Natural Resource Management and Livelihoods:

From Policy to Practice

Programming Guidance

WFP World Food Programme

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Guidance

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Introduction

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Introduction

ENABLING DEVELOPMENT OBJECTIVE 5

WFP will use food to enable households which depend on degraded natural resources for their food security to make a shift to more sustainable livelihoods.

This document is intended for those involved in programming natural resource management (NRM) and livelihood activities corresponding to Objective 5 of WFP's Enabling Development policy.[1] It seeks to:

- clarify the intention of Objective 5 and differentiate between Objectives 3, 4 and 5; and
- suggest ways to improve programming to meet Objective 5 and strengthen livelihood security and sustainability through programme interventions and advocacy.

The approaches build on WFP's experience in designing, implementing and monitoring NRM activities and reinforce the need to emphasize livelihood security in line with the Enabling Development policy.[2] This will enable you to design, implement and monitor activities that:

- strengthen local NRM practices in order to support livelihood strategies;
- help people secure access to and control over natural resources;
- diversify livelihood strategies by reducing people's dependence on natural resources;
- strengthen links between environmental and socio-economic sustainability;

1 WFP's programme cycle consists of design, implementation, monitoring and evaluation, and phase-out.

2 These approaches are drawn primarily from the paper Improving Food Security in Marginal, Low-potential Areas (WFP, 1998); a review of evaluations of food-assisted NRM activities; WFP's Mission Statement; the Commitments to Women; and the Circular on Women's Access to Assets.

- decrease the vulnerability of people's livelihoods to recurrent shocks; and
- address institutional blockages that impede securing sustainable livelihoods.

The document is organized in twelve chapters, which outline the essentials for programming. These essentials include key principles, strategies, issues, design and monitoring and evaluation parameters that build on the directions set out by the Enabling Development policy for NRM and livelihood activities:

Chapter 1 **Introduction**

Chapter 2 **Understanding Enabling Development Objective 5:** explores the relationship between natural resource use and management and poor people's livelihood options.

Chapter 3 **Key Thematic Issues:** reviews sustainable livelihood approaches, entitlements and access to and control over land, water and forest/tree resources and conflict management.

Chapter 4 **Setting Action Boundaries:** discusses key principles and outlines six strategies for effective, sustainable NRM and livelihood activity programming. Each strategy is fully described in the subsequent chapters.

Chapter 5 **Strategy 1:** Strengthening livelihoods by increasing the efficiency and/or productivity of natural resource management.

Chapter 6 **Strategy 2:** Improving women's access to and control over natural resources and activity benefits.

Chapter 7 **Strategy 3:** Strengthening livelihoods by introducing nutrition and health elements in natural resource management activities.

Chapter 8 **Strategy 4:** Strengthening livelihoods by mitigating the effects of natural hazards.

Chapter 9 **Strategy 5:** Strengthening livelihoods through the conservation of biological diversity.

Chapter 10 **Strategy 6:** Settling/resettling people to enable them to develop sustainable livelihood strategies.

Chapter 11 **Natural Resources and Livelihoods: an Analytical Framework:** presents a framework for analysis that integrates sustainable livelihood options, tenure arrangements, conflict management, NRM and food security parameters. Key questions and checklists are included for programming activities under Objective 5, which can be built into WFP's current design and monitoring frameworks.

Chapter 12 Speaking on Behalf of the Poor: identifies possible advocacy options for WFP that aim at improving people's NRM and livelihood options.

BACKGROUND DOCUMENTS

For those who are interested in more specific information, technical background documents are available (in English) on the key issues affecting NRM and livelihoods.[3] These issues influence the effectiveness and sustainability of NRM and livelihood activities and thus are central to design and monitoring. An understanding of these issues will also assist in selecting partners and sources of technical assistance. Documents available are:

1. Natural Resource Conflict Management
2. An Approach to Sustainable Livelihoods
3. Land Tenure, Natural Resource Management and Sustainable Livelihoods
4. Forest Tenure, Natural Resource Management and Sustainable Livelihoods
5. Water Tenure, Natural Resource Management and Sustainable Livelihoods
6. HIV/AIDS and Food and Livelihood Security
7. Identifying Food-insecure People Dependent on Natural Resources for their Livelihoods
8. Example Projects

Other documents may be added to this list as they become available.

[3] Background Documents 3, 4, 5 and 8 were prepared in collaboration with FAO.

Chapter 2

Understanding Enabling Development Objective 5

Chapter 2

Understanding Enabling Development Objective 5

WHY NATURAL RESOURCES?

Supporting poor people who are reliant on natural resources provides WFP with a crucial entry point for reaching poor, food-insecure people, as 75 percent of the world's undernourished people are subsistence farmers living in poor agricultural areas.[4] The statistics on page 16 highlight the importance of natural resources to the livelihoods of these poor rural women and men. Yet these poor rural households generally have small landholdings, insecure tenure, little or no financial capital and poor access to markets, infrastructure (e.g. roads, health services) and employment opportunities. These factors mean that for many people, natural resources are their most accessible source of food, water, energy, shelter and income.

Increasingly, these people's livelihoods, and more specifically their food security and nutritional status, are at risk because the productive capacity of the resource base is declining in both quality and quantity. The resource base no longer provides enough food, clean drinking water or sources of income. A number of factors contribute to processes of resource degradation, including population pressure, deforestation, reduced fallows, overgrazing and climatic stress.

The rural poor, especially women and indigenous people, are particularly affected because they may be landless and rely on common property resources or may not have secure rights, limiting their access to and control over productive resources. Situations of scarcity, declining livelihood security and limited ownership and access can contribute to conflict over natural resources, further exacerbating problems of degradation.

However, it is important to note that most rural households have substantial knowledge of sustainable resource management practices, including techniques to preserve soil and diverse varieties of local plants to minimize their risks. People also

4 FAO. 2000. *The State of Food and Agriculture 2000*, p. 190.

rely on a variety of strategies to survive in these harsh environments, combining reliance on natural resources with migration to other areas for seasonal employment and income-earning activities that are not based on natural resources (e.g. sale of crafts). But because they are poor, they are often forced to manage resources in unsustainable ways to meet immediate food and income needs.

Natural Resources and Rural Livelihoods

- Approximately two thirds of the world's poor live in rural areas and rely heavily on agriculture for their income.[5]
- Women in developing countries produce between 60 and 80 percent of food, including the staple crops (rice, wheat and maize) that feed 90 percent of the rural poor. They bear primary responsibility for obtaining fuelwood and water and are the primary gatherers of minor forest produce, and thus rely heavily on natural resources.[6]
- In marginal rural areas, people's workloads are generally greater and rates of severe malnutrition and debilitating infectious diseases are higher than in urban areas.[7]
- The poorest usually have the least secure and smallest entitlements to land, water and forest resources. For example, in Bolivia the richest 20 percent of the population owns 91 percent of the land while the poorest 1 percent owns 0.1 percent of the land.[8] Worldwide, only 2 percent of all land is owned by women.[9]
- Natural disasters, poverty and environmental conditions are closely correlated in least developed countries (LDCs): declining agricultural productivity from climatic shocks increases poverty, and the intensive use of marginal lands by poor people contributes to increased disaster risks.[10]

5 CIDA. 2000. *Towards a healthy, well-nourished world*, p. 4. Discussion paper.

6 Idem, p. 7.

7 FAO. 2000. *The State of Food and Agriculture 2000*, p. 221. Rome.

8 Encuesta Condiciones de Vida. 1995. Elab. SISE.

9 FAO. 1999. *Women's right to land and natural resources: Some implications for a human rights-based approach*. Rome.

10 UNDP. 2001. Disaster Profiles of the Least Developed Countries: a report from the Third United Nations Conference on Least Developed Countries, p. 2. (Held in Brussels.)

