimate output losses over the productive life of the crop, minus the annual production costs.
6. An alternative perennial crop loss estimation method may be to sum the replacement costs (new planting) and the yields lost for a number of years before yields from the new crop are obtained. However, crop replacement may not always be feasible or even desirable as the whole resource base may have been affected.

Key Reading

Joint FAO/WFP Guidelines for Crop and Food Security Assessment Missions (CFSAM) - FAO, 2009.

This is a relatively large document (320 pages) tailored to a specific output, the CFSAM. However, the document provides some practical and well-tested methodologies for assessing agricultural production, market analysis and estimating aggregate staple food balances.

<http://www.fao.org/WAICENT/faoinfo/economic/giews/english/tools.htm>

Rapid Agricultural Disaster Assessment Routine (RADAR) - FAO, 2008.

This is a succinct and user-friendly guide, which includes an example of where the guide has been used. Chapter 4 briefly explains methods of disaster impact assessment, applied in Chapter 8 in the damage assessment following Hurricane Mitch in Honduras.

http://www.fao.org/nr/climpag/nat_1_en.asp

4.2.2. Top soil damages

Damages to agricultural land include top soil erosion, toxicity, salinity, sedimentation among other factors that reduce the capacity of soils to sustain crop production. The damage estimates should consider the crop losses during the season/s in which land is out of production plus the rehabilitation costs to render the land productive once again.

The following steps may be followed in estimating losses due to land degradation:

1. Estimate the area of land that have been affected by the disaster by extent of damage:
 - a) Completely lost and irrecoverable, e.g. productive land lost to sea, floods, chemical spill and others when recovering land to its pre-disaster use is nearly impossible or too costly to be practical to pursue.
 - b) Severely damaged but recoverable (the disaster has not only damaged standing crops but has also rendered the land unproductive, which can be brought back to productive use with investments) – the recovery refers to financially viable interventions to recover land to pre-disaster use.
 - c) Partially damaged – A part of the land has been damaged and requires rehabilitation before it can return to pre-disaster use level, e.g. soil erosion or contamination on parts of the field.

In the case of both (b) and (c) it is necessary to estimate rehabilitation costs and the time required, in terms of crop seasons, to restore the affected land to its pre-disaster use.

2. Using the methodology explained in 4.1.1 – estimate crop losses for the current season and the subsequent seasons when land is being rehabilitated (estimate of seasons in [b] and [c] above).
3. In the case of (a) above, the opportunity cost of land may be estimated and the annual use value in post disaster may be compared with the pre-disaster use value of land. This is done by estimating the net present value (NPV) of estimated future returns on the lost land.

4.2.3. Estimating damages to agriculture infrastructure

Irrigation

1. Describe the pre-disaster irrigation infrastructure – (a) source of water³; (b) seasonality of water supply if any; (c) type of structure for water diversion; (d) distribution network – primary, secondary and tertiary canal systems and types of structure (concrete, stone, gravel, earth, etc.); (e) command area by season if relevant; and (f) any other features of the system.
2. Estimate the value of damage to structures: This may be done by using ‘replacement cost methodology’, i.e. what would it cost to repair the existing system, using exactly the same material without changing anything in the system. The replacement cost⁴ parameter (construction per square metre at national level) is usually available at national level, which needs to be adjusted to the conditions in the affected area/s.
3. Damage to irrigation machinery: irrigation and drainage machinery may have either been completely destroyed or partially damaged. Damage estimates for the partially damaged machinery are the repair costs to bring the machinery back into its pre-disaster operation capacity. In the case of the totally destroyed machinery, when repairs are not feasible, the machinery replacement costs minus the depreciation value (as a function of machinery age) is considered the damage cost.

3 It is necessary to review latest environmental concerns of the irrigation system, including competing demands on the water source and the necessary changes in the irrigation system to account for the environmental concerns.

4 Repair costs need to be estimated and would directly depend on the type of repairs needed. Usually there are no generally accepted parameters for estimating repair costs.

Office buildings, housing and other structures

The impact of a disaster on buildings may be partial or complete destruction. In the case of partial damage, cost of rehabilitation estimates are considered damages. In the case of total destruction of buildings and structures replacement cost methods are used to estimate damages. The damage to buildings is usually calculated per square metre of built up areas, which is usually a standard figure or range of figures for national and/or sub-national levels. When estimating damages to buildings, the assessment team has to be careful to obtain information on the age of the building and the life-expectancy of buildings in the country as defined by the national authorities. This is necessary to estimate the pre-disaster stock value of the buildings.

4.3 Estimating damages and losses in livestock sub-sector

The concepts are similar to the crops sub-sector and similar methods are applied to estimate damages and losses.

Typical losses include, but not limited to:

Production loss: Milk, meat, eggs, honey, wool, skins and hides, draught power and others.

Increased production costs: Use of increased feed, increased costs of medication (treatment and prevention).

Typical damages include, but not limited to:

Animal deaths, pasture damages (part of perennial crops), livestock sheds/barns, stored feed and fodder, and livestock-related equipment and machinery.

Estimating production loss

The procedure explained in Section 4.1.1 for crops may be adapted for estimating losses in the livestock sector.

Baseline: The following baseline may be compiled against which damages and losses may be estimated using the procedure explained in Section 4.1.1.

- Latest livestock population census, by type (cattle, buffalo, sheep, goats, pigs, donkeys, horses, poultry, bee hives, rabbits and others) for the area of concern;
- Average yield – quantities of milk, meat, eggs and other products per animal or in total if relevant;
- Feeding calendar by type of livestock– number of months when livestock depend on each type of feed or mix of feed (pastures, dry silage, green feed, concentrates, mixed feed and others).

Loss estimates: Adapt the steps explained in Section 5.1.1 for crops to livestock and feed.

Estimating damages in livestock sub-sector

Animal deaths: Estimate the number of dead animals by type using sample survey, head count or other suitable methods given the time constraint, accessibility and data availability. It is important to estimate the number of animals by age range, which would correspond to an average market value. Obtain average market prices for each of the defined age range to value the lost animals. Usually the current farm-gate prices are affected by the disaster and all attempts should be made to obtain past seasonal average prices.

Animals slaughtered for meat: Some disaster-affected animals may have been sold for meat in the market and farmers may have obtained some revenue. The damage in this case is the total value of the stock (using average seasonal price for the relevant age-group) minus the revenue obtained for the sale of meat.

Livestock sheds, buildings, machinery and structures: If totally destroyed and irreparable, complete replacement cost method is used to estimate damages. Most of the material used for livestock sheds and structures are usually non-tradable local material, all efforts should be made to identify appropriate values for non-tradable local material either using the opportunity cost of the material used or a close substitute that has a market value.

Partially damaged sheds, buildings and machinery may only use repair costs to estimate damages.

Key Reading

Livestock Emergency Guidelines and Standards (LEGS):

A must-read for any emergency livestock intervention involving assessment and formulating response option/s. LEGS provides standards and explains how each standard is to be applied.

<http://www.livestock-emergency.net/>

4.4 Estimating damages and losses in fisheries sub-sector

The fisheries sub-sector in many countries is among the most important sources of nutrition, livelihoods and foreign exchange earnings. The fisheries sub-sector comprises of: (i) aquaculture (fish, shrimp, crab, frog and snails); (ii) artisanal fisheries (both inland and marine capture); and (iii) commercial⁵ fisheries (mainly marine capture).

Typical disaster **losses** include, but not limited to:

- Loss of aquaculture output (total loss of fish or yield decline);
- Decline in fish catch;
- Increased input costs in aquaculture;
- Increased equipment rental costs;
- Increased fuel costs to reach fish that may have been displaced further away from the coast following the disaster;
- Loss of fingerlings, fry and other inputs.

Typical disaster **damages** include, but not limited to:

4.4.1 Aquaculture

Land-based aquaculture systems

- Ponds;
- Fish feed and other stocks of inputs;

⁵ Commercial here only refers to relatively large-scale capture fisheries even if other forms of fisheries may also be for commercial purposes.

- Supply and drainage canals serving the ponds;
- Culverts, pipes, inlet structures, outlet structures, pump installation structures;
- Water pumps – by technical specifications;
- Aerators – by technical specifications;
- Generators – by technical specifications;
- Breeding tanks for hatcheries;
- Incubators/hatching facilities;
- Live food rearing facility for hatcheries;
- Quarantine facilities;
- Filters, mesh and other tools and equipment;
- Processing equipment and structures.

Open water fish farming system

- Cages and Pens;
- Enclosures;
- Floating structures.

4.4.2 Capture Fisheries

Fishing gear, vessels and engines

- Nets – a great variety of nets exist, some are standard and commercially traded others are specific to cultures and areas;
- Fishing vessels – there are great varieties locally made from local material, commercially available vessels of diverse sizes;
- Engines and Machinery – propellers, engines and other machinery come in all sizes, forms and strength (HP);
- Communication and safety equipment.

Landing sites, harbours and anchorages

- Quay, slipway and breakwaters
- Fish processing facilities,
- Fish marketing and storage facilities,
- Boat repair, office buildings, WC and other structures;
- Machinery, engines, generators etc.

4.4.3 Procedures for damage and loss assessments in fisheries sub-sector

The concepts and procedures for estimating damages and losses in the fisheries sub-sector are similar to those explained for crops and livestock sub-sectors. However, key issues relevant to fisheries are highlighted in this section.

Aquaculture

Aquaculture baseline: Some of the key baseline data necessary for damage and loss assessment may include but not limited to the following:

- Number of ponds by type (earth, concrete, other), different size categories and ownership (individual households, community and public) in the area of interest;
- Number of open water aquaculture structure (by size, type and ownership);
- Species under culture by type of aquaculture;
- Tabulate production calendar by species;
- Production by type of aquaculture and species (5-year average, a normal year or past few years production levels);
- Population (by gender) that directly and indirectly depend on aquaculture, noting their differentiated roles in fish production and post-harvest activity;
- Typical equipment used by type of production system and size;
- Sources of water, fingerlings, seeds, feed, lime and other inputs.

Loss estimates in aquaculture:

- Collect and collate data on production loss estimates (complete loss or decline in yields) by species, aquaculture type and operation size categories (pond, cage or tank size) and compare against the baseline. The assessment teams may only be able to determine loss parameters in percentage given the time and detailed information constraints, which may then be compared with the baseline average production levels in the season under consideration.
- Estimate increased use of variable inputs, e.g. feed, lime, medicine and other inputs by species, aquaculture type and operation size categories (pond, cage or tank size) and compare against the baseline.
- Obtain farm-gate prices for the losses under consideration. Farm gate prices may have been affected by the disaster, average seasonal prices or a base year price may be used to value the losses.

Damage estimates in aquaculture:

- Estimate damages (partial or full) to the stocks, equipment, machinery, structures and other as listed in section 5.4.1.
- Partially damaged stocks, structures and equipment may be repaired and the repair costs are considered damage estimates. Full replacement costs are estimates of damages in the case of irreparable structures and machinery.

Capture Fisheries

Baseline: Some of the key baseline data necessary for damage and loss assessment in capture fisheries may include but not limited to the following. Some of this data in most cases are not readily available. However, all efforts should be made to collect/collate information on the main structures and machinery.

- *Land-based Structures*
 - Tabulate data on pre-disaster land-based structures, type of material used, size and age of structures. Some of these would include but not limited to: Fish processing facilities, fish marketing and storage facilities, boat repair, office buildings, WC and other structures.
 - Machinery, engines, generators and other relevant equipment by type, age and make.
 - Communications, power, living quarters and other relevant facilities.
 - Number of people (by gender) depending on the land-based infrastructure for their livelihoods, and their differentiated roles in fishing and post-capture activities.
 - Number, type and size of vessels using the infrastructure.
 - Quantity and type of landed fish, other seafood and products by season and year.
 - Ownership and management.

- *Marine Structures*
 - Type, size and capacity of landing sites, harbours and anchorages, including quay, slipways, breakwaters, platforms, bridges and other structures.

Loss estimates in capture fisheries:

The main loss in capture fisheries is the reduction in landed fish and increased costs of capture and processing due to the disaster. The baseline figures in this case are very important to understand the level of capture by season to estimate the change in landed fish. The average cost of capturing fish by type of vessel prior to the disaster is also important to estimate the change in costs per unit of fish captured. The disaster may have affected prices of fish, the post-disaster market price may not be appropriate to use and hence average seasonal prices should be used if available.

Damage estimates in capture fisheries:

Principles and methods are similar to estimating infrastructure and machinery damages in other sub-sectors. Repair costs are considered damage estimates if the structure or machinery is repairable. Otherwise full replacement cost minus the depreciation costs are considered damage estimates using current market prices.

Key Reading

Guidelines for Fisheries and Aquaculture Sector Damage and Needs Assessments in Emergencies – FAO, 2010:

[Appendix 9.](#)

Annexes 1, 2 and 3 provide significant details on estimating damages and losses in the fisheries sub sector.

5. CONDUCTING NEEDS ASSESSMENTS

This chapter begins with the premise that *needs are not always the same as damages and losses*. The principle of *building-back-better* assumes that pre-disaster systems may not have been efficient and hence the need to build back better.

The following are some of the scenarios where the damage, loss and needs equation may not hold:

- The disaster has altered the natural resource base and return to pre-disaster situation is technically and/or financially not viable. Relatively large scale disasters may alter the natural resource base in certain areas.
- The government strategy on service delivery and management may have changed making existing structures, institutions and equipment redundant. An example of such case may be the government strategy to develop private sector delivery of animal health services. As such existing public animal health structures and equipment may no longer be required. Rehabilitating the existing structures would undermine government efforts to develop the private sector service delivery in animal health.
- Pre-disaster management, access, rights and obligations, in short entitlements, to a resource may have been skewed with consequences for sustainability, livelihood security and environmental degradation. Rehabilitation to pre-disaster state would reinforce a faulty system. There are many irrigation systems, forestry management, fisheries management, pasture management and other systems that may make it undesirable to return to pre-disaster systems.

There are many ways to identify needs. The methodology adapted for the post disaster needs assessment in this guide is based on a combination of system assessment with a view to identify elements that would make the system under consideration to function again (pre-disaster state) or more efficient (build-back better if required). In addition to the systems approach, which mainly considers technical solutions, the methodology also seeks to solicit beneficiary views on needs. Therefore, combining technical solutions with social and individual preferences, to identify needs.

The systems approach seeks to analyse the functionalities of a system within the context of stated or implied objectives they are supposed to serve and available/accessible resources. The following sections attempt to highlight general procedures on identifying needs using a combination of systems approach and socio-economic indicators. Similar sub-sectors to those used in the preceding chapter on damage and loss assessment are considered below.

Post disaster rehabilitation may also be considered an opportunity not only to rehabilitate the damages and losses but also to address some of the critical factors contributing to the sector's inefficiencies. Therefore, an understanding of pre-disaster systems and main factors impeding efficiency and development are critical to 'build-back-better'. The following sections are designed to assist in building a pre-disaster picture of the main agricultural sub-sectors.

5.1 Needs assessment in the crops sub-sector

(i) Annual and perennial crop production systems

Understanding crop production system is key to identifying pre-disaster inefficiencies, source of input supply and marketing output. It is important to recognise that small, medium and large farms engage in

very different farming systems, which should be reflected in the system analysis. The following are some of the key questions to understand crop production systems by farm size if appropriate (small, medium and large, the definition of each category would vary depending on area of interest).

- What is the main source of farm power? Draught animals, small hand tractors, tractors, hand tools and other.
- What are the main sources of fertilisers? Mineral and organic fertilisers.
- What are the average rates of fertiliser use (N-P-K and organic) per unit of land by main crops?
- Crop rotation – technical judgement on the efficacy of existing crop rotations.
- Is there scope to improve/develop kitchen garden and urban agriculture in support of food security and nutrition?
- Identify the farming roles played by men and women (field crops, kitchen gardens and other) in order to identify and address the separate needs of men and women in food and non-food crop production.
- What has the disaster disrupted that impede the normal (pre-disaster) functioning of crop production system?

(ii) Marketing

- Share of crops sold in the market.
- How do farmers receive market price information?
- Direct sale or through intermediaries? Other means of selling products, contract farming, value chain, etc.
- How are crops sold? Fresh or processed? Explain the importance of each.
- What are the main impediments to marketing?
- What has the disaster disrupted that impedes marketing?
- Note the differences in marketing roles and practice between men and women.

(iii) Seeds Systems

A seeds system can be defined as the way in which seed is selected (varieties and types of species), produced (research and multiplication of different generations), saved (storage and handling) and marketed (packaging, pricing and access by farmers and other stakeholders).

- What are the main types of seeds used in the area of concern? (Share of HYV, improved, local and other)
- Are there traditional seed preservation and storage systems that are effective enough to revitalize?
- What are the main sources of seeds? (HYV, improved, local and other)
- Are there seed producing organisations? Do they supply adequate seeds? Is there reliable seed quality assurance mechanisms?
- Does a clear seeds regulatory framework exist? If so, is it applied at all levels?
- What are the main impediments to adapting high yielding varieties (HYV) and other improved varieties? (price, inadequate supply, uncertain quality, preference, storage, other)
- How has the disaster affected the functioning of the seeds system?

- Do male or female farmers face specific barriers in accessing adequate Seed?
- List the main seed varieties that can be accessed under the envisaged time constraint.
- In the absence of nationally available seeds, can seeds be imported? Are there government legislations or other international agreements limiting import of seeds?

Key Reading

APF, [Annex D](#) – FAO, 2011:

A number of key references have also been suggested in Annex D.

(iv) Irrigation

- Description of the irrigation system – source of water, intake structures, distribution networks (primary, secondary and tertiary canal system and type of canal lining, culverts and outlets), pumps and other machinery.
- Is water supply seasonal or permanent? When (season) is irrigation water not necessary?
- Which crops depend on irrigation mostly?
- Can modifications in cropping systems and introducing viable (financially and socially) crop diversification reduce, partially or entirely, demand for irrigation water?
- Ownership and management:
 - Who owns the irrigation system?
 - Who is responsible for management of various sections of the system?
 - How is water distribution governed? Who has access rights, who does not, and how?
 - Is water free or charged? If free, who pays for operations and maintenance?
 - Are there water user-associations (WUA)? If so, describe their roles, responsibilities, management and main issues that impeded effective functioning prior to disaster if any.
 - Are there any conflicts with regard to access to water? Describe in some detail, including historical perspective on water rights and obligations if relevant.
- Do women farmers face any additional constraints in having their needs for irrigation water met?
- Were there any drainage issues prior to the disaster? What measures had been envisaged or taken to address drainage issues?
- Had any environmental issues related to the irrigation system been identified prior to the disaster? If so, had any measures been considered to address some of the issues?
- Under the post-disaster situation, climate trends, government strategy if any, proposed financial and management regimes if any, will the rehabilitated irrigation system be sustainable? If not what measures are necessary, as part of the rehabilitation efforts, to ensure sustainability?
- What has the disaster disrupted that require immediate interventions?
- Will the emergency interventions reinforce any of the pre-disaster inefficiencies or undermine government strategies for the sub-sector?