WHAT IS NEW UNDER THE ENABLING DEVELOPMENT POLICY?

Since WFP has over 30 years of experience in NRM and livelihood activities, it is reasonable to ask: what does the Enabling Development policy encourage us to do differently? Simply put, many of the changes start with a new way of approaching the problem, being clear that the problem to be addressed is directly related to food, nutritional and livelihood security and then designing solutions to address these problems. The changes are not about activities *per se*, but about asking the right questions to help women and men address their food problems more effectively.

The Enabling Development policy and its associated background documents[11] are only one source of information on programming of development activities related to Objective 5. Additional key sources of information are found in:

- WFP and the Environment – Issues and Priorities (WFP/EB.3/98/3);
- Participatory Approaches (WFP/EB.3/2000/3-D);
- WFP Working with NGOs: A Framework for Partnership (WFP/EB.A/2001/4-B); and
- the Commitments to Women and the recent circular Women's Access to Assets, Including Land, in WFP-assisted Activities.

When designing and monitoring NRM and livelihood activities it is important to keep the key elements of these policies in mind and refer to the respective guidance materials indicated and available in the *Programme Design Manual* (PDM):

- **Using sound environmental practices:** Certain types of NRM and livelihood activities (e.g. agricultural intensification and construction of irrigation structures) can pose environmental risks if they are not designed and implemented according to accepted technical standards. These risks – including soil erosion, water pollution or reduction of biodiversity – lead to decreased livelihood security. Such risks need to be identified and managed through all stages of programming. For further information, refer to the Environmental Review Guidelines, January 1999.

- **Using participatory approaches:** For natural resource and livelihood activities, participatory approaches can be used to empower people and permit them to have a say in the management and control of assets, including drawing up arrangements for benefit-sharing. These approaches need to be designed to reach marginal people, including women, landless households, ethnic groups, etc. Tools and suggestions for planning, designing, implementing and monitoring activities and techniques for facilitating partnerships based on participatory approaches are provided in the *Guide to Deepen Understanding: Participatory Tools and Techniques.*

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11 The relevant background papers from the Time for Change: Food Aid and Development consultation (October 1998) include: Improving Food Security in Marginal, Low-potential Areas, Participation: an Approach to Reach the Poor, Women in Food Aid Interventions: Impacts and Issues, and Food Security, Livelihoods and Food Aid Interventions.

- **Building partnerships:** The theme of partnership, while not new, takes on special importance in NRM and livelihood activities. Years of experience in natural resource sectors have clearly demonstrated that WFP cannot do it all. For this reason, we especially need to be proactive in arranging for partnerships to programme NRM and livelihood activities. (Refer to the paper, WFP Working with NGOs: A Framework for Partnership.) These activities rely heavily on the presence of suitable partners to:

  - provide technical expertise to ensure high quality in design and implementation of projects (e.g. analysis of resource tenure issues, selection of suitable species);
  - strengthen extension services to work in participatory ways, to work with women, to introduce appropriate technologies and to manage potential conflicts;
  - support training in areas linked to improved and diversified livelihoods (e.g. literacy, health, sanitation and microcredit);
  - build capacity of counterparts and NGOs (e.g. on results-oriented monitoring and evaluation or food management and accountability procedures; and
  - provide complementary, non-food items (NFIs) such as pipes and sprinklers for small-scale irrigation, or tools, seeds and fertilizers for agriculture.

- **Commitments to Women and the circular on women's access to assets:** these are discussed in Chapter 6.

Differences between traditional NRM approaches and the approach outlined in the Enabling Development policy are summarized in Table 1. Where possible, the table uses examples from forest management activities to illustrate changes in thinking.

COMPARING TRADITIONAL AND NEW NRM AND LIVELIHOOD APPROACHES

Enabling Development Elements	Traditional Approach	Enabling Development Approach
Purpose and scale	• Single purpose (e.g. timber, wood products) • Large management units (e.g. 5-year plans)	• Multiple purposes (e.g. wood and non-wood forest products, nutritional benefits, environmental benefits) • Community-based
Food to meet a consumption problem	• Reliance on government poverty data • Targeting linked to government work plans and labour requirements	• Community helps identify food gaps and select indicators • Government data; VAM analysis, participatory assessment
Create assets for those with a food consumption problem	• Budgetary support to government programmes (e.g. forest plantation projects on state lands) • Workers organized to undertake large-scale activities • Assets often controlled by government (government-harvested timber; community-collected dead wood)	• Assets created for food-insecure people (e.g. plant trees on homesteads or community lots) • Identify smaller-scale assets that correspond to the priorities of communities, especially women • Formalized benefit-sharing arrangements that emphasize formal use rights, tenure and entitlements
Meet short-term food needs and support longer-term livelihood strategies	• Employment emphasis • Products often benefit governments	• Emphasis on alleviation of hunger and livelihood security • Match food with livelihood support activities • Address factors that contribute to insecure livelihoods (entitlements, discrimination, conflict)
Use of participatory approaches	• Centralized, top-down planning with little input from affected communities	• People, especially women, are given a greater role in decisions on managing and controlling natural resources (e.g. what species to plant, when to harvest and who shares the benefits)
Seeking out new partnerships	• Reliance on counterparts in the ministries of Agriculture or Rural Development • Based on government development plans	• More proactive in developing partnerships with government, multilateral and bilateral agencies, NGOs and community-based organizations (CBOs) • Develop proposals jointly with partners • Participate in CCA and UNDAF
Timeliness	• Food distributed according to plan of work	• Food distributed during food gaps considering seasonality and timeliness
Demonstrating results	• Focus on tracking outputs (e.g. number of trees planted or of beneficiaries assisted)	• Undertake a more comprehensive analysis • Results/outcomes monitored • Need for livelihood baseline data

How Are Enabling Development Objectives 3, 4 and 5 Related?

How do we know whether to programme activities under Objectives 3, 4 or 5?[12] These objectives can all be met through similar activities; however, the activities may address different problems and produce different results. The key to defining the Enabling Development objective depends on a thorough problem analysis, which leads to:

- understanding the problem to be addressed and the purpose of the intervention; and
- understanding the expected results and how these results will meet the priorities identified by recipients of WFP food.

The identification of the problem, purpose and expected results requires a thorough understanding of:

- the main problems facing the target group;
- strategies that will address these problems;
- the role food aid can play; and
- feasible activities that suit the situation, considering strengths, weaknesses and constraints.

Using this information, you need to choose an Enabling Development objective that corresponds to the purpose and expected results. Subsequently it is expected that results corresponding to the identified purpose will be measured.

The example of tree planting illustrates the main differences in terms of purpose and expected results. Planting trees can meet all three Enabling Development objectives depending on the problem to be addressed, which informs the species selected, how the trees are managed and the areas to be planted:

12 Objective 3: Make it possible for poor families to gain and preserve assets; Objective 4: Mitigate the effects of natural disasters, in areas vulnerable to recurring crises of this kind.

- ***Objective 3 - asset creation***

  - Purpose: creating and diversifying sources of income for the poorest. For example, trees planted on homesteads or community woodlots can be sold for fuelwood and construction material.

  - Expected results: maximize the income generated from these products. To this end, certain tree species (fast-growing with straight stems) would be selected and planted as a monoculture (single crop) to facilitate harvesting.

- ***Objective 4 - disaster mitigation***

  - Purpose: help people who live in areas prone to natural disasters (e.g. floods and droughts) plan, respond to and mitigate the impacts of natural disasters.

  - Expected results: trees planted to prevent landslides on steep slopes or to create windbreaks. To maximize effectiveness, areas subject to natural phenomena such as landslides or severe wind erosion would be selected.

- ***Objective 5 – NRM and livelihoods***

  - Purpose: strengthen the livelihoods of people dependent on degraded natural resources by introducing more sustainable NRM practices and/or help them diversify into other activities. Emphasis is placed on using natural resources to address biological, political and legal factors contributing to food and livelihood insecurity. For example, planting trees high in nutrients on land with secure tenure arrangements to improve nutrition and health.

  - Expected results: improve nutrition and livelihood security by planting species high in nutritional value in a tree/crop planting arrangement (agroforestry). For example, trees would be selected to provide shade, reduce soil erosion, increase water retention and provide nutritious products.

Chapter 3

Key Thematic Issues

Chapter 3

Key Thematic Issues

BACKGROUND

This chapter discusses key thematic, rather than technical, issues that are key to the analysis of NRM and livelihood activities:

Issue 1 An approach to sustainable livelihoods
Issue 2 Tenure, natural resource management and sustainable livelihoods
Issue 3 Conflict management

These issues are being discussed in depth at the inter-agency level and what is presented here should not be perceived as definitive, either in concept or in practice. The issues are evolving and many agencies are attempting to operationalize them. Their introduction implies that WFP will begin to see how it can improve the delivery of assistance. In some situations these issues will be very relevant, not only for NRM and livelihood activities but also for asset creation and natural disaster mitigation. In other situations, they may not be appropriate.

This chapter provides an overview to help you decide how relevant these elements are in your work and how to ensure that they are effectively treated.

ISSUE 1: AN APPROACH TO SUSTAINABLE LIVELIHOODS

Introduction

A number of development agencies have realized that seeking to reduce poverty and food insecurity primarily by increasing income and assets is not sufficient. They have subsequently adopted a "Sustainable Livelihoods Approach" (SLA), which broadens the scope of analysis to all relevant aspects of people's livelihoods. This includes a focus on the diverse strategies employed by the poor and how policy and institutional issues influence these strategies. It also looks at other factors beyond income that affect poverty, such as people's education, nutritional status or access to natural resources.

This section presents an overview of the key elements and analytical framework of the SLA, based mainly on the Department for International Development (DFID) model.

According to the working definition used by DFID, "a livelihood comprises the capabilities, assets . . . and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base."[13]

An SLA is a more comprehensive way of organizing and analysing factors that influence poverty to help establish the objectives, scope and priorities for assistance. One of its main features is to shift the focus of development from *outputs* (such as the number of wells constructed) to *people* (access to water and how this matters to their livelihoods). It tries to ensure that important components of, and constraints on, poor people's livelihoods are not overlooked when interventions are designed.

Core Concepts

- **People-centred:** People are the priority concern, rather than the resources they use or the governments that serve them.[14] This means that planners look beyond planting trees to consider how trees are important to people's livelihoods, for example, in terms of supporting income-generating activities, preventing erosion, retaining water in soils so that springs can develop, etc.

- **Holistic:** Both analysis and response must be comprehensive and consider the linkages between different sectors.

  - *Analysis:* People adopt multiple strategies to secure their livelihoods, as influenced by the surrounding economic, social and ecological systems and the interactions between them. Thus, livelihood analysis shifts attention from a narrow sector approach (for example, construction of feeder roads) to broader issues (such as whether the roads link markets, or who is responsible for their maintenance).

  - *Response:* A holistic analysis does not mean that interventions must be multi-sectoral. Single-sector projects/programmes may be most appropriate, but the livelihood analysis helps to determine which entry point is optimal.

- **Dynamic:** SLA considers the changing conditions of livelihoods (such as climate, government policies and institutions) and seeks to understand how they are affected over time.

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13 DFID. 1999. Sustainable Livelihood Guidance Sheets. http://www.livelihoods@dfid.gov.uk

14 SLA assumes that gender issues are mainstreamed and considered in the analysis of people's vulnerabilities, assets, etc.

- **Builds on strengths:** Interventions should start with an analysis of people's strengths (such as community structures that help people through times of crisis), rather than needs (such as relief food aid).

- **Makes macro-micro linkages:** SLA examines the influence of macro-level policies and institutions on poor people's livelihood options and identifies changes that are required to support sustainable livelihoods.

- **Encourages partnerships:** SLA may lead to activities at multiple levels (i.e. national, regional and local) depending on where the greatest leverage can be achieved. For this reason, broad partnerships are encouraged at various levels: with international agencies, government institutions, civil society groups and the private sector.

- **Sustainability:** A balance is sought between economic, institutional, social and environmental responsibilities.

Adopting elements of this approach does not necessarily require major changes in undertaking operations, but is done with the aim of ensuring that activities reflect people's needs, strengths and priorities more carefully.

The SLA Framework: a Standard Approach

A number of frameworks have been proposed to help understand the complexity of livelihoods, illustrate the linkages between different factors that influence livelihoods, and identify where interventions can be made. Most frameworks show how three interacting elements (vulnerability context; livelihood assets; and policies, institutions and processes) lead to, and are affected by, diverse livelihood strategies and outcomes. These frameworks can serve as a checklist of important issues to consider when designing an intervention. They can also be used in combination with a range of other tools and methods – e.g. participatory rural appraisal (PRA) techniques, action research, secondary data and economic analysis – to design and implement programmes.

- **The vulnerability context:** The activities people pursue and the assets that they invest in are fundamentally affected by external environmental factors (e.g. exposure to shocks) over which they have limited or no control. The vulnerability of a household is determined by its exposure to shocks and its ability to cope with or manage them.

- **Livelihood assets:** People draw on a range of assets to achieve positive livelihood outcomes. No single category of assets on its own suffices to yield all the varied livelihood outcomes that people seek. The assets identified are:

1. ***Human assets:*** the skills, knowledge, ability to labour and good health of people.
2. ***Social assets:*** the social resources that people draw on in pursuit of their livelihood objectives, such as social networks or formal and informal groups.
3. ***Natural assets:*** the natural resource stocks (e.g. land, forests, water) from which resources and services (e.g. nutrient cycling, erosion protection) useful for livelihoods are derived.
4. ***Physical assets:*** the basic infrastructure and producer goods needed to support livelihoods, such as roads and railways, buildings (including shelter), water supply and sanitation and access to information (communication).
5. ***Financial assets:*** the financial resources that people use to achieve their livelihood objectives, such as savings, money flows (cash or goods, from wage labour, remittances, etc.) and access to formal or informal credit.