5.2 Needs assessment in the livestock sub-sector

The main issues to consider as part of the livestock needs assessment are:

5.2.1 Poultry

- What are the main poultry production systems in the area of interest? Backyard system, semi-intensive, intensive/commercial and other by share of bird type.
- What are the main sources of feed for each production system?
- How are poultry health services accessed and delivered? (private, public a combination of the two or none). Are there specific barriers for either male or female farmers in accessing service?
- What are the main diseases that usually threaten poultry in the area of concern?
- Other impediments to effective development of the poultry sector by production system.
- What role do different household members (men/boys and women/girls) play with regard to poultry management (production to marketing)?
- What are the main uses of poultry, backyard production system? Sale of eggs, birds, domestic consumption other.
- What are the main environmental concerns with regard to the poultry sector?
- What are the main elements of the government strategy to develop the poultry sub-sector?

5.2.2 Other livestock (sheep, goats, pigs, buffalo, cattle, camels, horses, donkey other)

- What are the main livestock production systems (crop-livestock, extensive pastoral, intensive and other)?
- What are the key uses of livestock (food, income, social, draught, transport)?
- What percentage of food is 'normally' derived from livestock?
- What percentage of income is 'normally' derived from livestock?
- What roles do different household members (men/boys and women/girls) play with regard to livestock care and management, including use and disposal rights with particular reference to gender?
- What customary institutions and arrangements are involved in livestock production and natural resource management and what are their roles?
- What are the main coping strategies for livestock owners following a disaster (e.g. high livestock slaughter, sales, migration and other)? Do coping strategies differ between male and female-headed households owning livestock?
- What are the main sources of feed by type of production system? Prepare a feed calendar by production system.
- Were there any management, rights of use and obligation issues with pastures prior to the disaster? How did the disaster affect access to pasture for men and women?
- What are the main environmental concerns with regard to livestock production systems?
- What are the main impediments to effective development of the livestock sub-sector?
- How has the disaster affected the livestock production system?

5.2.3 Animal health

- Define the animal health delivery system – what is the role of the public sector, the private sector and how are services delivered to the area of interest.
- Have there been any changes in government strategy (actual or planned) to animal health service delivery? Describe the strategy with a view to design interventions in support of the strategy or at least ‘do-no-harm’.
- Identify source of medicine supply and its reliability with a view to ensure timely delivery of the required medicine for emergency interventions.
- Assess the strengths and weaknesses of the animal health service delivery institutions, private and public, with a view to address some of the main inefficiencies in support of the government strategy for animal health delivery.
- What are the main impediments to accessing adequate animal health services?
- Is there equal access for male and female farmers to animal health information, training and veterinary services?
- How has the disaster affected the regular functioning of the animal health service delivery system?

Key Reading

Livestock Emergency Guidelines and Standards (LEGS):

A must-read for any emergency livestock intervention involving assessment and formulating response option/s. LEGS provides response standards and explains how each standard is to be applied.

<http://www.livestock-emergency.net/>

5.3 Needs assessment in the fisheries sub-sector

Needs assessment in the fisheries sub-sector, like other sub-sectors attempts to understand the fisheries system (production/capture, input supply and marketing chain), its functionalities, identify inefficiencies and post disaster needs with a view to meeting immediate needs and addressing any pre-disaster inefficiencies in the value chain. The following checklists and questions are designed to assess needs in the fisheries sub-sector, not only those that are the direct effect of the disaster but also those emanating from pre-disaster system inefficiencies.

5.3.1 Needs assessment in aquaculture

- Sources of water and seasonality of supply if relevant.
- Main threats to water supply- quantity and quality. Explain frequency and severity of the threats.
- Main types of ponds – by size of operation and type of infrastructure, tools and machinery used.
- Main sources of supply by type of production system. Fertilisers, lime, seeds, fingerlings and other.
- Specific roles men/boys and women/girls perform in aquaculture.
- Which species are common? State by share and identify sources of input supply.
- What type of processing is done at the farm level?
- Main outlet markets (direct sale at the farm, local market, national market, export other) and methods of transportation.

- Are there intermediaries in fish marketing and if so at what levels?
- How do farmers obtain price information from relevant markets on timely basis?
- Has any marketing association or producer group organisation been formed? If so what are the organisation's roles and responsibilities? Carry out a SWOT analysis on the farmers' organisation. What percentage of members are men and women? What level of influence do they have? (e.g. executive, key committees)
- Are there any other public or private organisations that provide extension services? Assess the efficacy of the organisations involved (through SWOT analysis or other methods – See [Annex C](#)).
- What are the main impediments to the development of aquaculture in the area of interest?
- What are the main environmental concerns with regard to the aquaculture production systems?
- Which part of the aquaculture production system has the disaster affected?

5.3.2 Needs assessment in capture fisheries

- How is the capture fisheries resources managed? Access rights, responsibilities, quota system, licensing, quota trading, exclusion zones and other management arrangements.
- Number and type of vessels involved in the area of interest. Vessels may be categorised by size or number of people on board or capture capacity, depending on local definitions of size.
- How are fisher-folk organised? Are there fisher-folk organisations for capture, processing, marketing etc?
- What role to men/boys compared to women/girls play in boat building, net and equipment provision and repair, fish capture, processing and marketing?
- Chart capture seasons and if feasible by type and quantity of landed fish.
- Assess safety at sea and service delivery efficacy.
- Is overcrowding an issue? Except the commercial vessels, how far into the sea can other vessels venture in search of fish?
- Are there any design issues with the type of vessels used?
- Are there issues with the type of material used to build vessels and can vessels be repaired locally?
- Is information on safety, fishing techniques, fishing gear and vessels provided to fisher-folk? If so, by whom?
- Do women and men have equal and timely access to information on market price and production issues? Do extension services exist and, if so, do they reach all involved in capture fisheries?
- How is fish sold? Fresh (no processing), processed (dry, frozen and other).
- Assess the efficacy of landing site in terms of fish handling, preservation, transportation, packaging and processing, if any.
- Main outlet markets (direct sale at the landing site, local market, national market, export other) and methods of transportation.
- Are there intermediaries in fish marketing and if so at what levels?
- How do fishermen obtain price information from relevant markets on timely basis?
- Has any marketing association or fisher group organisations been formed? If so what are their roles and responsibilities. Carry out a SWOT analysis. What are the participation levels of men and women in members' meetings and executive positions?

- What main environmental concerns have been identified with regard to capture fisheries? What are the main threats to sustainability?
- How has the disaster affected capture fisheries?

Key Reading

Guidelines for Fisheries and Aquaculture Sector Damage and Needs Assessments in Emergencies – FAO, 2010: [Appendix 9](#).

Annexes provide significant details on estimating damages and losses in the fisheries sub sector. The guidelines make references to other useful documents, including many technical FAO guidelines.

Social issues⁶

Men, women, youth and vulnerable, indigenous and socially disadvantaged groups are affected differently by emergencies and their recovery needs are also group-specific. Over the years, failure to appreciate this diversity and the consequent need for a non-homogenous approach to needs assessment and response formulation has diminished the likelihood of success in achieving recovery objectives. Therefore, understanding the effects of the disaster, specific needs, vulnerabilities and coping strategies disaggregated by gender and social groups is vital for a successful recovery process.

FAO does not recommend a separate social analysis, but rather endeavours to mainstream social analysis into the assessment, analysis and response formulation process for each sub-sector (i.e. forestry, fisheries, livestock, horticulture, annual and perennial crops and irrigation).

The following social issues **common standards** are to be applied in assessments, response formulation and implementation in each of the agriculture sub-sectors:

1. *Pre-disaster social structure*: All attempts should be made to map pre-disaster social structures, which may include: social and economic roles, property rights (ownership, right of access and type of access) and obligations by each group in the area of interest (indigenous groups, casts, tribes, among others). Within each social group, a gender-based division of labour, property rights and obligations also must be mapped.
2. *Assessment*: The damage and needs assessment in each of the subsectors should focus on the impact of the disaster on various social groups disaggregated by gender to capture varying needs.
3. *Participation*: Damage and needs assessments as well as response formulation should be participatory and include both men and women in all social groups.
4. *Response*: Recovery response should adequately consider the needs of different social groups, disaggregated by gender.
5. *Targeting*: Recovery interventions should be targeted in terms of gender and social groups, reflecting the diverse needs of each group.

⁶ Social issues refer to gender, indigenous groups, different age groups and other vulnerable and disadvantaged groups.

An increasing number of donors are demanding that projects identify and respond to the different needs and realities of male and female beneficiaries. All new humanitarian food security projects included in UN-managed appeals and pooled funds must be assigned a gender code. This is part of the compulsory implementation of the IASC Gender Marker. The gender code tells donors whether the project is designed well enough to advance gender equality or not, and if so, whether the project has limited or significant potential to advance gender equality. Food security projects that merit good gender codes will potentially attract more funding. For further information on the IASC Gender Marker: <http://www.fao.org/emergencies/home0/gender-and-social-response>

Key Reading

The Inter Agency Standing Committee (IASC) Gender Marker:

The IASC Gender Marker is a tool that codes, on a 0-2 scale, whether or not a humanitarian project is designed well enough to ensure that women/girls and men/boys will benefit equally from it or that it will advance gender equality in another way. If the project has the potential to contribute to gender equality, the marker predicts whether the results are likely to be limited or significant.

Information and documents related to the Gender Marker are available online at OCHA and the following FAO web site:

<http://www.fao.org/emergencies/home0/gender-and-social-response>

Socio-Economic and Gender Analysis (SEAGA) for Emergency and Rehabilitation Programmes:

This is a comprehensive document explaining the importance of gender perspectives in emergency operations to assist in gender-sensitive recovery planning. It is organised in 12 modules, covering a vast set of issues. As such, the document is rather large and cumbersome to be used in the field. Nevertheless, it is a comprehensive and highly valuable reference book for mainstreaming gender issues in emergency operations.

http://www.fao.org/sd/dim_pe1/pe1_050102_en.htm

Passport to Mainstreaming a Gender Perspective in Emergency Programmes:

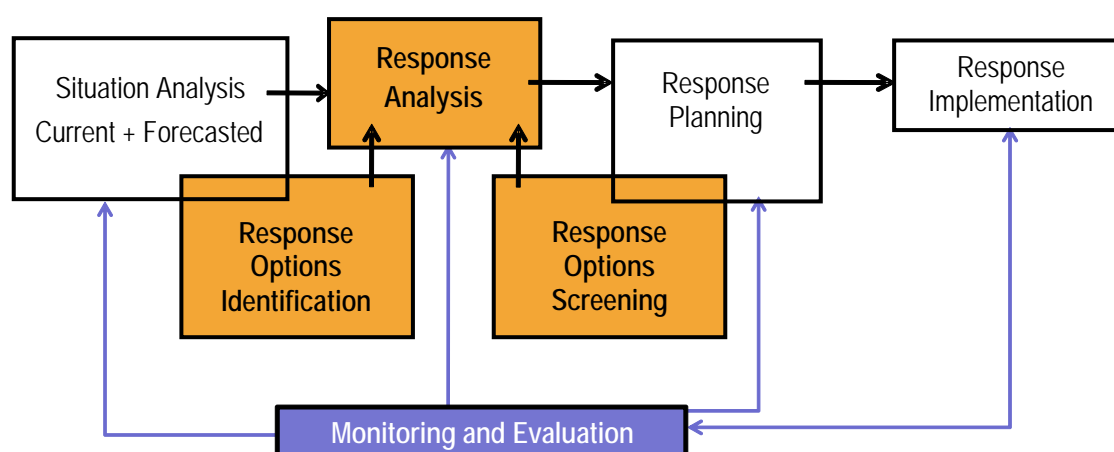
A brief summary of the previous document that has been designed to assist staff and colleagues in the field for emergency operations. The document is a series of questions under several topics to assist field staff in seeking answers to specific questions.

<http://www.fao.org/sd/seaga/downloads/En/passporten.pdf>

6. RESPONSE ANALYSIS FRAMEWORK (RAF)

The damage and loss assessment coupled with needs assessment using systems approach are designed to assist with situation analysis and identify pre and post disaster inefficiencies. In support of ‘*building-back-better*’ principle, the proposed approach is meant to serve two inter-related purposes, (i) meet the immediate needs of the disaster-affected population, and (ii) contribute to or at least ‘*do no harm*’ to medium and long term development objectives. The systems approach assists in identifying inefficiencies throughout the value chain. However, this falls short of identifying various options to address immediate needs and systems inefficiencies. The FAO has recently developed a methodology to consolidate situation analysis, develop response scenarios and using appropriate decision rules to identify the most effective response option – “Food Security and Nutrition Response Options Framework”.

The RAF is a process by which a range of *appropriate* and *feasible* options to address transitory (as a result of the disaster) and chronic (underlying factors affecting efficient functioning of the system) factor are identified. This process may be **triggered** by a range of considerations and have a range of **objectives**. The purpose of the RAF is to provide a rigorous and flexible framework which links analysis of food security and nutrition situations with response formulation. It can be used in a variety of settings ranging from a single agency at sub-district level to multi-agency, multi sectoral settings at national level. The figure below presents the conceptual overview of the RAF.



Source: *A Response Analysis Framework for Food Security And Nutrition Interventions In Emergency Situations (RAF)*, FAO 2011.

The RAF as a process consists of the following four core steps⁷:

- Step 1:** Summarising and/or strengthening situation analysis;
- Step 2:** Developing scenarios and forecasting;
- Step 3:** Formulating objectives and Listing of relevant response options;
- Step 4:** Applying the appropriateness and feasibility criteria to response options using the Response Analysis Matrix (RAM) and decision rules.

⁷ The following section draws extensively on documentation prepared under the ECHO funded project: “Developing a Response Analysis Framework for Food Security Emergencies” (OSRO/RAF/910/EC).

Step 1: Summarising and/or strengthening situation analysis

Situation analysis establishes parameters such as severity, magnitude and depth of the food insecurity and malnutrition conditions among a given population group at a specified time. A good situation analysis should describe existing and/or projected conditions incorporating the following: the nature of the food insecurity/malnutrition problem, who is affected, where the affected groups are, how severely they are affected, what are the causes of the problem.

Two aspects of situation analysis are particularly important for the RAF and response analysis in general: *problem analysis* and *vulnerability analysis*. A *problem-cause analysis* is a fundamental step to link situation analysis with response. By identifying the issues that underlie an assessed food insecurity and /or malnutrition problem, problem analysis provides entry points for formulation of relevant responses.

Understanding *vulnerability* is also critical for response analysis. Without an analysis of vulnerability, situation analyses which specify magnitude, depth and causes of food insecurity and malnutrition are not sufficient to inform response analysis. This is because being food secure and well-nourished today does not necessarily indicate food security and nutrition security tomorrow. When combined with an assessment of future conditions, vulnerability is a concept that helps us to predict the likelihood of future food insecurity and nutrition insecurity. When armed with this concept, response analysis can differentiate between different combinations of current and expected future food security status and advise on responses accordingly.

Step 2: Developing scenarios and forecasting

Forecasting and scenario building are only possible when an understanding of current problems and vulnerabilities are combined with assumptions about the effects of future events. In this way, step 1 and step 2 of the RAF are closely linked. Forecasting is an essential part of preparing for response analysis. This is because response implementation (interventions) almost invariably takes place sometime after situation assessment and analysis are done. So food security and nutrition conditions for the period of intervention have to be estimated in order to make projections.

Scenario analysis in food security analysis is the estimation of possible future food security/nutrition outcomes based on how expected course of events are likely to shape these outcomes. Assumptions are made about this course of events, based on available forecasts regarding the occurrence and magnitude of these events, as well as expert judgment and past trends. Scenario analysis helps to lay out the implications of the different future outcomes and is therefore a strong planning tool – it always precedes the development of contingency plans. Scenarios are commonly formulated as *best case*, *worst case*, *mid-case* or *most likely*.

Step 3: Formulating objectives and listing of relevant response options

Step 3 of the RAF marks the transition from food security and nutrition situation analysis to response *options* analysis. This step is divided into two parts. The first part is the formulation of response objectives. Once developed, these objectives provide the platform for formulation and listing of response options. The development of objectives is informed by the outputs of steps 1 and 2 of the RAF and also the nature of the planning framework within which the RAF is situated. This might be a one year framework (as in the case of Cluster Response Plans in the CAP) or a two to three year framework (as in the case of strategic plans or

Plans of Action) or a longer time horizon (e.g. a five year district development plan). For the RAF, it is important that the objectives are as Specific, Measurable, Attainable, Relevant and Time bound (SMART) as possible. Making objectives SMART helps to frame the second part of this step, which is the listing of relevant response options.

The identification of response options is informed by the SMART objective and guided steps 1 and 2 of the RAF. Only response options that pass the test of relevance should be listed at this point. Relevance is defined in relation to the problems (problem tree and problem matrix); vulnerabilities and forecasts; and the objective itself.

Step 4: Applying the Response Analysis Matrix (RAM) feasibility and appropriateness criteria; applying the RAM decision rules

The final step of the RAF consists of applying the Response Analysis Matrix (RAM) to the response options listed in step 3. The RAM is designed to be used as a tool to generate debate and ultimately consensus around the appropriateness and feasibility of different response options in meeting objectives. It can be used in a variety of planning and institutional contexts. It is not a substitute for proper response planning, but rather is intended to highlight the strengths and weaknesses of responses, weeding out those which are weak or ill-conceived including those which whilst appearing technically sound in principle, might be entirely unrealistic in the local context. The RAM proceeds by requiring the response analyst to score response options against a range of criteria designed to judge appropriateness and feasibility. Options are then screened against the “Do No Harm” principle and appropriateness and feasibility decision rules. The final output of the RAM is a set of options which have passed the tests of appropriateness, feasibility and do no harm. This set can then be fed into a proper response planning process which will include detailed design and budgeting questions outside of the scope of response analysis and the RAF.

7. FORMULATING THE RESPONSE PROGRAMME (OR PROJECTS)

Different approaches are possible: (i) a programme approach; (ii) a sub-sector project approach; and (iii) project concept notes.