- **Policies, institutions and processes:** The institutions, organizations, policies and legislation that determine access to the various assets, the terms of exchange between types of assets and the returns to any given livelihood strategy.

- **Livelihood strategies:** The range and combination of activities that people undertake to achieve their livelihood goals. People often combine three main livelihood strategies to meet their various needs at different times: natural resource based, non-natural resource based and migration to seek other sources of income. Understanding the variations in livelihood strategies that may exist across ethnic groups, households and individuals is important to tailoring interventions appropriately.

- **Livelihood outcomes:** The achievements (both improvements and deterioration) that indicate how successful households are in pursuing their livelihood strategies. This incorporates ideas of "sustainability" and the development of indicators to monitor or evaluate progress towards the elimination of poverty.

Key Lessons

Although literature on the field use of SLA is not extensive, some initial experiences have been reported on its use and benefits in development activities:

SLA changes project focus: When designing watershed management projects in India, the livelihood approach identified that a small, powerful minority was able to deprive the disempowered majority of their entitlements. Villagers who seasonally migrated to non-agricultural jobs were subject to exploitation (e.g. high travel/accommodation costs and low wages) by building contractors. It was further concluded that a project based on building up and increasing agricultural

productivity might impact positively on the poor as labourers or as users of common property resources, but that most of the benefits would go to the better-off farmers. Thus, use of the SLA framework changed the basic nature of the project away from classical watershed development to what was called "watershed plus".[15]

SLA improves project design: Using SLA allowed programme staff to explore power relations in Oxfam's work. The use of SLA improved analytical skills and skills in participatory techniques in planning, monitoring and evaluation of the projects in Viet Nam and Mozambique.[16]

General conclusions from the application of SLA

In many cases, poverty is not rooted in the poor productivity of natural resources per se, but is the result of a complex web of historical, political and social relations.

SLA shifts the design away from being resource-focused to being people-focused, with natural resource management (e.g. watershed development) an outcome of sustainable livelihoods.

ISSUE 2: TENURE, NATURAL RESOURCE MANAGEMENT AND SUSTAINABLE LIVELIHOODS

Introduction

Rights to use and control natural resources have important implications for food security and sustainable development. However, the rights are often unclear or non-existent, especially for the poorest and for other marginalized groups. The challenge is to define and distribute these rights so that all groups can make claims on their rights. Crucial to extending benefits to the poorest are the issues related to resource access and control.

WFP has introduced a number of measures to strengthen women's advantage with respect to improving access to and control over assets including land, among them the Commitments to Women (1995) and the Executive Director's Directive, Women's Access to Assets, Including Land, in WFP-Assisted Activities (2001). Understanding tenure is a critical element in realizing these policy objectives. This section will summarize tenure issues as they relate to WFP natural resource and livelihood activities.

15 Turton, C. 2000. *Sustainable livelihoods and project design in India.* Working Paper 127. Overseas Development Institute, London.

16 Neefjes, K. 2000. Environments and livelihoods: strategies for sustainability. Overseas Development Institute, London.

Tenure considerations are particularly important in guaranteeing the success of WFP's activities. For many people, the creation of assets, in the form of skills, capital, etc., is linked to tenure. Even the creation of natural assets – such as trees, irrigation structures and community-managed fish ponds – is shaped by tenure relations. Thus, people without rights to land and other natural resources can be severely limited in their ability to create other assets.

Key Concepts

Property Rights

Property rights confer the holder of these with the authority to undertake particular actions related to a specific domain. They determine *who* can do *what* with a particular resource and the benefits it generates, and sometimes also when and *how* they can do it. Property rights include formal (*de jure)* and informal (*de facto*) arrangements. An understanding of both types is important for community-based NRM.

- *De jure* rights are rights explicitly recognized and enforced by governments. These are formally and legally recognized. Those holding *de jure* rights can presume that if their rights were challenged in an administrative or judicial setting, they would probably be sustained.
- *De facto* rights occur in situations where resource users cooperate to define and enforce rights among themselves. They are *de facto* so long as they are not recognized by government authorities. Users who have developed *de facto* rights often act as if they had developed *de jure* rights among themselves. *De facto* rights may be recognized in courts of law but are less secure than *de jure* rights.

Tenure

To avoid overly legalistic definitions of property, the term tenure is often used. This refers to all the ways in which people gain legitimate access to natural resources for the purpose of management, extraction, use and disposal.

Security of tenure is generally used to indicate that the State or other people cannot interfere with the landholder's possession of the land. This implies confidence in the legal system and no concern about losing one's rights. Economists tend to add long duration to the confidence factor. The duration factor is related to the amount of time required to recover the cost of an investment. When tenure is too short or uncertain to recover the cost of investments, it is considered insecure.

Women in developing countries rely heavily on natural resources, in particular land,

water and forests, to meet their household food, water, fuel and medicinal requirements. They produce between 60 and 80 percent of all food and staple crops and are primarily responsible for the use and management of plants and animals. Often their access to and control over resources is highly insecure because of male domination, gender insensitive policies and legislation and inadequate local capacities. As a consequence, women face considerable difficulties in obtaining access to natural resources. Where access has been obtained, this has often been restricted to use rights and women have been excluded from control. Tenure insecurity of women in parts of Africa has been highlighted by the impact of HIV/AIDS on women's access to land following the death of their husbands. Women may lose access to land both in a legal sense, if they are unable to inherit rights from their husbands, and in a practical sense, if they are forced off the farms by male relatives.

Use and Control Rights

In practice, people often use and manage natural resources on the basis of use and control rights.

- *Use or usufruct rights* include access (authorization to enter a defined physical property, e.g. a forest) and withdrawal (authorization to obtain products of a resource).

- *Control rights* include management (to modify and transform the resource, e.g. to plant trees), exclusion (determine who may use the resource) and alienation (transfer right to others).

Individuals with access and withdrawal rights may or may not have rights authorizing participation in decision-making. This difference is crucial with respect to management, especially future natural resource use decisions.

People's Rights to Natural Resources

Increasingly over the last 15 years, resource control has begun passing from government agencies to local user groups. This is frequently referred to as community-based natural resource management (CBNRM). Joint or co-management refers to situations where the State maintains a large degree of control in resource management. However, the role of users is expanded, and in general users obtain more sustainable benefits.

The advantages of CBNRM are that:

- users have an intimate knowledge of the resource and will manage it better to meet their needs;
- users have a greater incentive in maintaining the resource since they will receive greater benefits;

- group rights and tenure security are strengthened by providing users with the necessary authorization to control their resource and defend it from encroachment; and
- users participate in the decision-making process affecting them.

This devolution is associated with State recognition of communal property rights, which has certain advantages from the State's perspective:

- it provides an "enabling environment" for user management, allowing government and communities to work together;
- it can reinforce collective action, particularly if the group earns revenue from managing and controlling the resource; and
- it provides incentives for sustainable use by giving users a long-term planning horizon.

Tenure Issues Related to Specific Resources

Land

Particularly for the rural poor in agrarian societies, land is a principal livelihood asset and the principal form of natural capital from which people maintain a living and produce food. It is also a means for investing, accumulating wealth and transferring it between generations.