(i) Programme approach

A programme approach⁸ to emergency and rehabilitation is usually the best option as it allows for an integrated approach to the agriculture sector rehabilitation assessment and response. In addition, and more importantly, a programme approach facilitates a more comprehensive and integrated rehabilitation process providing a smooth transition from emergency to development.

National strategies for the development of the agricultural sector and natural resource management form the foundation of any interventions. The FAO and other international partner strategies are usually subordinate to and in support of the national strategies. FAO, mandated to mainstream gender, also plans interventions to assist national governments to operationalise their gender policies and strategies related to food security. The programme approach attempts to specifically address pre and post-disaster vulnerabilities and inefficiencies.

FAO's Strategic Objective I and the four relevant organizational results (see section 2) emphasize the need for a holistic approach to emergency and rehabilitation interventions such that there is a smooth transition from emergency to rehabilitation and long-term development. As a matter of principle, FAO also requires emergency and rehabilitation interventions to support local and domestic processes, strategies and institutions and at least to "do no harm". It is possible that pre-disaster management and the use of natural resources and other practices may have been less conducive to development aspirations and objectives. FAO's principles also emphasize "building back better", which may not include returning to the pre-shock conditions. In view of its depth of analysis and a multi-subsector coverage, a programme approach is the most appropriate to ensure that a series of interventions in the various agriculture subsectors meet FAO's strategic objectives and principles.

Furthermore, an emergency and rehabilitation programme document may also be used for fundraising both by FAO and the national government. It can also serve to highlight the needs of the agriculture sector and how an early intervention in the sector would ensure livelihoods security and diminish the need for protracted relief operations.

An increasing number of donors are demanding that projects identify and respond to the different needs and realities of male and female beneficiaries. All new humanitarian food security projects included in UN-managed appeals and pooled funds must be assigned a gender code. This is part of the compulsory implementation of the IASC Gender Marker. The gender code tells donors whether the project is designed well enough to advance gender equality or not, and if so, whether the project has limited or significant potential to advance gender equality. Food security projects that merit good gender codes will potentially

⁸ The traditional definition of programme does not apply in this case and is used here to emphasize the holistic and integrated approach covering multiple subsectors.

attract more funding. For further information on the IASC Gender Marker: <http://onerresponse.info/crosscutting/gender/...>

A programme approach, on the other hand, is costly and on average requires about one to two weeks more than other approaches. In some cases, an integrated and holistic programme formulation may not be feasible, or even appropriate and specific sub-sector or issue-based projects will then have to be prepared. Finally, the donors may not be willing to finance a holistic and potentially large programme for various reasons.

When is a programme approach effective?

1. *Area-based rehabilitation efforts*: Regardless of the type of emergency (slow/sudden-onset, conflict/post-conflict) – a programme approach is more effective if a holistic and integrated area-based rehabilitation is intended.
2. *Wide-spread damage and loss to multiple sectors*: When a disaster is indiscriminate and has affected all sectors.
3. *Government and international partner interest*: When there is an interest from the government and international partners, and in particular from donors, to develop a holistic rehabilitation programme for a specific geographic area.



[Appendix 2 - Click here to download an annotated programme document template](#)

(ii) Sub-sector project approach

A sub-sector project approach may be necessary when a disaster affects only a specific subsector, or if the government and the donor community call for FAO's technical assistance for a specific sub-sector or subject matter and not others. Indeed programmes may be developed for a specific sub-sector, e.g. animal health programme or seed systems development programme and others. The project approach may only address a specific issue within a sub-sector or fill a void for a specific period of time but may not address all underlying issues in the sub-sector.

A project approach is broadly similar to the programme approach but restricts itself to a particular sub-sector or subject matter. All principles and methodologies explained previously also apply to the project approach. Emergency and rehabilitation interventions are usually financed from a number of sources. Even when an emergency-rehabilitation programme has been developed, the varying number of donors may require that projects are developed for selected components and/or sub-components. The programme document will ensure that the overall approach, the holistic view, strategy and the various synergies as well as transition mechanisms remain intact despite multiple financial sources. Therefore, the programme document remains the basis for most post-disaster interventions.

When is a project approach appropriate?

1. *When the disaster has affected only one subsector*. For example, when an animal disease only affects livestock and not crops, forestry and other subsectors.

2. When the government and other partners have already addressed or are addressing the needs of other subsectors and FAO's involvement is only sought in a certain narrow area.
3. When a particular sub-sector or subject matter has been identified as critical need. All efforts should be made to convince donors of the merits of a holistic approach covering other areas as well. In other cases, specific subject-matter projects should not be ignored.



[Appendix 3 - Click here to download FAO Standard Project Document Template.](#)

(iii) Project Concept Notes

A concept note provides only an overall concept, or outline, for a specific, proposed intervention. It does not include the detail necessary to guide implementation or build synergies with other initiatives and strategies. Concept notes must not be considered as project documents and taken as a basis for implementation. To do so would be contrary to FAO's strategic objectives and principles (see [Section 2](#)). However, it is sometimes necessary to rapidly prepare concept notes to ensure that certain very urgent and time-critical activities are presented for funding within a very short period of time while further details are defined.

When is a project concept note appropriate?

1. When there is insufficient time to assess the conditions on the ground and formulate an appropriate response option in the form of a programme or a project.
2. A donor, for administrative reasons, would need to allocate funds for a certain financial year, which leaves very little time for a comprehensive formulation mission.
3. Flash Appeals and other similar humanitarian appeals often require hastily prepared concept notes and the tight schedule does not allow for a more in-depth analysis.

Regardless of the reasons, a project concept note should only be restricted to broad areas of intervention and, even so, after consulting the FAO-NMTPF or other relevant strategy papers for the agriculture sector. In all cases, the concept notes should be followed by a more comprehensive project document highlighting the various synergies and adhering to general FAO principles, see [Section 2](#).

Designing responses using the Logical Framework Analysis (LFA)

The LFA is a powerful planning and management methodology for project cycle management and is used to design, manage, monitor and evaluate projects and programmes. The LFA is a participatory, non-adversarial and interactive process that can be used to:

- Ensure full participation of stakeholders (appropriate numbers of male and female beneficiaries, institutions and other partners);
- Facilitate a highly structured framework for guiding discussions and soliciting opinions, views and needs of various stakeholders;

- Design robust and logical intervention that highlights linkages from activities to macro-level goals/impact; information needs to track project/programme progress, monitor and manage assumptions and risks;
- Clearly ascribe responsibilities among stakeholders;
- Develop M&E system and highlight the need for collecting relevant data; and
- Help improve evaluation.

As part of its revised Strategic Objectives (SO), the FAO has adopted results-based management (RBM) to improve programme delivery and management effectiveness, efficiency and accountability. The RBM is a cohesive management approach focusing on achieving defined results at various levels. The LFA is considered as a powerful RBM tool necessary for almost all FAO projects exceeding a budget of USD 500 000. Implementation of the IASC Gender Marker is a complementary RBM tool applied to all projects including in the UN-managed humanitarian funding stream.

Screening project proposals for possible environmental impacts

Environmental degradation has a direct bearing on poverty, productive activities and natural resource management. It is vital to understand the dynamics between a disaster and its impact on the natural resource base, livelihood systems and the needs of the affected communities, as well as implications for the recovery process. Since environmental degradation has an impact on various natural resource bases and dependent livelihoods differently, it is important to integrate environmental assessments into situation analysis as well as livelihoods assessments.

Rapid Environmental Impact Assessment (REIA) is an integral part of damage and needs assessments as it has direct bearing on livelihoods. In the case of FAO, REIA has to be undertaken as part of the agricultural-based livelihoods assessment highlighting the environmental impact of the disaster. FAO, actively encourages mainstreaming environment in the project cycle to ensure that environmental concerns are fully addressed throughout the project cycle.

The Environment Summary guidance is provided in [Annex H](#).

Management - implementation and coordination – arrangements

Arrangements for project/programme implementation and for coordination among concerned agriculture sector stakeholders are a direct output from the institutional assessment and analysis (see [Section 4](#) and [Annex C](#)), which are especially important for large-scale projects/programmes. Institutional arrangements specify how a project/programme will be implemented and the responsibilities of the main actors for implementation, coordination, liaison and supervision activities at all levels. Ill-defined institutional arrangements are at best confusing and unsustainable, and at worst undermine existing processes and institutional structures.

Guidance in relation to institutional arrangements is provided in [Annex I](#).

ANNEX A: ANNOTATED REPORT FORMATS

Programme Approach



[Appendix 1 - Click here to download Generic Terms of References \(ToRs\)](#)

This document provides a template and generic ToRs for various members of an assessment/formulation mission. Clearly, only relevant ToRs should remain and others omitted. In addition, ToRs are country- and situation-specific, so the final ToRs should fully reflect the local conditions and the type of envisaged mission. The generic ToRs may also be adopted to serve the Project Approach (see below).



[Appendix 2 - Click here to download an annotated programme document template](#)

This template suggests an annotated outline for a programme document with sufficient instructions to ensure a minimum depth of analysis and synergies with medium- to long-term strategies and policies. The template may be used as a working document by mission members when formulating their respective sections and can be downloaded. Damage and needs assessments and programme formulation (plan of action) are closely related and all attempts should be made to ensure that both are well integrated.

The programme document template is sufficiently annotated to guide practitioners in conducting situation analysis and formulate response with minimum instructions. The template makes several references to specific sections of the guidelines and if used electronically hyperlinks have been provided in each section.

Project Approach



[Appendix 3 - Click here to download Template for a Project Document](#)



[Appendix 4 - Click here to download a Template for Aide Memoir](#)



[Appendix 5 - Click here to download an Example of a Complete Rehabilitation Programme Document \(Sudden Onset Emergency\)](#)

Bangladesh: Emergency Livelihood Protection and Rehabilitation Programme Appraisal, 2007.

This is an example of a programme approach in a sudden onset emergency (Cyclone Sidr). While referring to the document, several impediments to the development of a fully fledged appraisal document should be taken into account. This example only provides some indication of an integrated rehabilitation programme.



[Appendix 6 - Click here to download an Example of a Plan of Action in a Protracted Emergency](#)

Uganda: Plan of Action (POA) for Northern Uganda, 2008. An example of a cluster PoA.



[Appendix 7 - Click here to download an Example of a Rehabilitation Programme Document in a Protracted/Compound Emergency](#)

Tajikistan: Reducing the Impact of Price Surge, Agriculture Rehabilitation Programme, 2008.



[Appendix 8 - Click here to download Template for a PDNA report](#)

This template is designed for PDNA reports but can be adapted to other assessments as well.

ANNEX B: LIVELIHOODS ASSESSMENT

Livelihoods consist of the capabilities, assets – both material and social resources – and activities required for a means of living. A livelihood is *sustainable* when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, without undermining the natural resource base.

The *Livelihoods Assessment Toolkit* developed jointly by FAO and International Labour Organization (ILO) provides a comprehensive set of guidelines for baseline studies (vol.2), initial livelihood impact appraisals, ILIAs (vol.3), and detailed livelihood assessments, DLAs (vol.4). For most agriculture sector assessment and response formulation missions the DLA guidance is likely to be the most relevant although, if no baseline exists, one will need to be established as a first step. Note that a DLA (or equivalent) may already have been undertaken, or planned, by agencies or teams working on food-security or livelihoods and the agriculture sector mission should draw on their findings and collaborate with them in any ongoing livelihoods assessment, avoiding unnecessary duplication.⁹

A post-disaster livelihoods assessment is designed to examine the impact of a disaster on the ability of people to make a living, both in the immediate aftermath of the disaster and subsequently. Once this has been assessed, then appropriate and feasible interventions can be formulated through a response options analysis and subsequent programming.

The main units of analysis in a livelihoods assessment are usually:

- geographic areas known as livelihood zones;
- socio-economic groups, often divided into wealth groups (e.g. well-off, medium, poor and very poor);
- particularly “vulnerable groups”, such as female-headed households, children, pregnant and lactating women and the elderly; and
- households.

What is the value added in using a livelihoods approach?

The advantages of a livelihoods approach are that:

- it is people-centred and integrates gender and socio-economic analysis into livelihoods assessments;
- it is holistic in terms of the breadth of issues examined and can provide the basis for short-, medium- and longer-term programming options in the agriculture sector; and
- assessment and response formulation are tailored to the elements that contribute to or support people’s livelihoods.

Core elements of a post-disaster livelihoods assessment

After the occurrence of a serious natural hazard such as a cyclone, earthquake or drought, the risk of livelihood failure is a function of:

- the severity of the event;
- exposure to the event; and
- vulnerability to the event.

⁹ The extent to which the mission will need to undertake or participate in a livelihoods assessment, or draw on available information, should have been anticipated in the ToR of the mission.

The livelihoods assessment must analyse each of these three elements and, in addition, the options for livelihood recovery in order to generate appropriate recommendations.

The *severity* of the event is measured, for example, by data on rainfall, wind-speed, Richter-scale magnitude, etc. The *degree of exposure* to the event is measured by the size and location of particular geographical areas and the number of people in these areas. *Vulnerability of livelihoods* to the event in the exposed areas or amongst the exposed populations will depend on livelihood types and poverty. This will often vary according to demographic variables, such as gender, age and ethnicity. Prospects for *recovery* - and options to expedite and facilitate recovery - will be influenced by contextual factors (including security) and the status (and rapidity of recovery) of a range of livelihood support systems which in turn may depend on the support from local and central government, local and international NGOs, and international agencies.

Information gathering: key elements and sources

A post-natural-disaster livelihoods assessment will focus on gathering information at various levels. These can be covered in a rapid and partial manner, or in a more in-depth manner depending on the time and resources available.

Table 3: Key information requirements for livelihoods assessments

Level	Information
Secondary data and national-level key informants	Nature, extent and magnitude of the shock/crisis. Geographical areas that have been affected. Groups and number of people affected (livelihood types). Current information and knowledge on the level of disruption to livelihood activities (including market disruptions). Gender roles and issues affecting livelihoods.
District/area level	Impact of the disaster on key organizations and enterprises (public, private, international organizations in the disaster-affected areas). General impact of the disaster on the livelihoods of people in the area. Impact of the disaster on local labour markets.
Market trader/shop keeper	Availability, demand for and cost of essential food and non-food items. Effects of the disaster on individual retail and wholesale businesses.
Community-level key informants	The most important livelihood activities of men/boys and women/girls in the community and when these take place during the year. The overall impact of the disaster on <i>livelihood activities</i> in the community and current responses. The potential role of <i>community groups</i> in livelihood recovery. High-priority livelihood needs of men, women and vulnerable sub-groups. Identification of different <i>wealth/vulnerability groups</i> .

Gender focus groups	The specific impact of the disaster on men/boys and women/girls.
Households	<p>The assets and most important <i>sources of livelihood</i> for the household before the disaster.</p> <p>The <i>impact of the disaster</i> on the assets and livelihood activities of the household.</p> <p>Livelihood coping strategies specific to women/girls and men/boys.</p> <p>The main short- and longer-term priorities and needs.</p>

Livelihood impact and recovery

Much of the fieldwork for a livelihoods assessment will be focused on understanding the impact of the disaster on how men and women make a living and the prospects for recovery.

Using the sustainable livelihoods framework as a guide, the assessment will try to gain this understanding by answering the following questions:

- How were men and women making a living before the disaster?
- What effect has the disaster had on their livelihoods?
- What livelihood strategies and coping mechanisms have different people/households developed and how effective/damaging are these?
- What are the *opportunities and capacities* for vulnerability-reducing livelihood recovery within the local economy ('building back better')?
- What are the constraints that need to be addressed or taken into account?
- What types of *activities* are needed, and feasible, for vulnerability-reducing livelihood recovery of the different people, households and communities ('building back better')?

Key data gathering tools

For field work, the key questions can be answered in a variety of ways using a variety of tools. Semi-structured interviewing and/or questionnaires will be the core tools, supported by a range of other tools as appropriate. Checklists are provided in the Livelihoods Assessment Toolkit.

Key Reading

Livelihood Assessment Toolkit – FAO and ILO, 2009:

This toolkit has checklists specifically tailored to assessing the impact of natural disasters on various types of local-level institutions and the ability of these institutions to play a role in recovery. There are also checklists on the role of markets in recovery.

http://www.fao.org/fileadmin/templates/tc/tce/pdf/LAT_Brochure_LoRes.pdf

The following guidelines are also useful:

Emergency Food Security Assessment (EFSA) Handbook - WFP, April 2009 [2nd edition].

The Practitioners' Guide to the Household Economy Approach - Save the Children, 2008.

ANNEX C: INSTITUTIONAL ASSESSMENT

The institutions of concern are those that influence agricultural production and agriculturally-based livelihoods either directly or indirectly. This includes formal and informal institutions at community/village level, and government and non-government institutions at district/subnational levels and at national level.

Successful institutions are built over many years and are usually a manifestation of interplay among social sub- and super-structures, social capital, natural resources, economic structures (including mode of production), as well as the value and belief systems in the society. Clearly there are state and other institutions, which may not fully reflect the society's value and social infrastructure systems but rather a deliberate organizational form to deliver certain services. Most state institutions, some NGOs and other national institutions may fall under the latter category. An effective and sustainable institution, natural or deliberate, would certainly reflect some if not all of the society's value systems and social infrastructure, and be in line with long-term strategic goals.

Any intervention, emergency or otherwise, should build on existing successful institutions at all levels or at least 'do no harm' to the institutions that have been built over many years and manifest the society's resources and value systems. Certain circumstance may enable rehabilitation programmes/projects to address certain inefficiencies and foster adjustments to pre-existing institutional arrangements. As part of FAO's principles and standards (see Section 2), sustainability and smooth transition over the emergency-development continuum require the alignment of interventions with community, local and national institutions. As part of the needs assessment and formulation, it is therefore necessary to undertake an institutional assessment involving two steps: (i) preparation of institutional profiles of relevant community, local and national institutions of the sector (unless such profiles are already available); and (ii) assessment of the damage done to institutions.

Preparing institutional profiles

Institutional profiling is a tool to understand institutions, their composition, functionality, strengths and weaknesses. In emergency needs assessment and formulation missions, only a partial profiling may be feasible. In any event, all efforts should be made to prepare institutional profiles, with as much detail as practical, to enable informed decisions in support of appropriate and sustainable interventions.

Institutions to be considered at community/local levels include formal and informal institutions that fulfil specific functions at that level such as producer groups, marketing groups, water user associations, village development committees, social, political and religious institutions and other farmer or interest groups. Some informal institutions may not even consider themselves as institutions, although by all accounts they perform important functions. More formal institutions to be considered at all administrative levels include line ministries, NGOs and others.