Denying large segments of rural society equitable access to land and to the benefits of land tenure regularization creates unanticipated costs. It is a major contributing factor to extreme poverty, dependence, social instability, and rural migration leading to land abandonment and degradation. Women, pastoralists and indigenous people are among the land-dependent people whose livelihoods are most threatened by tenure insecurity and skewed land ownership. Conversely, it has been documented that secure property rights for both men and women lead to higher food security, health status and standard of living.

Failure to consider land tenure implications at the beginning of a programme is likely to result in unanticipated outcomes. It will probably not bring about an improvement, and in some cases, may worsen the situation – for example, by inadvertently dispossessing people of their rights to land. Situations of this kind have arisen when projects have resettled displaced people on land that has been incorrectly identified as vacant.

Forests

Generally it is the poorest and most disempowered members of a community, with the least agricultural land, livestock and labour, who derive the greater share of

their overall needs from forest products and related activities. Yet, poor rural people often lack adequate ownership or use arrangements that would legitimize their access to forests and their resources.

It is important to take legal issues into consideration even where the local community, local authorities or the State administration itself do not report any apparent legal impediments. The legislation may, for example, establish certain prohibitions, even if in practice these provisions have not been implemented, and may thus constitute grounds for future unfavourable rulings by the courts. *De facto* rights may have developed and been enforced spontaneously by the users of a resource, but they may be recognized only to a limited extent, if at all, by administration and the courts. Some rights may not even be apparent (e.g. seasonal rights to graze in certain areas), but overlooking them in the formulation of a programme activity may unintentionally cause potential conflicts. There may be ambiguities in the legal framework that have not yet had practical implications, but that may at some point acquire relevance.

Insecurity of tenure with respect to forest resource use and management isolates people from the crucial decisions that shape benefit realization. Absence of rights to select species, determine harvesting schedules, etc. means that communities do not perceive themselves as having a long-term interest in the resource, and generally leads to exploitative activities.

Water

The increased scarcity of water will almost inevitably lead to competition and conflicts between sectors or between communities. Water legislation hardly ever explicitly discriminates against one group or another, whether on ethnic, religious or gender grounds. However, implementation of legislation is often imperfect. Formal water rights systems, in principle, provide for an equitable and transparent water allocation system that is generally flexible enough to accommodate changing patterns of water use and the requirements of water management. However, there is a risk that the better-organized water users and the stronger water users (in terms of economic power) have superior access to the water right systems. The poor can lose access to or control of water in various ways, under formal and customary rights systems. In some cases, the eligibility to apply for a water right is limited to those who own land or a company; access by women might be imperilled or denied by their lack of land ownership.

Customary water laws for regulating access to water have the advantage of enough flexibility to fit local needs. However, the existence of a customary system of water rights is by no means a guarantee that there is fair and equitable access to water. In many societies, access to water resources remains under the control of the patriarch or chief of the family or of the village. In many villages social hierarchies are strong, and castes, elders and privileged groups are favoured.

Key Considerations in Natural Resource Tenure

Design considerations that influence sustainability and are important are to:

- *identify owners of the resource.* Does it belong to the State, customary or private owners?
- *identify who has rights to the resource.* Are rights clearly defined in the law and customary rules? What restrictions are present? Are customary rights legally recognized and enforceable? What use and/or managerial rights do women and other marginalized groups have?
- *identify responsible institutions and any blockages.* Which institutions are responsible for regulating use? What is the capacity of these institutions to undertake their functions?
- *identify the potential effects of a WFP intervention.* What is the effect of WFP's intervention on people's rights over natural resources? What are the potential claims over "improved" resources?

ISSUE 3: NATURAL RESOURCE CONFLICT MANAGEMENT

The Importance of Natural Resource Conflict Management

Access to and control over the use and distribution of benefits from renewable natural resources are at the centre of natural resource conflicts.[17] If not addressed, these conflicts can cause environmental degradation, undermine precarious livelihoods and escalate into violence. While natural resource conflicts are not direct causes of violent conflict, there is evidence in Rwanda, Bosnia and Sri Lanka, for example, that community-level natural resource conflicts were one of several interrelated factors that contributed to armed conflicts.

Conflict does not always mean violence. There are many non-violent forms of conflict in the management of, access to and control over natural resources. These include conflict between men and women, between traditional users and those with legal rights, and between local communities and government authorities. Non-violent conflicts, which may take place in the home or village meeting hall, can be harder to identify than armed conflict and, while less insidious, can equally undermine development programmes.

Policies and programmes may either reinforce existing sources of tension or act as agents of change to address many of the needs and concerns that fuel discontent and tension. In fact, the process by which an intervention programme tries to conserve existing natural resources and create new natural assets can make hidden tensions become overt conflict. Poorly planned development activities may create

17 This issue applies specifically to renewable natural resources, although many of the elements are applicable to the use of non-renewable natural resources.

conflict by realigning community power structures, changing its natural resource practices, or recasting gender and social roles. Thus development activities that do not consider conflict-related issues may create problems for a community rather than aid it, and in the process make the intervention unsustainable and ineffective.

When designing programmes, conflict anticipation and management should be an integral part of the programme cycle: from the idea and design phase, during implementation and then in ongoing monitoring and redesign. This requires an analytical framework that combines vulnerability analysis and stakeholder analysis to understand the nature, origins and dynamics of resource use and points of conflict.

How Natural Resource Issues Contribute to Conflict

- **Decreasing resources.** The decreasing quality and quantity of renewable resources through human activities cause degradation or exacerbate natural occurrences such as climate change or extreme weather events. For example, since 1970, per capita arable land in sub-Saharan Africa has declined from about 0.5 ha per person to less than 0.3 ha per person. The combination of erratic rainfall, fluctuating productivity and constantly increasing demands from growing populations has led to the overexploitation of the natural resource base in many countries there.

- **Degradation of resources.** Degradation of resources is often induced by environmental change (such as crop failure caused by drought, flooding or an outbreak of insect pests), or by management practices that emphasize short-term gains at the expense of sustainability. For example, the combination of successive droughts and soil erosion in many parts of sub-Saharan Africa has resulted in pastoralists migrating to semi-arid and subtropical regions settled by farmers, contributing to conflict between pastoralists and farmers.

- **Demographic shifts.** Population growth and density have increased pressure on natural resources such as land and water. For example, the emigration to India of Bengalis looking for additional agricultural land has increased ethnic, religious and political tensions.

- **Increasing consumption levels.** As people become wealthier, their consumption patterns change. Increased income is almost always associated with increased calorie consumption, and also with a change in the source of those calories, from cereals to meat and fats. This increases the demand on scarce natural resources (such as wood, land and water) for construction and agricultural productivity.

- **Multiple-use function of resources.** Finding a balance between short-term poverty alleviation needs and longer-term resource conservation considerations is not easy, as the needs of each are often divergent. This is illustrated by the common conflict between wildlife conservation and local farmers. Land, forests and waterways are also part of particular ways of life (farmer, fisherman, logger,

rancher, etc.), ethnic identities (e.g. pastoralist or farmer) and gender and age roles. These symbolic dimensions to natural resources can have enormous significance in the management of those resources.

- **Developmental pressures.** Large cash crop farming projects, logging, power generation, mining and oil development frequently result in the marginalization of the local population, cutting them off from their traditional subsistence practices and pushing them on to more marginal lands.

- **Poor development policies.** Development policies that fail to address the needs and aspirations of the various stakeholders properly can exacerbate existing tensions. In particular, policies that increase inequality or discrimination are likely to result in increased environmental stress, as those who are marginalized by the policies seek to improve their situation (or at least make sure that the situation of others does not improve at their expense).

Avoiding Conflict in Interventions

- **When new assets are created,** disagreements may arise over who will obtain the short- and long-term benefits from those assets. For example, the benefits from a community woodlot may include highly valued products: fuelwood, fodder and fruit to meet food needs, poles for construction and, eventually, timber for sale.

- **When activities result in changes to existing rights, including access to or control over natural resources,** some individuals or groups may be negatively affected.[6] For example, pastoralists may be excluded from previously accessible grazing lands to allow for the re-establishment of forests. WFP is particularly interested in issues related to access to and control over natural resources for women and marginal groups. When women gain greater access and control, tensions can arise with male members in a community and within their households.

Key Considerations in Managing Natural Resource Conflict

When managing conflict related to natural resource management, it is important to:

- understand existing social structures, including social tensions, so as to be able to anticipate when a proposed intervention, particularly one intended to develop the natural resource base, might help create community tensions and conflicts or worsen existing ones;

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18 For more information, refer to the background papers for discussion of issues related to access and entitlements over forests, land and water.

- be able to identify sources of conflict management expertise that can alleviate a situation when it is beyond the competence of the organization to manage;
- disengage if an intervention is likely to cause long-term problems;
- recognize how different approaches to activity design and implementation can increase or decrease tensions and conflicts, and take appropriate actions to reduce their likelihood; and
- identify all groups who have a right to or interest in the use of the natural resource base and try to reach consensus among the various groups on how to develop and manage the resources under consideration. This process consists primarily of stakeholder analysis, or identifying all the main actors who may have an interest in the use of these natural resources, at both the macro and micro levels, together with the patterns of interaction between those actors. Based on the analysis, terms of agreement are negotiated between all interested parties on the use and ownership of the resources in question.

Chapter 4

Setting Action Boundaries

Chapter 4

Setting Action Boundaries

INTRODUCTION

This chapter provides key principles to guide you and WFP's partners in programming Enabling Development Objective 5. It also presents specific strategies for effective, sustainable programming of NRM and livelihood activities that will be explored in detail in the subsequent chapters.

GUIDING PRINCIPLES

The following guiding principles clarify and expand upon the Enabling Development policy and apply directly to NRM and livelihood activities. The principles should be viewed as a set. Consistent application will lead to better planning, design and monitoring of NRM and livelihood activities.

1. **Use food aid to address: (i) immediate food consumption problems for people dependent on natural resources; and (ii) potential food consumption problems for people whose livelihoods are at risk because of unsustainable NRM practices**

   Poor rural families continually manage trade-offs between short-term food supplies and longer-term sustainable food production. Increasing population pressure, poverty and hunger can reduce opportunities so that people have no other choice but to degrade their natural resource base.

   In programming NRM and livelihood activities, WFP will use food aid to: (i) address the immediate food needs of people who can no longer obtain sufficient food from lands, forests and waters; and (ii) enable these people to secure their livelihoods by strengthening or diversifying livelihood strategies.

2. **Understand food consumption gaps and match quantities of food aid with activities that will address food gaps**

   When programming NRM activities, there is a tendency to allocate food on the basis of quantities of work undertaken rather than on the food gap.

When programming NRM and livelihood activities:

- food gaps must be understood and considered more broadly. Food gaps are not only seasonal, but may also arise out of social, economic and cultural obligations (e.g. debt payments or weddings);
- the level of food given may not necessarily be tied to work norms or wage rates;
- activities may need to be better timed to ensure that food assistance is provided before or coincides with the periods when households experience food shortages;
- more than one activity may be needed to address the food gap; and
- food may not be required on a regular basis; however, a one-time provision of food may not be sufficient.

Seasonality will need to be understood within the local context. While the technical requirements of NRM activities must be strictly adhered to for sustainability reasons, other types of activity may need to be programmed simultaneously in order to provide the right quantities of food as required.

3. Place women at the centre of NRM and livelihood programming

Traditional NRM programmes tend to perpetuate the exclusion of women from decision-making and access to and control over natural resources. Yet women are often the main managers and protectors of natural resources. In addition, many of the products they make or care for are essential for their household's food and livelihood security.

In an attempt to meet the WFP Commitments to Women, women are often actively involved in NRM activities, but the fundamental imbalance in access to and control over natural resources remains problematic. The Executive Director's Circular, Women's Access to Assets, Including Land in WFP-assisted Activities, is an important step towards redressing women's access to and control over natural resources.

However, women's greater access to and control over natural resources will require proactive actions to remove blockages to asset tenure, in particular land, decision-making and women's participation in WFP-assisted activities. Securing greater access to and control over natural resources requires a genuine understanding of women's priorities and concerns and identifying activities to address these concerns rather than trying to fit women into traditional NRM programmes.

4. Promote complementary linkages and inter-sectoral approaches

NRM activities have tended to be programmed from a single-sector perspective. However, NRM activities alone do not address all of the reasons that keep people from appropriately managing natural resources and securing their livelihoods.

Experience has shown that NRM activities must be linked with education, health, and nutrition and sanitation activities. Improving people's basic living conditions is dependent on multi-sectoral linkages, which sometimes can be achieved simply by reorienting the objective of a particular activity. Programming under Enabling Development Objective 5 will facilitate these linkages by:

- increasing understanding of the factors that positively and negatively affect people's livelihood security, including social, economic, political, and institutional factors; and
- linking Enabling Development objectives with nutrition, education, health, environment and income-generating objectives.

5. Proactively remove blockages to people's access to and control over natural resources

NRM activities have traditionally been planned and designed based on technical and biological considerations. But increasing emphasis is now being placed on social factors, for example through the introduction of participatory or community-based activities. These approaches generally do not go far enough to address key blockages, in particular those of a political, legal, social and institutional nature, which are the fundamental reasons that prevent people from accessing and controlling natural resources.

Effective programming under Enabling Development Objective 5 will need to consider these blockages. It is also important to understand how these blockages can contribute to conflict over scarce natural resources by understanding the reasons for insecure entitlement, inequitable user rights and discrimination against vulnerable groups and by including these factors in assessment and monitoring practices.

6. Support resettlement activities only on the basis of a careful analysis

In many situations, conditions affecting people and local residents in resettlement situations have not been adequately considered. Questions such as: "Do people want to leave?" and "Is the area of resettlement productive enough?" are central to the effective planning and design of resettlement activities.

Support to settlement or resettlement programmes will be based upon a thorough analysis of the social, political and biological conditions affecting settlement/resettlement.

7. Adhere to international labour standards

Programming for NRM and livelihood activities will adhere to international and national standards and conventions, taking into consideration:[19]

19 Convention on the Rights of the Child, ILO Conventions.

- the harmful effects to health or development;
- the need to ensure that workers are above the minimum age at which they can enter employment; and
- that activities do not interfere with education (with special attention given to girls).