Information on formal and informal institutions to compile a profile is gathered from written documents, where available. In all cases Rapid Rural Appraisal or Participatory Rural Appraisal (PRA) and other techniques¹⁰ are necessary to obtain information on informal institutions. Group discussions and key informants are good means to get a holistic picture of a situation, but may stifle dissenting voices.

¹⁰ FAO, *Local Institutions and Livelihoods: Guidelines for analysis*, 2003, pp 57-80 – provides a good synthesis of methods used for institutional profiling.

Therefore, in addition to group discussions, individual inquiries are also important in building an accurate picture of an institution.

Key questions to ask in relation to a community institution:

- What are the main purposes and activities of the institution?
- How was it established, who are its members and how are they elected/ selected?
- How are decisions made?
- How are the various operational/investment costs of the organization financed?
- How are the organization's assets managed?
- What are the main qualifications of the human resources involved in the management of the organization/institution?

Key questions to ask in relation to "formal" institution, governmental or NGO:

- What are the main functions of the institution?
- What is the structure of the institution – from national level down to the lowest administrative level?
- How is the organization financed?
- Are the current functions of the organization and the services it provides in line with national policies and strategies?
- Who are its "clients" (farmers and/or related agro-industries)? Is the organization sufficiently responsive to the demands of the clients it serves? What is the level of coverage?
- Do the skills of the human resources available at various levels of the organization meet the minimum needs of the clients?
- What are the main impediments to the efficient functioning of the organization in delivering the envisaged services or achieving its set goals?
- Do the clients (farmers and agro-industries) see the institution as a vital service provider?

The questions mentioned above are the bare minimum to enable an informed decision on the suitability of an institution in the rehabilitation process and whether an institution should be strengthened, rehabilitated or left out of the process to degenerate. Obviously, a lot more information and analysis are required to fully assess an institution, but under an emergency/post-shock situation such an analysis may not be feasible. Nevertheless, all efforts should be made to gather as much information as feasible about relevant institutions.

Assessing damage to institutions

In the case of agriculture, institutions are not only about buildings and assets but also human and social capital within the context of a natural resource base. Institutional damage assessment therefore has to consider damages to physical structures and assets, but also to human and social capital, as well as the natural resource base¹¹ within which the institution in question operated. For example, if a non-timber forest product processing and marketing association has been disrupted by a disaster, the assessment would be incomplete without assessing the damages caused to the forest. If the forest's natural resource

11 These guidelines suggest to assess the natural resource base as part of the sub-sector analysis, i.e. fisheries, forestry, water resources, livestock, land and others.

base has been devastated by the disaster, rehabilitation of the institution based on the forest would no longer be appropriate.

Baseline information on institutions is imperative to assessments, which are either compiled prior to the assessment or can be collected during the assessment. It is advisable to collect information on institutions during the assessment from relevant stakeholders.

Damages to institutions also need to be assessed from two perspectives: (i) those managing and providing services; and (ii) those benefiting from the services provided.

Key questions for institutional damage assessment:

The following questions/checklist are more appropriate for assessing damages to formal institutions but can be adjusted to serve the purposes of informal and other institutions as well.

- *Human resources*: what has been the impact of the disaster on the human resources engaged with the institution in question – death, injury, migration and/or other?
- *Infrastructure*: what damages have been caused to the organization’s physical infrastructure – buildings, non-perishable assets and/or other?
- *Supporting institutions and infrastructure*: What damages have been caused to complementary institutions and infrastructure – markets, processing units/infrastructure, electricity, gas, bridges, roads, water control structures, etc.?
- *Future relevance*: under the post-disaster conditions and the changes that have occurred, is the institution in question relevant? If so, how different will it have to be, if at all, to reflect the post-disaster realities?
- *Management views*: how does the institution’s management see the efficiencies and inefficiencies of the institutions prior to the disaster? What changes, if any, does the management foresee to improve efficacy?
- *Beneficiary views*: how do the institution’s beneficiaries see the efficiencies and inefficiencies of the institution prior to the disaster? What changes, if any, does the management foresee to improve efficacy?

Key Reading

Rapid Guide for Missions: Analysing Local Institutions and Livelihoods - FAO, 2005:

This is a very succinct, user-friendly version of an earlier document (FAO 2003), below. It provides checklists for interviews with many different groups and key informants as well as for analysis, and explains the inter-relationships among livelihoods, institutions and poverty. It is written for a development planning context but the checklists can readily be adapted to the emergency context including an emphasis on what has changed and why, and what the present opportunities and constraints might be. <ftp://ftp.fao.org/docrep/fao/008/a0273e/a0273e00.pdf>

Local Institutions and Livelihoods: Guidelines for Analysis - FAO, 2003:

This document is organized into seven modules relevant to institutional assessment (in a development context). Module 5 focuses on building institutional profiles.

<ftp://ftp.fao.org/docrep/fao/006/y5084E/y5084E00.pdf>

ANNEX D: SEEDS SYSTEMS DAMAGE ASSESSMENT AND RESPONSE

A seeds system can be defined as the way in which seed is selected (varieties and types of species), produced (research and multiplication of different generations), saved (storage and handling) and marketed (packaging, pricing and access by farmers and other stakeholders). A distinction is usually made between the formal and informal seed systems. The former is a deliberate system designed to release verifiable standard varieties and their maintenance. The formal system emphasises the maintenance of varietal purity, identity and the production of optimal physical, physiological and sanitary quality seeds. The local system, on the other hand, is non-descript and an integral part of farmers' production systems. **Understanding seed systems in a particular country or area of interest is indispensable for any intervention in the seed subsector.** Not only is it necessary to fully comprehend and assess the efficacy of existing seed systems but also of prospective plans, policies and strategies at national level (for further information on the formal and informal seed systems, see [Towards Effective and Sustainable Seed Relief Activities, May 2003, pp 9-12](#)).

Seed security is directly related to, and sometimes the main element in, ensuring food and livelihood security particularly in rural areas. While seed security is necessary for food security, it is not sufficient as it is possible to have sufficient seeds but not enough food to eat. Following from food and livelihood security literature, seed security is defined in numerous ways, but the basic parameters may be summarized as: (i) availability (both spatial and temporal availability); (ii) access (capability to access seeds); and (iii) utilization (the available and accessible seeds match the farmer's/consumer's taste or need and is of acceptable quality). **The FAO principles guiding emergency and rehabilitation interventions (Section 2), necessitates the adoption of a seed security framework within the context of seed systems.**

It may not always be feasible to address all issues pertinent to seed systems and seed security immediately after a disaster. However, any seed relief should at least "do no harm" to the seeds system but also endeavour to contribute to the development and strengthening of seeds system and security.

Seed relief as an emergency measure

Access to adequate and appropriate seeds may be hampered following a disaster, which is usually the justification for seed relief interventions. Lack of access and availability of appropriate seeds on timely basis has significant consequences for food security and the recovery process as a whole. However, without appropriate assessment of the damages, needs and understanding the local seeds systems, it is likely that seed relief may compromise the long-term seeds systems development efforts.

The FAO workshop in May 2003, "Towards Effective and Sustainable Seed Relief Activities", adopted the guiding principles for seed relief interventions (see next page). In addition to and in support of the principles outlined, assessments and intervention design considerations should ideally prepare a seed systems profile for the area of interest and consider the seed security framework as an overall approach.

Guiding principles for seed relief

Needs assessment should underpin any decisions to undertake seed relief and guide the choice among possible interventions. Such needs assessment should be holistic, putting seed security in the context of livelihood security.

Seed relief interventions have to be clearly matched to the context (for example, a crisis caused by drought may require very different actions from a crisis caused by war). By supporting food production, seed relief should decrease dependence on repeated food aid.

Seed relief activities should aim to both (i) be effective with the immediate objective of facilitating access to appropriate planting material; and (ii) contribute to the restoration, rehabilitation or improvement of agricultural systems in the longer term.

Ideally, considerations of seed system sustainability should be built into seed interventions from the beginning. As a minimum, seed aid should do no harm to farming systems. Thus emergency relief activities should support local seed system development, ideally by integrating long-term needs into the design of the project.

Seed relief activities should be built upon a solid understanding of all the seed systems farmers use and the role they have in supporting livelihoods. The local system is usually more important to farmers' seed security and has been shown to be quite resilient. Depending on the context, the focus in the case of an emergency should normally be on keeping the local seed system operational. One practical problem is that seed systems are often not sufficiently understood, especially in emergency situations. Hence there is a need for more emphasis on understanding seed systems, their role in supporting livelihoods and needs assessment.

Seed relief interventions should facilitate the choice by farmers of crops and varieties. Seed relief interventions should aim to improve, or at least maintain seed quality, and aim to facilitate access to crops and varieties that are adapted to environmental conditions and farmers' needs, including nutritional needs.

Monitoring and evaluation should be built into all seed relief interventions, to facilitate learning by doing and thereby to improve interventions.

An information system should be put in place to improve institutional learning, and as a repository of information gained from cumulative experience. Such information systems should be institutionalized at national levels, to the possible extent.

A strategy to move from the acute emergency response to a capacity building or development phase should be included in the design of the intervention.

Towards Effective and Sustainable Seed Relief Activities- FAO, 2004.

Assessment Objectives - To determine:

- the scale of damage to the seed sector;
- the importance of seed in immediate recovery efforts;
- types of seed varieties by major crops;
- whether seed relief or seed systems response is appropriate;
- if seed relief is required, identify measures and processes that would contribute to the rehabilitation and strengthening of the seeds system;
- operational feasibility of any immediate response measure, and other issues that might impede effective response;
- identify further information needs for a more comprehensive seeds systems response.

Key questions/Baseline Data

The basic premise here is to construct a picture of seed system chain with the view to: (a) identify inefficiencies and fault lines; (b) assess damages along the chain; and (c) propose measures (response options) to rehabilitate and contribute to a more effective and efficient seeds system.

- What are the main seed varieties commonly used in the area? (List by major crops)
- What are the main/commonly used sources of seeds? Public research centres, public seed multiplication, private companies, farmer to farmer exchange, own seed etc. list by major crops and attempt to estimate the share of each in seed supply in the area of interest and at national level.
- Which institutions are normally involved in the seed sector in different levels (national, provincial and local)? - prepare profiles for each institution involved in the seed sector.
- How do farmers normally access seeds? (by main crops and source)
- How and to what degree has the disaster disrupted the seed supply chain? (Seed production capacity at national level, loss of equipment, infrastructure, staff, land etc., seed stocks at national, provincial and farmer levels, seeds lost with standing crops and other)

Identify relevant damages, gaps and inefficiencies with a view to address them through specific interventions.

Key Reading

Guiding Principles for Seed Provision in Response to High Food Prices: [Appendix 10.](#)

Three pages of notes for emergency interventions in the case of soaring food prices but also relevant to other seed interventions. A very brief and highly valuable set of guiding notes for response planning (but not for assessment).

Towards Effective and Sustainable Seed Relief Activities: [Appendix 11.](#)

Proceedings of a FAO workshop (May 2003). Includes a very good background paper on seed systems, seed security framework, a number of case studies and guiding principles for seed relief.

[cont.]

Key Reading

Guidelines for Planning Local Seed System Interventions - ICRISAT, 2000: [Appendix 12.](#)

User-friendly, graphic and step-by-step guidelines divided into three modules. Module I: Preparing a seed system profiles and seed system analysis; Module II: Seed Security Framework; and Module III: Identifying appropriate seed relief interventions.

When Disaster Strikes: A Guide to Assessing Seed System Security - Sperling, CIAT (for CRS and USAID) 2008: [Appendix 13](#)

Provides a good background on seed security assessment methods and definitions, and step-by-step guidance on how to conduct a seed systems security assessment and plan an appropriate response.

Seed and Seed Quality: Technical Information for FAO Emergency Staff - 2009: [Appendix 14.](#)

A succinct document providing technical information on seeds. The contents include: seed quality attributes, seed sampling and testing, pollination and seed production, storage, technical aspects of seed procurement and a number of other highly relevant technical annexes. This is the most relevant technical document for emergency/rehabilitation seed interventions and a must-read for those involved in seed interventions.

ANNEX E: LIVESTOCK SUBSECTOR ASSESSMENT

Livestock is the most important source of livelihoods for many households around the world. It is a store of value and a significant source of nutrition, income and buffer stock. This section is entirely based on the Livestock Emergency Guidelines and Standards (LEGS), which should be the basis for any needs assessment and response formulation.

LEGS is founded on the following three livelihood-based objectives:

1. *Provide rapid assistance* to disaster-affected households, at best in support of, and at least to limit disruption to, long-term development objectives.
2. *Protect key livestock-related assets* of households affected by the disaster.
3. Rebuild key livestock-related assets among disaster-affected households.

Livestock assessment - LEGS methodology

The LEGS assessment process is organized into three parts that can be undertaken simultaneously. It is advisable to concurrently undertake all three parts.

1. Preliminary assessment: the role of livestock in livelihoods

Objectives:

To ascertain the importance and nature of livestock in livelihoods, to understand how livestock are managed and to decide if livestock-related response is appropriate in the affected area.

Key questions:

1. What are the key uses of livestock (food, income, social, draught, transport)?
2. What percentage of food is 'normally' derived from livestock?
3. What percentage of income is 'normally' derived from livestock?
4. What roles do different household members play with regard to livestock care and management, including use and disposal rights (note different livestock species and ages and seasonal variations) with particular reference to gender?
5. What customary institutions and arrangements are involved in livestock production and natural resource management and what are their roles? (see [Annex C](#) of this Guidelines for a more detailed institutional analysis).
6. What are the main coping strategies for livestock owners following a disaster (e.g. high livestock slaughter, sales, migration and other)? (A comprehensive livelihoods assessment methodology is highlighted in [Annex B](#) of this Guideline).

How to do the preliminary assessment?

The livestock specialist/s as part of the team or alone, depending on the type and scale of the mission, may use a series of information sources and methods to gather the necessary data. Some sources and methods are highlighted below.

- Secondary data from national statistics, local government offices, NGOs, international agencies and various reports. Within FAO, GIEWS, FIVIMS, AGAP and TCI are good sources.

- Group and individual discussions in several locations of the affected areas.
- Key informants in the affected areas.
- Interviews and discussions with community-based organizations.
- Discussions with local government livestock officials.

Time limitation does not allow for fully structured and representative survey. Semi-structured and informal discussions and meetings may be more appropriate.

2. The nature and impact of the disaster

Objectives:

To determine whether an emergency response is necessary; understand the initial impact of the disaster on livestock; and identify further information needs.

Key Questions:

1. What are the types, history and the overall impact of the disaster on the affected population? (see Section 2.1-2.6 of the LEGS manual). Assessing impact on livestock management strategies: quantify as much as feasible by species. What is:
 - the impact on access to grazing?
 - the impact on access to water sources for livestock?
 - the impact on daily and seasonal movement of livestock?
 - the impact on key livestock markets and traders?
 - the impact on sources of feed?
 - the impact on livestock institutions (e.g. buildings, personnel and veterinary equipment and medicine)?
2. What plans do the affected population have for their livestock in the future?
3. Assessing impact on livestock, differentiate by species and quantify as much as feasible – comparisons may be made with an ‘average/normal year’ or the average of the past five years.
 - How many livestock have died?
 - What is the number of livestock sheds, enclosures and private/communal shelters damaged?
 - Have livestock sales increased? If so by how much (percent)?
 - Have livestock prices changed from the seasonal trend? By how much (percent)?
 - How have livestock conditions changed (e.g. weight, injury, etc.)?
 - By how much has productivity fallen (e.g. milk, eggs, etc. – compare with an average year)?
 - Has livestock slaughter for home/social consumption increased (percent above normal)?
 - Has livestock morbidity increased (percent above normal)?
4. What are the implications for livestock movement and migration (right of access, potential conflict)?
5. What are the key protection issues facing livestock owners?
6. What are the policy and legal constraints affecting livestock-related interventions (cross-border issues, legislation issues and others)?

How to do part two of the assessment?

The livestock specialist/s as part of the team or alone, depending on the type and scale of the mission, may use a series of information sources and methods to gather the necessary data.

Some sources and methods are highlighted as follows:

- Baseline data on: (i) livestock population in the affected area; (ii) livestock management practices/farming

systems; (iii) livestock service provision – government/private, free/cost recovery; and (iv) institutional analysis. Data sources: national statistics, local government offices, NGOs, international agencies and various reports. Within FAO: GIEWS, FIVIMS, AGAP and TCI are good sources.

- Group and individual discussions in several locations in the affected areas.
- Key informants in the affected areas.
- Interviews and discussions with community-based organizations.
- Discussions with local government livestock officials.
- Direct observation – livestock condition, natural resource deterioration, livestock mortality, infrastructure, etc.
- Market visits and interviews – prices, volume of sales, infrastructure and health.

Time limitation does not allow for a fully structured and representative survey. Semi-structured and informal discussions and meetings may be more appropriate.

3. Situation analysis

Objectives:

To gain an understanding of the operating environment, potential logistical constraints and overlap or potential complementarities with other stakeholders.

Situation analysis as suggested in LEGS is covered in other parts of these Guidelines and some issues directly related to the livestock sector are included in [Annex F](#).

Common standards

LEGS has proposed the following eight standards for assessments, response formulation and implementation, which must be an integral part of FAO's emergency operations. Details of these standards are found in the LEGS document.

1. *Participation*: The disaster-affected population actively participates in the assessment, response formulation, implementation and M&E of the livestock programme.
2. *Assessment*: Detailed assessment of the disaster and its impact on the population and livestock assets, institutions and natural resources. Baseline data on the role of livestock in the livelihoods of different socio-economic groups and an analysis of response options that reflects the general policy and strategy context and existing systems and norms.
3. *Response and coordination*: Livestock interventions are well coordinated and harmonized with other interventions, policies and strategies.
4. *Targeting*: Livestock interventions have to be well targeted based on informed assessments of needs by different socio-economic groups as well as production systems. The formulator/s must define easily-identifiable criteria for targeting.
5. *M&E and livelihoods impact*: A dynamic M&E system should be prepared at the time of formulation to ensure that the intervention achieves its set goals and to draw lessons for future interventions. (See [Annex J](#) for developing an M&E framework.)

6. *Technical support and agency competencies*: Agency staff involved in livestock damage and needs assessment and response formulation should have appropriate technical skills.
7. *Preparedness*: Emergency responses are based on the principles of disaster risk reduction – preparedness, contingency planning and early response. This would be an ideal situation and may not be feasible for all cases.
8. *Advocacy and policy*: Where feasible, all attempts should be made to identify and address any policy and legislative impediments to the effective implementation of emergency interventions and transition issues.