STRATEGIES FOR PROGRAMMING OBJECTIVE 5

Once a decision has been made to programme activities under Enabling Development Objective 5, a number of different activities can be implemented depending on what specific NRM and livelihood constraints people face. A solid starting point is to determine which are the most pressing problems (e.g. health and nutrition or declining natural resource productivity) and which strategy can address these problems.

Six strategies are suggested to address specific constraints faced by people living in marginal areas (e.g., low agricultural productivity, poor health and nutrition, and low level of women's access to natural resources). These strategies will guide you in selecting specific activities.

The strategies and activities listed below are not exhaustive. Rather, they provide a starting point for identifying approaches and activities to strengthen people's livelihoods through sustainable NRM and livelihood diversification, building on and strengthening WFP's current menu of activities. In some cases, different strategies may have similar activities, but address different problems.

The identified strategies are:

Strategy 1 Strengthening livelihoods by increasing the efficiency and/or productivity of natural resource management;

Strategy 2 Improving women's access to and control over natural resources and activity benefits;

Strategy 3 Strengthening livelihoods by introducing nutrition and health elements in natural resource management activities;

Strategy 4 Strengthening livelihoods by mitigating the effects of natural hazards;

Strategy 5 Strengthening livelihoods through the conservation of biological diversity; and

Strategy 6 Settling/resettling people to enable them to develop sustainable livelihood strategies.

In the subsequent chapters (Chapters 5 – 10), each strategy is discussed in detail, with information provided on:

- examples of NRM and livelihood conditions that suggest when a programme approach based on this strategy may be appropriate;
- a description of the problem that the strategy is intended to address;
- the role of food aid in addressing these problems;
- possible activity areas;
- expected results and outcomes;
- detailed examples of specific activities, including possible outcome indicators;
- programming considerations, including, in most cases, discussion of relevant design and monitoring and evaluation (M&E) factors; and
- sources of technical assistance for activity design.

This information provides the basic elements of an activity logical framework. The effective use of these elements relies on developing a common understanding of the problem among stakeholders in particular target groups and then applying the suggested elements adapted to each specific context. Vulnerability analysis and mapping (VAM), in conjunction with the analytical framework in Chapter 11, are useful tools to help arrive at appropriate programming entry points.

Chapter 5

Strategy 1: Strengthening Livelihoods by Increasing the Efficiency and/or Productivity of Natural Resource Management

Chapter 5

Strategy 1: Strengthening Livelihoods by Increasing the Efficiency and/or Productivity of Natural Resource Management

A programme approach based on this strategy may be appropriate when the following conditions occur:

- Low benefits (production levels) with high costs (labour, fertilizer inputs)
- Shortages of forest products, especially fuelwood and forest foods
- Over-reliance on high-input species and species not adapted to local conditions

PROBLEM

Unfavourable agro-ecological conditions, exposure to droughts and pests, poor quality seeds and inefficient NRM practices constrain production in marginal lands. Where people's livelihoods are highly dependent on natural resources, food availability is highly variable, often insufficient to meet minimum kilocalorie and nutritional requirements. Inefficient agricultural practices also mean that agricultural production absorbs an important proportion of labour time, thus leaving little opportunity for livelihood diversification. The precarious nature of these areas has meant that national-level strategies aimed at increasing agricultural production have generally excluded marginal lands – governments and donors alike expect higher returns on their investments. Where programmes have tried to increase productivity on marginal lands, inappropriate or high levels of inputs have often been supplied.

By increasing the productivity and/or efficiency of agricultural practices, staple and cash crop production can be increased and time allocated to other productive activities. In this way livelihoods can be improved, diversified and made more

secure. However, changing agricultural practices does not always yield an increase in productivity and livelihood security in the long term. For example, high levels of chemical fertilizer lead to a decrease in productivity and livelihood security in the long term.

Water scarcity and soil degradation: Insufficient water and poor soil quality are key constraints to production in marginal areas. Where irrigation is not available, agriculture depends on rainfall (rainfed agriculture) and is therefore susceptible to variations in rainfall. Overexploitation of natural resources and the application of inadequate practices (mainly inappropriate soil tillage and preparation) for the management of soils cause a rapid physical, chemical and biological deterioration of the soils, with detrimental effects on both food production and the environment.

Poor quality species: Farmers on marginal lands are often unable to invest in higher-yielding species and are compelled to use sub-optimal varieties. Attempts at introducing improved varieties have not always been successful because:

- high-yielding varieties have not often been available for staple foods, which are the most widely cultivated crops on marginal lands;
- high-yielding varieties have been developed without involving farmers and have resulted in low levels of adoption because they did not correspond to farmers' priorities; and
- increased production was equated with increased income. However, the income effect of increased production may be dampened when (i) access to markets is limited; or (ii) increased production is not matched by an equal increase in demand. This can lead to a decrease in price and thereby income.

Inefficient crop management: Crop-management practices are often inefficient, requiring high levels of labour input for low outputs. As a result, production is insufficient to meet people's needs and farmers have little time for other productive activities. Attempts at increasing agricultural productivity have often focused on innovations for large-scale agriculture (e.g. tractorization) and therefore have not been appropriate to the smaller-scale farmers in marginal areas. Lack of access to information, technologies and financial resources, or inability to take risks associated with adopting new practices, also restrict adoption.

Effects of HIV/AIDS: The HIV/AIDS-induced loss of adults in their most productive years and the effects on labour-intensive farming systems are increasingly recognized as a potential threat to longer-term food security. Households who have lost adults to HIV/AIDs often experience:

- reduced agricultural productivity because of labour shortages;
- loss of household income and asset depletion;
- changes in access to and control over natural resources; and
- loss of knowledge (agricultural, management, marketing, etc.), skills and experience (for example, adults die before having transmitted knowledge of agricultural practices to their spouses or children).

The reallocation of labour within the household may mean less time for labour-intensive agricultural activities, or adults may be forced to take children out of school, in particular girls, to share the workload. Also, there is a substantial risk that, in the face of HIV/AIDS, poverty and declining food security force rural households to adopt unsustainable natural resource practices in order to meet their immediate food and income needs. People are more likely to deplete their assets and use natural resources in unsustainable ways, because they require cash or have no time to devote to labour-intensive management practices. Families with sick members require cash to pay for immediate food needs and medical expenses. Thus, they have almost no resources to buy expensive inputs such as fertilizer or drought-resistant seeds.

ROLE OF FOOD AID

Meeting short-term food consumption needs:

- allows valuable time to be directed to labour-intensive measures that would otherwise not be carried out (e.g. slope terracing);
- enables investment in longer-term asset production and preservation to increase productivity; and
- reduces risks associated with introducing new species and agricultural practices.

ACTIVITY AREAS

Water conservation and management: Water conservation and management to reduce seasonal droughts and erosion caused by excessive runoff is critical to increasing production on marginal lands, particularly in drought-prone areas. Key considerations include:

- irrigated land allows higher cropping intensities and yields without expanding cropping in rainfed areas. The latter is costly and carries higher risks of environmental degradation – soil erosion and deforestation – and generally has low agricultural returns;
- water security is often a prerequisite for the adoption of biotechnological innovations and improved seed varieties, which frequently require higher water availability than is common on marginal lands;
- small-scale water-management interventions often work best. A village micro-dam, new hand pump or training in marking out contours are often less disruptive and more productive than most large-scale irrigation schemes to improve rainfed yields.[20]

Water conservation increases productivity by (i) preventing water-led erosion, thus improving soil fertility; and (ii) increasing availability of water for irrigation.