Typical response options

LEGS suggest six typical but non-exhaustive options for emergency intervention:

1. Destocking;
2. Veterinary services;
3. Ensuring feed supplies;
4. Provision of water;
5. Livestock shelter and settlement; and
6. Provision of livestock.

Each one of these interventions is time- and context-specific, with associated pros and cons. It is advisable to build synergies with existing policies, strategies and institutions to ensure a smooth transition and contribute to long-term development objectives, regardless of the intervention choice for a specific context. Summary notes on each of the above options, extracted from the detailed LEGS handbook, are provided in annex F.

ANNEX F: RESPONSE OPTIONS FOR LIVESTOCK INTERVENTIONS

The following notes are synthesized from the LEGS handbook, 2009.

Response Option 1: Destocking and minimum standards

1.1 **Accelerated off-take:** support to livestock traders and exporters to buy up livestock before they die.

Key indicators:

- (i) Livestock market potential is appropriately assessed and key stakeholders are identified (local, national, export markets – traders, ranchers and others).
- (ii) Assessment, modalities of implementation and area selection are participatory, with active participation from communities.
- (iii) Livestock selection and pricing methods/policy are agreed with beneficiary communities.
- (iv) Taxation and bureaucratic requirements for the operation are fully assessed.
- (v) Alternative intervention plans have been adequately assessed.

1.2 **Slaughter destocking:** the purchase and slaughter of disaster-stricken livestock (drought and other) for fresh/dry meat distribution to eligible population.

Key indicators:

- (i) Purchase sites and dates are determined through community participation.
- (ii) Purchase price is determined for each species and payment methods are agreed upon.
- (iii) Beneficiary households are clearly identified and the community's contribution to the envisaged operation is agreed upon through community consultations.
- (iv) Selection of stock for slaughter is based on indigenous knowledge.
- (v) Procurement methods are well defined.
- (vi) Fresh versus dry meat decisions are made with relevant communities.
- (vii) Slaughter and preservation methods are based on locally acceptable norms without compromising international standards.
- (viii) Disease risks of the operation are fully assessed and appropriate measures are taken to reduce the level of risk.
- (ix) The disposal process of hides and skins is assessed and risk-neutral.
- (x) If other options are not feasible, severely emaciated stock may be considered for slaughter disposal.

1.3 **Slaughter for disposal:** cash for stock on the brink of death for slaughter and disposal (i.e. with no onward sale or food value). This is a rather less common option.

Table 5: Advantages and disadvantages of destocking and key requirements

Option	Advantage	Disadvantage	Key requirements
Accelerated off-take	<ul style="list-style-type: none"> Provides cash for immediate needs and/or reinvestment in livestock. Builds on existing coping strategies. Large volume of off-take. Relatively low cost (majority of costs borne by traders). Low administration. Promotes longer-term market linkages for potential future livelihood benefits. 	<ul style="list-style-type: none"> Has to be carried out before stock lose too much condition. Proactive targeting of vulnerable group is challenging. 	<ul style="list-style-type: none"> Interested traders. Terminal or export markets available. Infrastructure: roads, holding ground, feed and water, security. Conducive policy context on livestock trade and credit. Conducive internal policy context within agencies to engage with the private sector.
Slaughter: fresh or dry meat	<ul style="list-style-type: none"> Provides cash for immediate needs and/or reinvestment, as well as supplementary relief food. Fresh meat considered more satisfying than dry meat by many communities; dry meat contains higher protein levels compared to fresh meat. Employment opportunities within local community. Dry meat enables storage of meat for later distribution. 	<ul style="list-style-type: none"> Higher administrative and intervention costs than accelerated off-take. Less long-term sustainability. More challenging to manage if large quantities of stock are to be slaughtered. 	<ul style="list-style-type: none"> Local institutions able to organize, manage and help target beneficiaries. Coordination forum among implementing agencies to agree on methodologies - in particular pricing strategies. Implementing agency has organizational capacity to manage. Slaughter infrastructure available or potential to construct. Conducive public health policy. Agency-managed slaughter and distribution can fit within cultural norms.
Slaughter for disposal	<ul style="list-style-type: none"> Provides cash for immediate needs and/or reinvestment. 	<ul style="list-style-type: none"> Livestock owners receive low price for stock. High administrative and intervention costs. No relief food nor longer-term benefits. 	<ul style="list-style-type: none"> Livestock in terminally poor conditions without market or food value. Local institutions able to organize, manage and help target beneficiaries. Slaughter infrastructure available or potential to construct. Conducive public health policy.

In general, the type of destocking selected should be in conformity with the following key indicators:

- the type and phase of the emergency are carefully assessed ;
- livestock conditions and relative prices are monitored and analysed;
- destocking interventions are based on the careful selection of species, age and type, in accordance with indigenous knowledge and practices;
- the destocking process is highly participatory and led by beneficiary communities;
- policy and strategy context are carefully analysed and conducive to the destocking option; and
- security does not present risks for the envisaged transactions.

Response Option 2: Veterinary services and minimum standards

- 2.1 **Primary clinical veterinary services:** Preventive and curative veterinary interventions in humanitarian crises fall into two broad categories, which may be implemented simultaneously: (i) examination and treatment of individual animals; and (ii) mass treatment or vaccination programmes. The former is a more targeted provision of assistance to individual stock and the latter a mass treatment or vaccination where targeting is neither feasible nor appropriate. The latter is usually a one-off intervention involving large quantities of medicines and vaccines.
- 2.2 **Support to public sector veterinary functions:** Support to core public sector veterinary functions during emergencies. Veterinary public health covers prevention and control of animal diseases that are transmissible to humans (zoonotic), such as anthrax, salmonellosis, tuberculosis, rabies, mange, Rift Valley Fever, Highly Pathogenic Avian Influenza and others. During disease surveillance, government surveillance systems are supported to monitor diseases.

Key indicators: assessment and planning, service design and implementation.

- (i) Veterinary needs assessment is thorough and participatory, involving communities, veterinary authorities and local service providers.
- (ii) All existing veterinary service providers are mapped, and actual and potential (if assisted) capacities are analysed within the disaster-affected area/s.
- (iii) The assessment includes analysis of service delivery, actual and prospective (government, private), free or with payment.
- (iv) The assessment includes policy and legal framework that have a bearing on the proposed interventions.
- (v) The veterinary service is well targeted, addressing issues of affordability and accessibility.
- (vi) Service design considers timely availability, procurement and storage at field level of the appropriate quality and quantity of veterinary vaccines, medicine and equipment.
- (vii) Provision of rapid training of local service providers is considered.
- (viii) Service design is based on local socio-cultural norms (particularly gender), institutions and other context-specific considerations.
- (ix) Service design clearly defines the roles and responsibilities of various stakeholders.

Zoonotic diseases

- (x) The assessment includes mapping of zoonotic diseases – type and ranking by importance.
- (xi) Disease control is either in conjunction with the provision of clinical services or as stand-alone activities.

Sanitation and food hygiene

- (xii) Euthanasia and disposal of sick/injured animals are in accordance with international standards and local norms.
- (xiii) In protracted crises, slaughter slabs are constructed and procedures for meat inspection at the slabs are established.

Veterinary surveillance

- (xiv) Data collection on important livestock diseases is included in the routine monitoring of primary clinical veterinary services.

- (xv) Disease investigation immediately follows an outbreak to confirm diagnosis and inform control measures.
- (xvi) The government's livestock disease surveillance agency is the main partner; data collection, reporting and interventions are fully in line with established norms, rules and regulations.

Table 6: Advantages and disadvantages of veterinary services

Option	Activity	Advantages	Disadvantages
Primary clinical veterinary services	Examination and treatment of individual animals or herds	<ul style="list-style-type: none"> - Allows flexibility and veterinary care on a case-by-case basis. - Can support existing private sector service providers (e.g. through voucher schemes). - Greater scope for livestock keepers to seek the services they want. - Wide coverage is possible, particularly when well-trained and supervised para-veterinary workers are used. - Allows the targeted or strategic prophylactic treatment or vaccination of individuals or herds at risk. - In complex emergencies, can be used to establish a primary-level service in hitherto under-served areas. 	<ul style="list-style-type: none"> - Free service provision will limit coverage and duration of service according to budget. - Free service provision risks undermining existing service providers.
	Mass treatment or vaccination programmes	<ul style="list-style-type: none"> - Relatively easy to design and implement. 	<ul style="list-style-type: none"> - Limited quantitative evidence of impact on livestock mortality or production. - Weak diagnostic facilities in many areas. - Large-scale vaccination programmes are difficult to design without basic epidemiological information. - Coverage is often determined by budget rather than technical design criteria. - Free treatment and vaccination can undermine the private sector. - Many vaccines require cold chains, which may not exist and need to be established. - Risk of poor immune response to vaccination in animals already weakened (e.g. due to lack of feed).
Support to public sector veterinary functions	Veterinary public health	<ul style="list-style-type: none"> - Public awareness raising is often inexpensive. - Can foster collaboration between veterinary and human health sectors. 	<ul style="list-style-type: none"> - May require specialized communication expertise to design and test educational material in local languages. - If not carefully managed and timed, it can divert resources away from more direct livelihoods-based assistance.

	Livestock disease surveillance systems	<ul style="list-style-type: none"> - Can complement all other veterinary interventions and assist impact assessment of these interventions. - Fosters linkages between central veterinary authorities and disaster-affected area/s. - Can help promote international livestock trade in some countries and regions. 	<ul style="list-style-type: none"> - Needs to be based on clearly defined surveillance objectives. - Can easily become a data-driven rather than action-oriented process. - If not carefully managed and timed, it can divert resources away from more direct livelihoods-based assistance.
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Response Option 3: Ensuring feed supplies

- 3.1 **Relocation of livestock:** relocate groups of livestock with multiple owners to areas with better feeding.
- 3.2 **Emergency feed distribution:** feed is transported and distributed to vulnerable livestock.
- 3.3 **Emergency feeding camps:** feed camps are established, to which livestock owners may bring their livestock.

Key indicators:

Assessment and planning

- (i) Feed provision is only initiated where there is a significant chance that the beneficiaries will continue to be able to keep and manage livestock after the emergency has ended.
- (ii) Developing a feed intervention is participatory and considers indigenous coping strategies, local sourcing and potential disruption to local markets.
- (iii) Targeting of livestock for feed provision is based on an analysis of the status of animals, their chances of survival and their usefulness in rebuilding livestock assets in the future.
- (iv) Assessment and planning take into account the policy and legislative contexts, which may have bearing on the envisaged interventions.

Support to livestock movement

- (v) Identify groups of livestock and owners who would participate and benefit from livestock movement.
- (vi) Local expertise and knowledge are fully reflected in planning any livestock movement.
- (vii) Synergies and potential conflict with other initiatives and socio-economic orders are fully analysed and reflected in the design of the intervention.
- (viii) Proposed destination areas are properly assessed in terms of their absorption capacity, environmental concerns, rights of use and rights to access routes.
- (ix) A clear exit strategy is conceived and integrated into the project/programme.

Emergency feeding

The levels of feeding supported by the project/programme should enable appropriate production levels and be sustainable over the life of the programme.

- (i) Objectives for feeding are clearly defined (e.g. achieving a level of production, keeping certain stocks alive, etc.).

- (ii) Level of proposed feed supply is attainable and sustainable at least within the proposed duration of assistance.
- (iii) Feed support results from the loss of feed that is an immediate threat to livestock.
- (iv) The feed situation after the intervention is fully analysed and can sustain the prospective number of livestock.
- (v) Potential risks of pests and diseases from feed import are fully assessed.
- (vi) Measures are put in place to screen procured (imported/domestic) feed for significant contamination.
- (vii) Effective measures are put in place to ensure that vehicles and storage facilities are clean and sanitary.
- (viii) FAO procurement rules are adapted to enable the local purchase of feed.
- (ix) Assessment of suitable, local feed availability and accessibility informs all feed interventions.
- (x) If feed must be procured from outside the affected area, it must be from reliable and sustainable sources.
- (xi) Distribution mechanisms build on the indigenous community structure.
- (xii) Security and logistic requirements of feed distribution are fully assessed and evaluated.

Table 7: Advantages and disadvantages of feed provision

Option	Advantages	Disadvantages
Relocation of livestock	<ul style="list-style-type: none"> - Can build on indigenous practices (e.g. using drought reserves). - May also avoid other risks (e.g. infection, predation and theft). - Can simplify the logistics of providing supplementary feed and water when required. 	<ul style="list-style-type: none"> - Requires sufficient resources within a suitable distance for livestock to reach. - Livestock need to be healthy enough to travel. - Potential competition with sedentary populations along migration routes and disease risk. - In conflict situations, moving stock may increase risk to livestock owners. - A large quantity of animals brought together may increase the risk of disease. - May reduce access to livestock products for vulnerable groups, such as children and the elderly. - May affect other livelihood activities if labour is withdrawn in order to supervise stock in a distant place.
Emergency feeding: distribution "in situ"	<ul style="list-style-type: none"> - Rapid response to keep animals at risk alive. - Can exploit fodder banks established previously as part of emergency preparedness. - May generate multiplier benefits in the local economy where opportunities for local sourcing exist. - Can target core breeding stock. - Potential also to replenish feed stocks lost in the emergency. 	<ul style="list-style-type: none"> - Input-intensive and expensive. - Must be able to continue for the duration of the emergency or until feed is available from regular sources. - Not sustainable in the longer term. - Requires safe facilities for storage and transportation. - Risk of importing diseases, pests and vectors from outside. - Sourcing from outside the area may disrupt local markets. - Requires supervision and management.
Emergency feeding: feeding camp	<ul style="list-style-type: none"> - Increased security for stock and owners. - If resources are limited in the area, feed can be transported to the camp from elsewhere. - Cash- or food-for-work opportunities for caretakers/guards. 	<ul style="list-style-type: none"> - Requires a suitable site with shelter/enclosure, water and feed. - Requires more organization and management than simple relocation. - High costs in terms of management, feed, and structure

rehabilitation/ maintenance.

- Requires organized labour to supervise and guard the stock.
- Livestock need to be healthy enough to travel to the camp.

Response Option 4: Provision of water

Water supply, along with veterinary care, has the most immediate impact on livestock during emergencies. If water sources are no longer accessible as a consequence of the disaster (e.g. drought, contaminated water, cyclone or damaged water reserves), most livestock may not survive beyond a few days. The assessment teams need to assess access to water and water supply as a matter of procedure following any disaster.

Options for water provision in emergencies may be divided into the following two main categories:

1. **Water points:** If efficiently managed, water points provide the most viable and long-term solution to water shortages. Access to water points may be provided through: (i) improving the management of existing water points to provide broader access to affected populations; (ii) rehabilitation of existing but degraded water points; and (iii) establishment of new water points.
2. **Water trucking:** This is only a last resort and short in duration, while medium- to long-term solutions to water access are sought.

Key indicators:

Assessment and planning

- (i) The merits and demerits of various options for water supply are carefully assessed in terms of costs and benefits, and social issues.
- (ii) Existing water managed systems, ownerships and rights of access are analysed and form the basis of any intervention.
- (iii) Any policy constraint to water access is identified and information added to the implementation plan.

Location of water points

- (iv) The location of water points is based on the current and prospective demand for water for both humans and livestock.
- (v) Water sources used for water points can meet the demands during and after the emergency period.
- (vi) Access is inclusive and does not prevent any community, in particular vulnerable livestock owners.
- (vii) Water point locations and management are organized in close collaboration with community leaders and representatives.

Water point rehabilitation and establishment

- (viii) Rehabilitation is considered only if the existing structure has been damaged, it is a common property and the current structure does not meet the demand.
- (ix) Degraded water points are assessed and the reasons for the degradation are identified.

- (x) New water points are only established if the existing structures and rehabilitation do not meet the demand in the affected area.
- (xi) All necessary inputs can be delivered effectively and adequately for the envisaged intervention.
- (xii) Maintenance and management of the water points are sustainable and carried out by communities.

Water trucking

- (xiii) Only implemented as a short-term measure and when other measures are not feasible.
- (xiv) Supply of water from the source can be maintained throughout the trucking operation period.
- (xv) Trucking water does not compromise the needs of the existing users for human consumption and other livestock consumption.
- (xvi) Water used for trucking is of suitable quality for livestock.
- (xvii) Distribution points and routes are selected such that water trucking operations do not compromise other activities and meet the estimated demand at the appropriate location.

Table 8: Advantages and disadvantages of water provision

Option	Advantages	Disadvantages
Improved management of existing water sources	<ul style="list-style-type: none"> - Relatively cheap option, making maximum use of existing opportunities and resources. - Can normally be implemented rapidly in response to an emergency situation. 	<ul style="list-style-type: none"> - Often limited opportunities on the ground to achieve this. - Can introduce potential for conflict among groups of existing and new users.
Rehabilitation of existing water sources	<ul style="list-style-type: none"> - Potentially cheaper than other water provision options. - Management structures and systems for the water source may already exist. - Long-term solution that can outlast the emergency. - Potential to provide water for both livestock and human needs. 	<ul style="list-style-type: none"> - Reasons for original degradation may still apply.
Establishment of new water sources	<ul style="list-style-type: none"> - Potential to provide sustainable new water source for emergency and post-emergency populations in the immediate locality of need. - Potential to provide water for both livestock and human needs. 	<ul style="list-style-type: none"> - More costly than rehabilitation and requires very high capital investment. - Appropriate sites may be difficult in short time (first few weeks of emergency). - Establishing new water sources may have repercussions on water rights, obligations, community structure and institutions and may hinder an inclusive and sustainable management of water and of the surrounding environment.
Water trucking	<ul style="list-style-type: none"> - Can respond rapidly to immediate water needs. - May make use of water of insufficient quality for human consumption. 	<ul style="list-style-type: none"> - Expensive and resource inefficient – relocating livestock to water sources may be more appropriate. - Labour intensive and logistically complex. - Not sustainable – a temporary solution. - Greatest potential for conflict between human and livestock water needs. - Requires a locally-based management structure to ensure equitable access to water. - Potential conflict with existing users of water source.

Response Option 5: Provision of livestock

Rebuilding livestock assets following substantial losses resulting from a disaster may be the best option for restoring livelihoods. Appropriate livestock provision, based on household livelihood strategies and opportunities, may be the best solution to ensure household food and livelihood security. In some cases, the intervention may require herd replacement (particularly in pastoralist communities). In other cases, the distribution of appropriate livestock to eligible households may be the best option to ensure household food and livelihood security. Provision of livestock is usually implemented during the recovery period following the immediate emergency activities.

Key indicators:

Assessment

- (i) A thorough assessment is needed of the role of livestock in household livelihoods, food security and nutrition.
- (ii) Social, physical and natural capital of potential beneficiaries are considered to assess their suitability to receive livestock.
- (iii) Assess and analyse the post-disaster natural resource base and whether it can support the additional or replaced livestock in terms of grazing, supplementary feeding, water and other aspects of livestock management.
- (iv) Livestock provision is compared and contrasted with other interventions in terms of cost-benefits.
- (v) Assess the source of livestock purchase and its impact on markets.
- (vi) Assess the local norms on viable herd size.
- (vii) Disease risks of the livestock provision are assessed.
- (viii) Security implications of livestock provision are assessed for both livestock and beneficiary populations.
- (ix) Livestock distribution takes into account indigenous systems of stock distribution.
- (x) The type of livestock distributed is appropriate to support/rebuild livelihoods, as well as productive, healthy and adapted to local conditions.
- (xi) The time of distribution is appropriate in terms of feeding, productivity and shelter.
- (xii) Procurement is from local areas as much as feasible and in accordance with established norms and criteria.
- (xiii) Veterinary inspection is thorough at the time of purchase.
- (xiv) Livestock is provided on credit only if it increases beneficiary commitment without compromising livestock productivity and household livelihoods; in all other cases, livestock are provided as a gift.
- (xv) Transport is well planned in advance to minimize the risk of losses and stress.
- (xvi) Prior to distribution, preventive veterinary care is provided.
- (xvii) Ensure that a system is in place to provide veterinary care to all livestock in the area of interest after the distribution.
- (xviii) Training and capacity building is provided to livestock owners on animal husbandry, including preparedness for future shocks, early disease control and surveillance.
- (xx) Household basic needs are assessed and adequate assistance is provided to prevent early off-take of livestock.

Table 9: Advantages and disadvantages of livestock provision

Option	Advantages	Disadvantages	Implications
Herd reconstitution	<ul style="list-style-type: none"> - Replaces significant loss of livestock assets. - Long-term response with the potential to increase livelihood assets for the future and thus strengthen livelihoods. - Potential to build on indigenous herd reconstitution systems. 	<ul style="list-style-type: none"> - Costs per household are considerably high to reach minimum viable herd size. - Requires considerable logistical management for purchase and distribution of appropriate species and breeds. 	<ul style="list-style-type: none"> - Appropriate only where beneficiary communities are chiefly dependent on livestock. - Beneficiaries need sufficient assets (social relationships, access to pasture and water, technical knowledge, etc.) to maintain livestock. - Other complimentary livestock services (veterinary services, shelter, etc.) may be needed. - Other livelihood support (e.g. food aid) may be needed in the interim. - Sources of suitable livestock need to be identified within a practical distance. - High risk of disease and adaptation, especially if purchased from outside the area.
Other livestock distribution approaches	<ul style="list-style-type: none"> - Replaces lost livestock assets or provides new assets for: food supplement income generation draught or transport. - Potential to provide livelihood opportunity when access to other livelihood options is limited as a result of conflict, vulnerability or other constraints. 	<ul style="list-style-type: none"> - Introduction of new livestock or species requires support and training for beneficiaries. - Costs of intervention may be high compared to other livelihood support activities. 	<ul style="list-style-type: none"> - Other complimentary livestock services (veterinary services, feed, shelter, etc.) may be needed. - Training in livestock management is vital for new livestock owners.

Key Reading

Livestock Emergency Guidelines and Standards (LEGS):

Almost all of this section of the Guidelines is based on LEGS - A must-read for any emergency livestock intervention involving assessment and formulating response option/s. LEGS provides response standards and explains how each standard is to be applied. <http://www.livestock-emergency.net/>

ANNEX G: LOGICAL FRAMEWORK ANALYSIS (LFA) IN EMERGENCY PROJECTS

The LFA's strength lies in its structure and methodology for participation and an interactive process among various stakeholders. Such participatory process requires significant time and resources to involve all stakeholders in the design process. During emergencies sufficient time may not be available to the project design teams to adequately involve all stakeholders, thus requiring adaptation of the LFA method to emergencies.

a) Stakeholder immersion

- (i) **The Mission/design team:** Usually the Mission comprises of a number of experts. An initial brainstorming based on the available information prior to field visits is a good start endeavouring to set the stage and formulate an initial Log Frame. The initial log frame should be continuously revised during the evenings or as often as feasible when the design team meet while in the field. This brainstorming and log frame revision should continue until all members of the design team are convinced and happy with the resulting log frame matrix. Throughout this iterative process the draft log frame matrix would be the basis for discussions with other stakeholders, which would in turn provide inputs for subsequent revision of the log frame matrix.
- (ii) **Beneficiary Communities:** In most emergency cases time may not allow for a fully inclusive and interactive process and only informal and semi-structured discussions using PRA methods may be feasible. The design team may use the draft log frame matrix to guide its discussions or elements of the matrix. All efforts should be made to avoid giving the impression that some/many decisions have already been made. In addition, all efforts should be made to have separate group meetings with men and women as well as other social groups to ensure that the needs and views of all groups are incorporated in the project/programme design.
- (iii) **Local Institutions:** NGOs, CBOs and local government authorities are the best sources of information and their views should be solicited as part of the design process. It may not be feasible to invite all institutions in a particular space and time if so, the second-best option of individual meetings should be pursued. Again the basis for discussion and debate should be the latest draft of the log-frame matrix.
- (iv) **National level institutions:** Consultations at national level with government institutions, National/international NGOs, donors and other partners could take place in two phases. An initial consultation prior to field visits with a view to draft an initial log-frame matrix. At the initial stage, only broad ideas and suggestions may be considered for further verification at the field. The second round of consultation at national level may follow immediately after field visits when a draft log-frame matrix with inputs from the design team, beneficiary communities and local institutions is presented. In most cases, it is advisable to hold separate consultations with national authorities and international partners. This would encourage feedback from different stakeholders. The design team may hold a final consultation to reflect on the inputs received from the national level institutions, including donors and NGOs, to finalize the log-frame matrix.

Note: Except the second round of consultations with national institutions, the design team should avoid giving out draft copies of the log-frame matrix. Most stakeholders may not be familiar with log-frame

terminologies and the matrix structure, which may cause confusion and distract debate from the intended topic. In addition, draft matrices may at worst give the impression that most decisions have already been made and at best influence discussions.

b) The LFA Matrix

FAO and many other organizations have elaborated on the various elements of the LFA Matrix and how to prepare the matrix. This section highlights the main features of the log-frame matrix as defined in the FAO Standard Project Document Format-Field Programme Circular 2007/02, which should be referred to for more details.

Narrative Summary	Key Performance Indicators (KPI)	Means of Verification (MOV)	Assumptions/Risks
Impact/Goal: The overall longer term positive change to which the intervention will contribute.	Indicators (standardised) that measure achievement of the desired goal.	<i>Ex-post</i> evaluation of the project.	Key factors in the wider operating environment -- usually macro and extraneous factors to the project.
Outcome/ Purpose: short or medium term positive effect of the intervention. Corresponds to Org. Result (OR).	Measures of enhanced development status when benefits are realized, quantified and time-bound.	Base line and <i>ex-post</i> surveys, direct observation or secondary data, reports.	Usually non-project support factors required to ensure contribution to Goal.
Output: List of project deliverables – not actions. Specific non-quantified results from managed activities.	Results of managed application of inputs, and activities, quantified in magnitude and time – project mgt indicators.	Direct observation of key process and implementation progress indicators.	Conditions for success, usually within control of project management, required to achieve Purpose.
Activities: List of actions to generate achieve outputs.	Inputs: Quantified factors of production required to produce the outputs via the activities.	Evidence of use of inputs	Factors required to achieve Outputs, usually pre-project status and inputs availability.

Some Definitions

Impact/Goal: the higher order development objective or the longer-term change to which the project will *contribute*. This has to be concise and ensure that the impact is realistic and logically related to the outcome/s. Desired impacts may also be derived from FAO Strategic Objectives (SOs), Country Programme Framework (CPF), UNDAF, National or International country strategy papers (Government, World Bank, IFAD and/or regional development banks). For instance, in emergency projects the impact could be defined as: (i) the livelihoods of the affected communities restored; (ii) the need for protracted relief operations reduced and the country is set on its path to development; (iii) export levels of certain produce are restored; (iv) socio-economic conditions of a certain population groups improved; and (v) institution X is enabled to deliver certain services at the pre-disaster or improved levels.

KPI: a confluence of factors, including the project/programme, has contributed to a macro positive change. It is usually an *ex-post* measure of achievement, i.e. reports or studies after the project completion. For FAO, impact indicators could measure the intervention's contribution to SOs.

Outcome/Purpose: Defines what the project is going to achieve in the short to medium term – this is the positive effects of the project in the short-medium term contributing to the overall objective/impact. Outcome expresses the use or uptake of products and services from Outputs. As such it is not entirely under the control of the project management. Outcome should be defined clearly to enable stakeholders to see what the project is trying to achieve during its lifetime. There are usually one or at the most two outcomes per log-frame. The outcome corresponds to one of the Organizational Results in FAO and should be clearly stated.

KPI: contribution to a positive change that would ultimately achieve Goal/Impact (Quantified and time-bound). For instance – (i) X percent reduction in food imports; (ii) X percent increase in exports for certain products; and (iii) X percent or number of households no longer depend on food aid etc. Outcome is measured through ex-post studies or reports.

Expected Output: Outputs are deliverables under the project management control to achieve outcomes. Outputs should not be confused with actions. Some examples of outputs may be: (i) no. of Seed producer groups established; (ii) no. of veterinary clinics rehabilitated; (iii) no. of fish ponds rehabilitated; and (iv) yields increased by X percent and so forth. The outputs correspond to the TCE Unit Results.

KPI: output indicators help measure the result of invested resources (inputs and activities). It should not re-state activities but rather demonstrate tangible results from an activity/ies.

Activities: a list actions that are necessary to achieve each output. Several activities may be listed to achieve a particular output. Each activity will require specific inputs within a specified time and space. Activities will have to be as specific as feasible, as this will help the project management team to implement with ease. Each activity would require certain inputs/resources and have to be clearly listed. Inputs may also be in the form of financial resources in relation to each activity.

Key Performance Indicators (KPIs): demonstrate evidence of input use.

Key Reading

There are vast amounts of literature on LFA, which have evolved over many years. Only the most recent and relevant sources have been mentioned as follows:

FAO Handbook on the Logical Framework Approach - March 2009:

FAO Standard Project Document Format - Guidelines for Project Formulators - Annex 2:

<http://www.fao.org/tc/tcp/pdf/Standard-Project-Document-Format-TCP-english.doc>

AusGuide: Activity Design 3.3: The Logical Framework Approach - October 2005:

<http://www.ausaid.gov.au/ausguide/pdf/ausguideline3.3.pdf>

ECHO Manual: Project Cycle Management - June 2005:

http://ec.europa.eu/echo/files/about/actors/fpa/2003/guidelines/project_cycle_mngmt_en.pdf

ANNEX H: RAPID ENVIRONMENTAL IMPACT ASSESSMENT

The United Nations Environmental Programme (UNEP) has developed a set of practical guidelines for Environmental Needs Assessment in Post-Disaster Situations. A table from the UNEP guidelines is reproduced below for ease of reference to highlight the environmental consequences of some common and recurrent natural disasters.

Table 10: Common and recurrent natural disasters and related environmental consequences

Type of disaster	Associated environmental impact
Hurricane/Cyclone/ Typhoon	<ul style="list-style-type: none"> - Loss of vegetation cover and wildlife habitat. - Short-term heavy rains and flooding inland. - Mud slides and soil erosion. - Saltwater intrusion to underground fresh water reservoirs. - Soil contamination from saline water. - Damage to offshore coral reefs and natural coastal defense mechanisms. - Waste (some of which may be hazardous) and debris accumulation. - Secondary impacts by temporarily displaced people Impacts associated with reconstruction and repair to damaged infrastructure (e.g. deforestation, quarrying, waste pollution).
Tsunami	<ul style="list-style-type: none"> - Ground water pollution through sewage overflow. - Saline incursion and sewage contamination of groundwater reservoirs. - Loss of productive fisheries and coastal forest/plantations. - Destruction of coral reefs. - Coastal erosion and/or beneficial deposition of sediment on beaches/small islands. - Marine pollution from back flow of wave surge. - Soil contamination. - Loss of crops and seed banks. - Waste accumulation – additional waste disposal sites required. - Secondary impacts by temporarily displaced people. - Impacts associated with reconstruction and repair to damaged infrastructure (e.g. deforestation, quarrying, waste pollution).
Earthquake	<ul style="list-style-type: none"> - Loss of productive systems, e.g. agriculture. - Damage to natural landscapes and vegetation. - Possible mass flooding if dam infrastructure weakened or destroyed. - Waste accumulation – additional waste disposal sites required. - Secondary impacts by temporarily displaced people. - Impacts associated with reconstruction and repair to damaged infrastructure (e.g. deforestation, quarrying, waste pollution). - Damaged infrastructure as a possible secondary environmental threat, e.g. leakage from fuel storage facilities.
Flood	<ul style="list-style-type: none"> - Ground water pollution through sewage overflow. - Loss of crops, livestock and livelihood security. - Excessive siltation may affect certain fish stocks. - River bank damage from erosion. - Water and soil contamination fertilizers used. - Secondary impacts by temporarily displaced people. - Beneficial sedimentation in floodplains or close to river banks.
Volcanic Eruption	<ul style="list-style-type: none"> - Loss of productive landscape and crops being buried by ash and pumice. - Forest fires as a result of molten lava.

	<ul style="list-style-type: none"> - Secondary impacts by temporarily displaced people. - Loss of wildlife following gas release. - Secondary flooding should rivers or valleys be blocked by lava flow. - Damaged infrastructure as a possible secondary environmental threat, e.g. leakage from fuel storage facilities Impacts associated with reconstruction and repair to damaged infrastructure (e.g. deforestation, quarrying, waste pollution).
Landslide	<ul style="list-style-type: none"> - Damaged infrastructure as a possible secondary environmental threat, e.g. leakage from fuel storage facilities Secondary impacts by temporarily displaced people. - Impacts associated with reconstruction and repair to damaged infrastructure (e.g. deforestation, quarrying, waste pollution).
Drought	<ul style="list-style-type: none"> - Loss of surface vegetation. - Loss of biodiversity. - Forced human displacement. - Loss of livestock and other productive systems.
Epidemic	<ul style="list-style-type: none"> - Loss of biodiversity. - Forced human displacement. - Loss of productive economic systems. - Introduction of new species.
Forest Fires	<ul style="list-style-type: none"> - Loss of forest and wildlife habitat. - Loss of biodiversity. - Loss of ecosystem services. - Loss of productive crops. - Soil erosion. - Secondary encroachment for settlement or agriculture.
Sand Storms	<ul style="list-style-type: none"> - Loss of productive agricultural land. - Loss of productive crops. - Soil erosion.

An agricultural livelihoods-based REIA may include the following key issues and questions, in addition to other subsector-related assessments and analysis:

1. Define the disaster, its magnitude and intensity.
2. Which subsector has been affected?
3. What are the direct (i.e. affecting production and access to inputs) and indirect (i.e. related sectors, education, health, infrastructure, among others) impacts on livelihoods?
4. Seek and map information on the pre-disaster condition of the resource that has been affected by the disaster.
5. Assess the urgency/priority of rehabilitating or 'building better' the resource base in terms of its effects on livelihoods.
6. As part of the overall response option, propose appropriate environmental mitigation.
7. Assess the impact of other proposed interventions on the environment.
8. As part of the M&E framework, propose a system of monitoring to reduce the risk of environmental degradation.
9. Identify major environmental issues that require a full Environmental Impact Assessment (EIA).

The FAO has developed a set of EIA Procedures for FAO Field Projects applicable to all FAO projects. The FAO EIA is designed to guide FAO staff and consultants in the application of EIA in the design of FAO field projects. The EIA is a process that assists decision-makers to identify and assess the potential impacts of proposed interventions with a view to avoiding, mitigating, managing and monitoring any potential adverse environmental impacts of an intervention. Project/programme formulators should make use of this guide to ensure that the risk of negative footprints from proposed interventions are minimal.

Key Reading

Environmental needs assessment in post-disaster situations; a practical guide for implementation – UNEP, 2008:

This document briefly defines the process for REIA in broad terms from team building, through situation analysis, data collection and planning for early recovery. A series of sectoral questionnaires are proposed to assist informed decision-making.

http://postconflict.unep.ch/publications/UNEP_PDNA_draft.pdf

Guidelines for rapid environmental impact assessment in disasters - University College London and Care International, 2005 [version 4.4]:

The document comprehensively explains the process of REIA in disasters. It comprises four modules: (i) organization-level assessment; (ii) community-level assessment; (iii) consolidation and analysis; and (iv) green procurement issues.

<http://www.reliefweb.int/library/documents/2005/bhrc-gen-30apr.pdf>

Environmental impact Assessment Guidelines for FAO Field Projects – FAO, 2011.

A succinct document explaining the EIA process and reports, which will be made compulsory for all FAO projects. The Guide provides detailed instructions in applying the EIA process and assigning categories to all projects. These categories are standard within FAO and have to be assigned to all projects.

ANNEX I: INSTITUTIONAL (IMPLEMENTATION AND COORDINATION) ARRANGEMENTS

The importance of a sound institutional arrangement for projects and programmes cannot be overemphasized. Sound implementation arrangements specify the direct and indirect responsibilities of all stakeholders, coordination and liaison at national, organizational and local levels.

Emergency and rehabilitation projects, by definition, have a relatively short lifespan and cannot be expected to replace or create new institutions. It is imperative that the implementation arrangements for emergency projects utilize and build upon existing institutions as much as feasible. In some cases, a process may have already begun to form and reform institutions. The emergency/rehabilitation projects would make significant contribution to the development process if such institutional building efforts were supported and made part of the implementation arrangements. The highlight box (right) presents an example of institutional development at grassroots level and how the proposed rehabilitation programme would build on the process that has already begun.

It is usually the case that existing institutions may not have the necessary additional capacity to implement and coordinate the new project/programme. Therefore, a minimum of additional implementation and coordination capacity may be necessary in most cases. Surplus resources, human and other, may exist but not in the format that would facilitate the implementation and coordination of a rehabilitation programme. It is therefore necessary to study the existing resources and suggest the necessary changes.

There may also be existing project implementation units, either as part of the government structure or the FAO country office, that could implement the project as stipulated with some additional resources. In such cases, no new implementation units should be established but rather the existing ones strengthened to enable the successful implementation of the envisaged project.

The following are some critical issues that need to be considered when drafting institutional arrangements for a project's implementation.

Tajikistan, Village Development Committee (VDC) as part of rehabilitation programme implementation

As part of the reform process, the Government of the Republic of Tajikistan in 1994 and 1998 enacted legislations recognizing community self-governance organizations at all levels (No. 23-24/94, and No. 10/98). Many national and international organizations have been highly instrumental in the formation of Village Development Committees (VDCs) by using the above-mentioned legislations.

The main purpose of forming the VDCs has been to encourage decentralized decision making, improve participatory natural resource management and reduce poverty. Some of the main organizations involved in this endeavour are: UNDP, FAO, CARITAS, German Agro-Action, Aga Khan Foundation, AIAC, Maneeja, Fida Kar, and others. Some of the main players in rural development, such as the World Bank, IFAD, Asian Development Bank (ADB) and UNDP, have begun channelling their support through VDCs. The impact of various initiatives through VDCs has been highly encouraging and it may become the main vehicle to address rural poverty and channel services to rural areas.

The programme envisages the formation of VDCs where they don't exist and to implement the envisaged activities through VDCs if they have already been formed. The project will carry out almost all of its activities through the VDCs. Their formation will not only facilitate the implementation of the proposed programme but will also serve future rural development programmes.

Coordination: Who will coordinate the envisaged activities with various stakeholders (government authorities, FAO country office, FAO headquarters/regional office, donors, national and international NGOs, etc.)? Depending on the size of the project/programme, usually a dedicated expert is necessary to coordinate the various envisaged activities at all levels. The coordinator not only ensures synergies and close coordination and liaison with various stakeholders and other projects/programmes, but also provides guidance on implementation and manages the programme such that the intended objectives are achieved.

A sound coordination appraisal would include the following characteristics:

1. A list of major issues that need to be coordinated with stakeholders;
2. Indicate the main institutions (government, international partners, NGOs and others) that need to be part of the coordination mechanism. If feasible, identify them according to issues.
3. How the coordination mechanism would function and what could be the expected outcomes? There must be some indication of how the coordination would be organized (e.g. through regular meetings, information sharing, field trips and others). Active coordination requires significant investment of scarce resources. Therefore, there has to be clear objectives for engaging in coordination, against which time can be invested on a priority basis.
4. Coordination mechanisms should be specific on the level of engagement (i.e. at central, provincial, district and village levels). The type and form of coordination are usually specific at each level and have to be spelled out in the formulation mission report.

Implementation: Specific instructions and ToRs are needed on how the envisaged activities will be implemented. Within the context of existing institutions, the appraisal should identify the critical need for additional resources to implement the project/programme. Human and other resources may exist but need to be reorganized with additional sets of ToRs to meet the demands of the proposed project/programme. In view of the emergency and short-term nature of the rehabilitation projects, usually additional human resources are necessary to ensure successful implementation. Nevertheless, all efforts should be made to utilize existing institutions and resources.

A sound implementation arrangement would include the following characteristics:

1. Specify the exact resources, human and material, that are needed to successfully implement the envisaged activities.
2. Specify the role that implementing partners will play in implementing specific activities. This should include modalities for subcontracting, means of supervision and monitoring. The implementing partners could be other UN agencies, government organizations, NGOs, CBOs and private sector organizations.
3. Office locations in the field and in the capital must be specified and justified. Field presence is normally necessary, supported by a small coordination unit in the capital. The formulation mission should assess various logistical, coordination and institutional issues to enable an informed judgement on the location of the project's/programme's implementation unit.
4. Provide detailed ToRs for every member of the implementation unit, such that appropriate personnel can be recruited and there are no ambiguities on roles and responsibilities at all levels.

Implementation process: The implementation process is also very important as it guides project/programme implementation at various levels. In development projects, the implementation process is usually referred to as the 'project operations manual' and is prepared immediately before the start of the project. In emergency and rehabilitation projects, time is rather short between formulation and

implementation and therefore the implementation process or the operational modalities have to be spelled out in some detail at the stage of formulation.

The process would specify who, how and when certain activities would have to take place (e.g. recruitment, various reports, procurement, monitoring and other main events). The process should leave room for the implementation/coordination team to revise and update the various processes. However, a minimum set of critical activities should be highlighted with some indicative timeline.

The implementation and coordination structure should be presented in a chart, showing coordination, liaison and direct line of authority for implementation (see [Appendix 7, \[Figure 5\]](#) for an example).

ANNEX J: MONITORING AND EVALUATION (M&E)

M&E is an integral part of the project cycle management and should not be treated as a separate process. The arrangements for M&E should be part of the design and formulation process, and need to be adapted during implementation. Monitoring & Evaluation are closely related, but serve distinct purposes. Monitoring is a part of project and programme management and involves a continuous assessment of both the implementation of project/programme activities and the use made of project outputs by the target population (impact monitoring).

Evaluation, on the other hand, is an assessment of the relevance, effectiveness, efficiency, impact and potential sustainability of a project or programme. It is usually a comparative assessment of the changes brought about by a specific activity against conditions across time (pre-intervention), space or population (control area or population). Evaluation draws on the database created during the monitoring process – including, when available, project/programme impact data – and possibly on additional research commissioned for the evaluation in order to judge performance and achievements.

Therefore, the quality and efficacy of M&E is directly dependent upon the type and quality of the data collected. The importance and care needed to identify and specify data collection needs, use, method, frequency and the time of data collection during formulation cannot be overemphasized. There are two common methods to design information systems in support of a viable and effective monitoring system, namely the ‘blue-print’ and the ‘process’ approaches.

The **blueprint approach** specifies the system’s objectives, data requirements, data collection forms and schedule, organizational placement, personnel and budget needs and the use of data in great detail. This system is very inflexible and leaves little space for the project management team to manoeuvre in the face of a dynamic situation, especially in the context of emergency and rehabilitation projects/programmes.

The **process approach**, on the other hand, takes an evolutionary view of the physical and financial information requirements of monitoring. The formulation team would only outline objectives, organizational arrangements and resource requirements (personnel and financial) for M&E functions. Specific activities related to M&E and their information needs are left entirely at the discretion of the project management. The management would allocate resources to the activities they view as important for project implementation and collect data, as and when information needs emerge. The process approach also allows for participatory approaches to impact assessments and the evaluation of projects and programmes¹².

¹² For more details on participatory approaches to impact assessment see “Participatory Impact Assessment: A Guide for Participation; Feinstein International Centre”, Catley A *et al.*

Elements of an M&E system

- i. Set up system – identify information needs – that would guide project strategy, ensure effective operations, draw lessons, meet internal and external reporting needs.
- ii. Gathering and managing data/information – identify the most effective and efficient means of gathering information on project impact, outcome, output and activities.
- iii. Critical reflections – establish procedures and mechanisms for soliciting critical reflections from project stakeholders throughout the life of the project.
- iv. Communicate M&E results – mechanisms and procedures, including schedules, should be established to communicate the results of the M&E to meet the various purposes of the system.

Adopted from IFAD M&E Guide

The process approach is dependent on time, skills and innovations from the project/programme management team. If participatory approaches are employed, additional skills and resources are required to solicit inputs from all stakeholders, from policy-makers to direct and indirect project beneficiaries. Emergency and rehabilitation projects/programmes are of short-term by definition, even if linkages with long-term policies and strategies are necessary to make. The management team in such projects is usually concerned with physical delivery and financial management of projects and less concerned with longer-term impact and measurable achievements. In addition, there is a dearth of qualified and experienced staff to ensure that a sound and objective M&E system is put in place that would meet the demands of project management and impact assessment.

Consequently, a strictly blueprint approach or process approach may not serve the M&E functions of an emergency/rehabilitation programme/project. A combination of the two approaches may be best suited to serve the M&E purposes of an emergency and rehabilitation project/programme. Nevertheless, it is necessary for M&E functions to be part of the project/programme cycle.

M&E system for emergency/rehabilitation projects

An M&E framework involves a systematic recording, analysis, reporting and storage of data on key indicators providing information on project/programme performance, resource allocation and processes. The project/programme formulation missions informed by needs assessments should design an M&E system, with as much detail as feasible, as part of the project cycle. The system would allow the project management team the necessary flexibility to edit, add or remove certain indicators as and when the need emerges. The management should also have the flexibility to allocate resources efficiently without having to compromise on the M&E functions.

Project resources are limited and data collection and information dissemination are costly and may tie up valuable resources at the expense of other implementation functions. Therefore, a balance is necessary to meet the minimum information needs of M&E functions without having to stretch meagre resources at the expense of other important functions in the project cycle.

Setting up the M&E system involves the following six inter-related steps, which should be considered before attempting to develop the proposed framework.

1. Establish the purpose and scope – why does a project need M&E (explain its purpose and functions) and how comprehensive should it be?
2. Identify information needs to meet the needs of the set objectives.
3. Plan information gathering and management – identify the most efficient means of information gathering and management. Who and how information should be gathered and managed.
4. Plan for soliciting critical reflections – whose reflections, when and how should these reflections on project implementation and achievements be organized and used?
5. Plan for communication and reporting of M&E results – how, when and by whom should the results of the M&E system be communicated and to whom. This is usually linked with reporting requirements to various stakeholders (donors, organization, govt. and other partners).
6. Plan for capacities and conditions – what is needed (financial and human resources) to ensure that the system is actually implemented.

Adopted from IFAD M&E Guide

The proposed M&E framework for emergency/rehabilitation projects comprise of a matrix with a series of indicators and baselines. The matrix presented below has the following eight elements:

1. **Objectives:** This relates to components and subcomponents of the project/programme (i.e. what the project will do, make better or achieve).
2. **Objectively Verifiable Indicators:** Definition of indicators to be measured for each component, subcomponent and activity (see additional definitions on indicators below). These indicators are directly imported from the Log-Frame, if a log-frame has been prepared for a project.
3. **Baseline:** This relates to the status quo at the time of formulation (i.e. what the situation is with regard to each of the indicators). This is very important for impact assessment and measuring achievements as a comparative analysis – pre- and post-project situation. However, the project/programme formulators may not have sufficient time to obtain information on all baseline indicators. In such cases the project management should be tasked with reviewing and completing baseline indicators.
4. **Means of verification:** Describes how data should be collected (e.g. participatory approaches to enable all stakeholders, in particular the project’s beneficiaries, to identify specific indicators, and the means of collecting information or frequent visits by project staff or implementing partners to collect data, reports, etc.).
5. **Sources of data:** What are the data sources? Project beneficiaries, government authorities, implementing partners, and/or others.
6. **Frequency and critical dates:** How often should the data be collected? Monthly, quarterly or only at the time of input/asset distribution, at specific times of the crop cycle, etc.?
7. **Responsible agency for data collection:** Who should collect data on each of the specified indicators – project management, implementing partners, government agencies, community organizations, and/or others?
8. **Use of indicator:** Where would the data on indicators feed into? Monthly monitoring/progress reports, quarterly reports, evaluation reports, etc. Each of the outcome indicators contribute to one or more of the organizational results and each of the output indicators contribute to one or more unit results under the recently adopted FAO’s SOs. It is feasible that one output may contribute to more than one unit result. The FAO instructions suggests that the Mission/design team must decide which unit result is the most relevant for a specific output. This would reduce the ambiguity of assigning portions of an output to different unit results.

Indicators

M&E indicators relate to specific objectives, components and subcomponents that the project/programme is striving to achieve. M&E indicators may be described in two broad categories: process or outcome indicators and impact indicators.

Process/outcome indicators measure the deliveries and physical aspects of a project – for instance the procurement and delivery of seeds, tools, fertilizers, equipment and other inputs. It also measures physical achievements, such as the area planted with a certain crop, number of livestock vaccinated or treated, number of trees and area of vegetables planted. Process indicators are very useful in providing information on the project activity progress, which is necessary for project managers to correct any misguided or derailed activities in a timely manner.

Impact indicators measure the end result of a project on the lives of the project's participants (i.e. beneficiaries), or the changes that occur as a result of project activities. These indicators include the yield impact of certain technologies (per animal or area), poverty reduction by a certain number or proportion, livelihood and food security assured to a certain strata of the population, behavioural change and others. Impact indicators may be quantitative or qualitative.

Some of the impacts may occur during the life of the project and others long after the project has come to an end. All impacts, however, occur over a period of time, which has implications for the timing and frequency of impact assessments. In emergency and rehabilitation projects/programmes, comprehensive impact assessments for all project impacts are conducted infrequently and selectively. It is neither cost-effective nor necessary to conduct a comprehensive impact assessment for all projects and programmes. Evaluation (synonymous with impact assessment) is usually conducted for the impacts that occur during the life of the project and should be part of the project/programme cycle.

Characteristics of indicators

Indicators should be **SMART**:

- **Specific** – describe a future condition that is caused by the intervention in terms of Quantity, Quality and Time (QQT)
- **Measurable** – should be measurable with ease, without having to use any proxy or costly methods.
- **Attainable** – data /information should be readily available from existing sources or can be collected with reasonable effort and costs
- **Relevant** – should be relevant to the project objectives and activities. Relevant to the information needs of management, field staff, donors and other partners/stakeholders.
- **Timely** – should have a clear timeframe for data collection, processing and use. Data collected and reported at the right time to influence management decisions.

All efforts should be made to ensure that indicators incorporate elements of QQT. It may not be possible for all indicators to have elements of QQT but the important issue is to ensure that the log-frame or the monitoring framework has indicators that measure both elements of change, qualitative and quantitative.

Quantity – an amount or percentage share that will be achieved (e.g. area cultivated in the ensuing season increase by X ha or X percent compared with baseline);

Quality – a quality measure to specify indicator (e.g. percent increase in area or farmers cultivating on time, or percent increase in area cultivated with High Yielding Varieties (HYV)) over a baseline.

Time – add a time dimension when something should be achieved (e.g. percent increase in the use of HYV by a certain time compared with the baseline)

Impact indicators are used over certain time-intervals but data must be collected over a relatively long period of time, depending on the type of project activity and what needs to be measured. In addition to the characteristics indicated for process indicators, **baseline** is very important for impact indicators. Additional data may be collected for specific impacts not only from within the project area but also from outside the project boundaries. Indeed, some of the process indicators may also serve the purpose of evaluation/impact assessment.

The following matrix presents an example of an M&E framework for a subcomponent of a large rehabilitation programme. The framework does not separate indicators by the two aforementioned categories, but rather specifies the use of the indicators that would feed into either a monitoring or an evaluation report, or both.

FAO is under no illusion to assume that the proposed M&E framework would serve the purposes of a comprehensive impact assessment function. However, the proposed framework would go a long way to measure some of the impacts and outcomes that occur within the life of emergency/rehabilitation projects and programmes. The nature of emergency/rehabilitation projects does not allow for a comprehensive impact assessment that requires a relatively long period of time before any impacts can be measured. Therefore, guidelines and approaches widely used by FAO and partner institutions are recommended for a more comprehensive impact assessment of projects and programmes.

An example of an M&E framework for a subcomponent of a multi-component rehabilitation programme

Tajikistan: Reducing the Impact of Price Surge and Agriculture Rehabilitation Programme							
Monitoring Framework							
	Objectively Verifiable Indicators	Baseline	Means of Verification	Source of Data	Responsible Agency for data collection	Frequency and critical Date/s	Use of Indicator
<i>[Component Title and Objectives]</i>							
<i>I. Support to Agriculture Production: The overall objective of this sub-component is to improve the livelihoods of small family farmers through improving seed security in the short, medium and long-term.</i>							
Outcome							
	<i>50% increase in output of 5,000 small-holder farms over baseline</i>	<i>average 2.5 Mt/Ha</i>	<i>Ex-post Evaluation</i>	<i>Evaluation Report</i>	<i>proejct Management</i>	<i>Once, at harvest.</i>	<i>OR 2&3, Evaluation Report</i>
Outputs							
	1 100 seed producer groups established and trained in seed production + ICPM. By end of project	No Seed producer groups	Implementation Reports	Proejct records	proejct Management	Quarterly	UR ? ,Progress, Monit/final Rpt.
	2 2,000 ha planted with improved wheat seed varieties. Within year 1.	Tight/no access to improved seeds or	Participatory Sample Survey, VDC records	Beneficiaries, Proejct staff, District Agric.	Proejct Management, Implementing	Twice - Late winter and Spring	UR ? , Monitoring, Final report.

Assessment and Programme Formulation Guidelines for Agriculture Emergencies (APF)

		traditl varieties		officials	partners		
3	Yields in 2,000 ha increase to average of 4.5 MT/ha.by end of project	2.5 Mt/ha.	Participatory Sample Survey, VDC records	VDC, partner NGO, Agric. officials	Partner NGO, Proejct Management	Once, at Harvest time (July/August)	UR ?, Final Report
Activities/1							
1.1	Select 100 eligible seed producing farmers, by month 2.	0	Implementation Reports	Project records	Proejct Management	Once per month - initial 2 months.	Progress/ monitoring report
1.2	Prepare leaflets and training material in seed tech. and ICPM, by month 3	0	Implementation Reports	Project records	Project Managemetn	Three times - once per month	Progress/ monitoring report
1.3	Prepare training schedule (by Month 2) and conduct training (Month 3-20).	0	Implementation Reports	Proejct records	Project Managemetn	Quarterly	Progress/ monitoring report
<i>1. Activities are only for output 1.</i>							

OR = Organizational Result

UR = Unit Result / UR ? = Unit Result Number or Title

Key Reading

Guide for beneficiary results assessment of agricultural emergency interventions – Mollet/FAO, 2008:

The first two chapters provide a brief description of M&E in relation to the project cycle and the logframe analysis. Chapter 3 provides guiding notes on questionnaire development, data collection, data analysis and interpretation. Chapter 4 presents a series of specific subject-matter questionnaires for use during the monitoring exercise. The guide may be useful for specific intervention projects (seed distribution, specific livestock and fisheries interventions, etc.) that do not have a built-in M&E system as part of the formulation. The questionnaires may have to be further adjusted to reflect local conditions and specific project needs. The guide is rather top-down and heavily blueprinted, which may not be suitable for use under all circumstances.

<http://www.fao.org/emergencies/resources/tools/beneficiary-results/en/>

Participatory impact assessment: a guide for participation – Feinstein International Centre, Catley A *et al*:

This guide provides a framework for assessing the impact of livelihood interventions on communities using participatory impact assessment methods. The guide comprises of eight stages to conduct a participatory impact assessment. The approach is highly valuable and a good way to obtain information on the impact of an intervention on the population by using local measures of success or otherwise. However, most emergency projects/programmes may not have the necessary time to fully engage relevant communities in participatory impact assessments.

<https://wikis.uit.tufts.edu/confluence/display/FIC/Participatory+Impact+Assessment>

Managing for impact in rural development: a guide for project M&E – IFAD:

A comprehensive set of guidelines on M&E and impact management. The guide also highlights M&E as a system and part of the project design and implementation. The guide is IFAD centric and geared towards development interventions but concepts and methodologies may easily be adapted to emergency interventions as well. The guide is organized in the following eight sections and five annexes, each one can be separately downloaded:

- I. Introducing the M&E guide;
- II. Using M&E to manage for impact;
- III. Linking project design, annual plan and M&E;
- IV. Setting up the M&E system;
- V. Deciding what to monitor and evaluate;
- VI. Gathering managing and communicating information;
- VII. Putting in place the necessary capacities and conditions;
- VIII. Reflecting critically to improve action.

Annexes:

Glossary of M&E Concepts and Terms;

Annotated example of project Logframe Matrix;

Annotated example of an M&E matrix;

Methods for M&E;

Sample job description and terms of references.

<http://www.ifad.org/evaluation/guide/index.htm>

ANNEX K: PROJECT/PROGRAMME COSTING

Sound project cost estimation is crucial for successful project implementation and M&E, which cannot be over-emphasised. Project costing is not the aggregation of physical works, goods and services, but rather an essential feature of the project cycle because the information it provides is used both as input and output during each stage of the process.

In emergencies, project/programme cycles are short. Some of the stages are omitted (common in development-oriented project/programme cycles), namely reconnaissance, identification, preparation, appraisal and negotiation. Cost data and the way it is organized to provide information may vary at each stage of the cycle. Emergency projects/programme formulations combine all important elements in the above-mentioned stages, which implies a more accurate and detailed cost estimation.

Since most emergency/rehabilitation projects/programmes are formulated in a relatively short period of time, the formulators should attempt to make allowance for the design and implementation of transition activities. This may be done by making provisions for project revision mission following the completion of immediate and time-critical activities to design transition interventions.

Project costing is not only required to indicate financing requirements but also to indicate when funds are required for which project, sub-project, component, subcomponent, category or activity. Cost details also show expenditure schedule, procurement and the necessary management efforts. It is essential that cost estimation and tabulation reflect programme design and very closely follow the implementation plan.

Basic principles

This section is based on *TC PROCEDURE 2007/01 – Guidelines for the Preparation of Budgets for Emergency and Rehabilitation Projects*.

- The under-estimation of costs would make it difficult to implement a project (e.g. if labour, transport or storage costs of an emergency seed distribution is not fully covered, seeds may not reach the intended beneficiaries, hence jeopardizing the whole project).
- Over-estimated operational costs may diminish the amount available for intended beneficiaries and may also discourage donors.
- If other relevant projects/programmes are operating, ensure that synergies and cost-sharing are explicit in the budget.
- If Technical Support Services are not included as a share of the total budget, ensure that the relevant costs are covered in specified items.
- Project Support Cost (PSC) is set at 10 percent of the total project/programme budget. If it is not feasible to use the exact PSC rate, specific costs should be covered elsewhere (consult operations officer).

Methodology for preparing project/programme costs

Expenditure accounts

FAO has developed a set of guidelines for costing emergency and rehabilitation projects which reflect accounting codes as well as broad definitions of expenditure categories. The table (right) indicates the various categories with some modifications to reflect project/programme objectives and the implementation timeline. Usually subcategory costs are organized in order of most durable to least durable. However, in the case of emergency programmes/projects, it is advisable to organize subcategory costs on the basis of the component/project objectives. For instance, if the objective of the project is the restoration of agricultural production through seeds and tools but the project also requires vehicles, then seeds and tools should appear first in the cost tables. The table (right) presents a typical expenditure account, based on FAO guidelines on emergency/ rehabilitation budget preparations.

Detailed cost tables

Project objectives are attained through the implementation of a set of tasks that require resources. Detailed cost tables provide information on the tasks and resources required to achieve project-/programme-level objectives denoted by components. The resources are organized by quantities over a specific timeframe that is logically required by specific tasks in a component. Detailed cost tables also provide information on the type of items to be purchased and hence guide procurement and financial plans.

Detailed cost tables should have the following general characteristics:

- A minimum of one detailed cost table per component.
- Logically organized categories, subcategories and items of costs to reflect the component objectives and priorities (see table on right);
- Sufficient detail on each item or group of items to allow technical and procurement specialists to make informed decisions. There should not be any need for additional missions or efforts for major changes in the cost tables.

Note: In a cost table, it is not necessary to provide detailed lists of items that can be prepared in a separate annex. Such an annex would include all necessary technical and commercial (if necessary) specifications.

Typical expenditure account for an emergency/rehabilitation agriculture project	
Account	Description
5024	Expendable Equipment
5921-41	All expendable eq. necessary for the project/programme
5014	Contracts
5571	Services (Govt, NGO, UN)
5572	Construction (Private Co.)
5023	Training
5902	In-Service Training
5903	Study Tours
5905	In-Group Training
5013	Consultants
5542	International
5543	National
5544-51	Other Personnel Contr.
5021	Travel
5661	Project staff duty travel
5685	International Consultants
5685	National Cons.
5686-98	Other
5025	Non-Expendable Equipment
6001-12	All Non-Expandable Eq.
6013	Security Equipment
5027	Technical Support
6011	Reporting costs
6116	Evaluation
6120	Technical Support/ advisory
5028	General Operating Expenses
6172-74	Premises
6175-76	O&M of Vehicles and equipment
6177	In-country Transport
6178-82	Utilities
6138-55	Communication, security
6207	Security Services
5029	Support Costs
6118	Direct Operating Costs 10%
Total	

- Fully reflective of the Project Implementation Plan; any assumptions on cost estimation, in particular lump sum costs and functional costs (e.g. when one cost item is functionally related to another), should be detailed in the footnotes. Source of cost data should be reliable and clearly identified.
- Unit cost and quantities should be specified for all cost items and when it is not feasible, assumptions should be made clear in the footnote.

Presenting detailed cost tables

Project/programme stakeholders at various stages of the cycle are usually not the same people (i.e. formulators, project revision, procurement, finance officers, operations officers, among others). It is, therefore, important that cost tables are as detailed as possible, including footnotes on assumptions or further clarifications, as well as a detailed list of items with technical specifications in separate attachments to the cost tables. The detailed cost tables are not only used for resource allocation and budgeting, but also for implementation planning purposes and procurement as part of the project management. Therefore, the importance of a comprehensive cost table cannot be overemphasized.

It is ideal if all cost items are specified in the units of measurement, unit costs and quantities to be purchased over the life of the project/programme. In some cases, it may not be feasible to disaggregate base costs into units and unit prices, for instance: (i) the quantities may not be estimable or unit prices may be difficult to obtain; (ii) there may be a large number of small items lumped together and it is far too tedious to mention each item separately; and (iii) a cost item may be functionally related to another (i.e. operating and maintenance costs being a fraction of another cost item). In such cases, costs are presented in value terms or lump sum, and detailed footnotes are necessary to describe the assumptions on estimating a lump sum cost.

It is advisable to present the detailed cost tables in a separate annex together with their detailed assumptions and in some cases their technical specifications. This will allow ease of reference for various project stakeholders when implementing the project/programme. In addition, detailed costs make it easier to revise project/programme budget as and when necessary.

Caution: Notwithstanding the various advantages of developing detailed costs, it also introduces significant rigidities as some of the detailed costs may be taken as fixed. As such little flexibility to the project/programme management is allowed to change expenditure if and when necessary, which may cause significant delays in implementation.

Ideally detailed costs may be prepared for operations purposes and summary cost tables are presented as part of official project/programme document.

Implementation support costs

It is common practice to present implementation support costs as a separate component and hence a separate detailed cost table. This is useful for project managers to fully comprehend the type and amount of resources (human and equipment) envisaged for project implementation purposes. With implementation costs in one place, the management will be able to plan the recruitment of staff and procurement of equipment and prepare for operations and maintenance budget in a timely manner. Lack of such comprehensive information may lead to miscalculation in planning and may compromise the overall project/programme implementation.

However, rehabilitation projects/programmes are rarely financed by one donor and hardly within the same period, which would make implementation cost disaggregation a rather difficult task. If, for example, only Component I of the programme presented in Table 1 were financed, the implementation costs related to this component could be misleading to extract from the overall project/programme implementation costs as a separate component. Nevertheless, the project formulators should make all efforts to indicate as much as feasible which costs are attributed to which components. Despite this difficulty, it is advisable to aggregate implementation costs as a separate detailed component cost with sufficient details to allow disaggregation by component.

Contingency allowances

Contingency allowances are necessary to narrow the gap between cost estimates during project formulation and actual costs during implementation. Cost estimates without contingencies indicate a false sense of accuracy, which may cause some problems during implementation. The time between formulation and implementation of emergency and rehabilitation projects/programmes is relatively short, and they may not require large contingency allowances as may be the case for development projects. However, it is advisable to make separate allocations for price and physical contingencies. For emergency and rehabilitation projects/programmes, it is advisable to make a 5 percent allowance for both price and physical contingencies. The example presented in Table 1 has a 5 percent allowance for price and physical contingencies.

Price contingency

Price contingency allowance reflects expected increases in project costs due to inflation or unit prices for other reasons. It is best to make price contingency allowances for each component in the detailed cost tables and provide a sum of the price contingency in the summary table. The assumptions on the contingency estimation should be clearly stated in the footnotes to the detailed cost tables, while the text on costs in the main report should summarize the assumptions on price contingency. Price contingencies should be calculated as a percentage of the base costs.

Physical contingency

Physical contingency allowance reflects changes in the base costs due to changes in the envisaged quantities and methods of implementation. Physical contingency should be calculated as a percentage of the base costs. A 5 percent allowance for physical contingency in emergency and rehabilitation projects is advisable. Table 1 stipulates a 5 percent physical contingency and a similar percentage for price contingency.

Summary cost tables

The main purpose of summary project cost is to provide an overall picture of financial requirements by components¹³. A summary cost table usually shows the sum of component and subcomponent costs as line items over the life of the project. If the project/programme components within the overall structure are not too large, it is advisable to also mention major cost items as subheadings to the components.

The summary cost table is presented in the main text of the project/programme document with references to the detailed cost tables. The text on costs would typically include the main assumptions in estimating

¹³ A component within a project/programme structure describes objectives (i.e. what the project will do, improve or achieve).

costs, the choice of currency, exchange rate, taxes, subsidies, method of pricing, sources of unit prices and any other major issues. Detailed assumptions on all aspects of cost estimation should be in the footnotes to the detailed cost tables.

Tajikistan Agriculture Rehabilitation Programme - Summary Cost Table

	Value, in 000s US\$									
	Year 1 - trimester				Year 2 - trimester				Total	
	1 -3	4 -6	7- 9	10 - 12	1 -3	4 -6	7- 9	10 - 12		
Main Activities										
I. Food Production and Agriculture Rehabilitation Component										
Emergency Seed and Fertilizer	1,650	411	24	1	-	-	-	-		2,087
National Seed Policy and Legislation	35		35							70
Seed Producer Group Formation	168	418	166	29	24	28	14	70		917
Assistance to Crop Research Institute.	392	166	42	6	5	6	3	14		633
Sub-total Food Crops	2,244	996	267	36	29	34	17	84		3,706
II. Small-Scale Home-based Livestock Production										
Sheep and Goat Banking	272	31	29	11	29	31	29	11		443
Village Poultry Development	445	73	73	23	73	73	73	23		853
Sub-total Livestock	717	104	102	34	102	104	102	34		1,297
III. Small-Scale Irrigation Rehabilitation										
On-farm Water Management	869	1,074	-	-	-	-	-	-		1,943
Water Harvesting	297	387	-							684
Sub-total Irrigation	1,167	1,460	-	-	-	-	-	-		2,627
IV. Horticulture Rehabilitation										
Horticulture Rehabilitation	241	33	10	26	41	2	28	-		380
Sub-total Horticulture	482	65	20	52	81	4	56	-		760
V. Implementation and Institutional Support										
Programme Implementation Support Unit (PISU)	206	79	79	79	79	79	79	79		760
Village Development Committee Formation (VDC)	35	70	35							140
Sub-total PISU, VDC	241	149	114	79	79	79	79	79		899
Total Programme Costs	4,851	2,774	502	201	291	220	254	196		9,289
Price Contingencies, @ 5%.	243	139	25	10	15	11	13	10		464
Physical Contingencies, @ 5%	243	139	25	10	15	11	13	10		464
Grand Total	5,336	3,051	552	221	320	242	279	216		10,218

The table above shows a typical summary cost table. This project has five components and a number of subcomponents. It is a two-year programme and costs are estimated for every three months by component and subcomponent.

An alternative and operationally more useful presentation of summary cost tables for FAO-implemented projects/programmes would present costs by main categories of expenditure accounts. Presenting summary costs by expenditure accounts will be compatible with the FAO accounting system and will allow the project staff and operations officers some flexibility to re-allocate costs among subcategories if necessary.

Nevertheless, detailed cost tables by component/subcomponent are necessary for RBM purposes and must be prepared as part of the project document. Templates for preparing summary and detailed costs are provided as part of the programme and project document template (see [Appendix 2](#) and [Appendix 3](#)).

Caution: While detailed costs are good to guide stakeholders on how various cost items have been estimated, but this can cause significant inflexibilities as well. Deviation from the detailed cost items may be interpreted as deviation from agreed plans of implementation. It would be ideal to keep detailed cost tables to guide implementation and affect adjustments when necessary but not made part of the official project document. Instead a summary project/programme cost table may be part of the official project/programme document.

ANNEX L: APPEALS PROCESSES

There are two inter-agency appeals processes of potential relevance to APF missions: (i) flash appeals; and (ii) consolidated appeals.

(i) Flash appeal

A flash appeal is a “planning tool for structuring a coordinated humanitarian response that goes beyond the capacity of the government, for the first three to six months of a new emergency”. The flash appeal is usually prepared within a few days, a week to ten days after disaster onset. It is a concise document based on available information and reasonable inference, focusing on urgent humanitarian needs. The project proposals can be revised online at any time after publication as more information emerges. A scheduled general revision takes place about one month after the appeal’s initial publication to incorporate more complete information, improved and in-depth assessments, and more clearly defined early recovery projects.

The UNRC or HC, with assistance from the Office for the Coordination of Humanitarian Affairs (OCHA), is responsible for the overall content and quality of the flash appeal document. However, participating agencies in general, and cluster/sector leads in particular, have important roles to play in shaping the substance of the flash appeal. The Humanitarian Appeals site provides guidelines, templates, process and best practice examples for flash appeals. Please refer in particular to the guidelines section, which is self-explanatory and highly user-friendly, at:

<http://ochaonline.un.org/humanitarianappeal/webpage.asp?MenuID=9198&Page=1481>

Hints for those involved in contributing to flash appeals:

- Thoroughly review the **Context Section** and ensure that the agriculture sector (including livestock, crops, forestry and fisheries) is adequately highlighted, reflecting its importance to the economy as a whole and its role as a major source of livelihoods. Such background information can be easily obtained from the FAO-CPF, the World Bank or Regional Development Agency sites – country reports, country strategy reports and others. The Economic Intelligence Unit web site also contains high-quality analytical reports.
- **Sectoral Needs Analysis and Response Plans Section:** Whether FAO is a sector/cluster lead or only a cluster participant, it is important to ensure that the content of this section is very convincing in terms of the need for the various agriculture-related interventions and the expected outcomes. This may include explaining how they will contribute to peace building and medium-term (early recovery) objectives, and the consequences expected if the proposed interventions are not implemented.
- **List of Projects:** The flash appeal’s tight schedule does not allow for any in-depth analysis, building synergies and linkages with other initiatives, long-term development objectives and concerns of sustainability. However, it is important to ensure that the types of interventions proposed are generally in line with, or at least do not undermine, the objectives specified under CPF (where available), government and other international partner strategies.

A template and best practice examples are posted on the OCHA web site. Follow the link below to access the flash appeal template and you will find detailed instructions on how to prepare the various sections of the flash appeal, guidelines and other relevant documents.

<http://ochaonline.un.org/humanitarianappeal/webpage.asp?MenuID=9198&Page=1481>

(ii) Consolidated Appeals Process (CAP)

The CAP is a process aimed at facilitating a coordinated response by all agencies (UN and NGOs) involved in responding to a complex or major emergency. The output is a consolidated appeal document through which resources are mobilized to implement programmes to meet the needs of people affected. The document consists of two parts: (i) a narrative providing a synthesis of the situation and describing in depth the humanitarian needs of the affected populations (the Common Humanitarian Action Plan); and (ii) a list of project profiles, defining the responses that various actors intend to implement in the next calendar year.

The CAP is a country-driven exercise that can last several weeks. The UNRC or HC, with assistance from OCHA, is responsible for the overall content and quality of the CAP appeal. However, participating agencies in general, and cluster/sector leads in particular, have important roles to play in shaping its substance. Agencies' headquarters are finally requested to review and endorse the document before it is officially launched by OCHA.

The OCHA site provides a self-explanatory annotated template, information on the overall process, several guidelines and examples of best practices for each section of the CAP, all of which can be downloaded from the link below.

<http://ochaonline.un.org/humanitarianappeal/webpage.asp?MenuID=9198&Page=1481>

Hints for staff involved in contributing to CAPs

- Review all relevant reports and information related to the agriculture sector, the emergency context and various structural issues that may contribute to the emergency and impede development. Some of the sources may include: (i) assessment reports and analysis; (ii) project/programme documents; (iii) FAO – CPF; (iv) World Bank country reports; and (v) the World Bank, regional development banks, the International Fund for Agricultural Development, NGOs and government strategy and policy papers on agriculture, poverty, rural development and other relevant issues.
- Ensure that the CAP includes not only issues relevant to the emergency but also medium-term issues and objectives.
- Ensure that all proposed projects are a reflection of the needs assessment and are formulated with a sustainable livelihoods perspective that would help meet medium-term recovery objectives.
- Ideally, the narrative on sectoral context should highlight synergies among proposed projects and across response and recovery objectives.
- Ensure that there are sufficient caveats to allow for the technical and operational review of projects (i.e. projects are subject to FAO technical and administrative review and may change as a result).