20 Carswell, G. 1997. *Agricultural intensification and rural livelihoods: a think piece.* IDS Working Paper 64. IDS, UK.

Improving management of natural resources: Improving the management of natural resources means increasing the sustainability, productivity and efficiency of practices. This contributes to more diversified and sustainable livelihoods by freeing time for other activities. Sustainability often involves low levels of inputs and emphasizing natural processes that do not damage the environment (e.g. integrated pest management). Increasing the efficiency of husbandry (e.g. through mechanization) may not lead to an increase in production but to a decrease in labour hours.

Soil management: Improved soil management for agriculture creates favourable conditions for seed germination, root growth, plant development and grain formation and helps combat erosion-induced degradation. Measures can include the use of selected tillage methods along with complementary soil management and conservation techniques such as terracing, manuring and agroforestry. Together, these can contribute to good seed bed preparation and towards removing certain limitations that affect soil productivity such as compaction, insufficient infiltration or poor drainage and extreme soil temperatures. Soil conservation reduces erosion, thereby maintaining or increasing soil fertility. This increases productivity and consequently food availability. Other secondary impacts include the diversification of food products, e.g. through agroforestry.

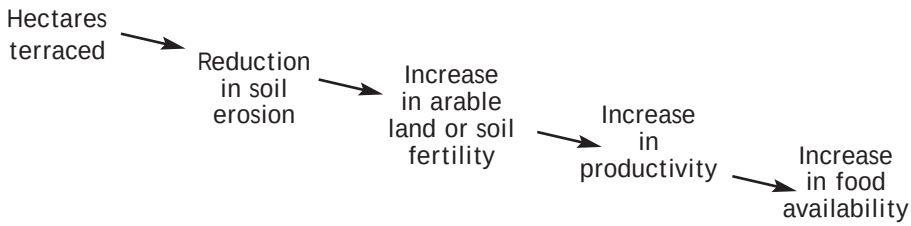
Improving species: Pest and drought-resistant and other high-yielding varieties can contribute to stabilizing and increasing productivity by reducing losses and increasing output per unit area. The input and agro-ecological requirements of new varieties need to be considered. Marginal areas are often characterized by low soil fertility, limited irrigation and resource-poor farmers who cannot afford high levels of inputs (e.g. chemical fertilizers, pesticides) required by certain crops. Under these circumstances, greater attention ought to be placed on:

- involving farmers in the selection of improved varieties;
- developing higher quality native varieties that require limited inputs; and
- training farmers to improve the quality of their seeds.

Productivity is increased by (i) reducing losses caused by stress such as droughts; and (ii) using varieties that provide higher yields.

EXPECTED RESULTS/OUTCOMES

The nature of the suggested activities, particularly those related to soil and water conservation, implies a long-term perspective to achieve results. Indicators need to be selected so as to capture the progression of expected results over time. For example, indicators for a soil conservation activity, such as terracing, could measure the following progression of results:



Activity Area: Water Conservation Measures

Activities	Purpose and description	Examples of outcome indicators
Water harvesting/ storage	• Typically involves collecting rainwater over a large area of non-agricultural land and using it for irrigation. Locally appropriate techniques differ and should be investigated.	• Increased variety of crops (e.g. vegetables) • Increased crop yields
Irrigation systems	• Through the construction of appropriate dikes, gabions or embankments, water can be channelled to agricultural lands.	
Reforestation of catchment areas	• Increased vegetation in water catchment areas increases the water absorption in times of rain.	

Activity Area: Improving Management Practices

Activities	Purpose and description	Examples of outcome indicators
Integrated pest management	• Reduces pest-induced losses and increases the sustainability of farming systems. Relies primarily on environmentally benign processes and thus increases ecological sustainability.	• Reduced pest infestation • Reduced use of pesticides
More efficient production practices	• Simple machinery can reduce labour time required for certain tasks. Similarly, practices such as conservation tillage reduce labour time required for soil preparation.	• Increased income sources

Activity Area: Soil Conservation Measures

Activities	Purpose and description	Examples of outcome indicators
Terracing	• Creation of flat –land steps on hillsides to prevent erosion of fertile soil and retain water.	• Reduced soil erosion • Increased yields • Increased production of wood and non-wood tree products
Land levelling	• Levelling of slightly to moderately hilly agricultural areas. This decreases the effort required for ploughing, increases the area potentially viable for agriculture, prevents soil erosion and retains water.	
Reforestation with regionally appropriate tree species	• Planting of locally adapted tree species contributes to maintaining and restoring soil fertility and increasing water absorption.	
Green manure and composting	• Layering of non-decomposed vegetative material on topsoil increases soil fertility. Composting involves mixing a variety of organic materials away from the planting land, with the idea of future incorporation.	
Locally adapted ploughing techniques	• Depending on the climatic zone and land contour, flat-land ploughing, contour ploughing or other techniques may be appropriate.	
Intercropping	• Through planting complementary crops in one field, the productivity increases along with the soil fertility. Examples are beans and maize, tomatoes and some squash varieties.	
Live-barrier creation	• The planting of tall trees around agricultural land can decrease the damage from high winds. Also, planting of some varieties of flowers and plants can decrease attacks from ground-vector insects.	
Agroforestry	• Cultivation of trees is a low-cost means of protecting land and increasing its productivity. Trees require lower labour inputs than other crops and provide benefits including shade for crops and animals, protection from wind and water erosion and enriched soil through leaf manure and nitrogen fixation.	
Conservation tillage	• Involves minimizing soil tillage and leaving crop residues on the surface. Reduces soil erosion and increases water infiltration.	

Activity Area: Improving Species

Activities	Purpose and description	Examples of outcome indicators
Planting fast-growing and resistant species Advocating for research on improved species of staple crops	• Yields can be increased through introduction of locally appropriate fast-growing species that are resistant to pests and droughts.	• Reduced crop losses from pests or droughts • Use of shorter growing season crops • Increased crop yields • Increased staple crop yields

PROGRAMMING CONSIDERATIONS

Design

At the design phase, the following need to be identified:

- areas exposed to soil degradation and water scarcity;
- factors contributing to soil degradation;
- agricultural potential and constraints;
- land, water and forest tenure arrangements affecting women and men;
- local knowledge (women's and men's) of soil and water conservation;
- locally adapted species and those that are preferred by women and men;
- technical inputs from specialists; and
- women's potential role in conflict management.

Other factors to consider in design are:

- *Access to markets and fair terms of trade:* People's ability to sell surplus production and purchase food will depend on their ability to access markets and engage in fair terms of trade. This may require complementary assistance to road construction and education respectively.
- *Complementary activities:* Efforts to increase the efficiency and productivity of agriculture may require certain activities. For example, research has shown that higher levels of education are associated with higher rates of technology adoption.
- *Seasonal demands on labour:* When introducing new technologies and species, attention must be paid to the labour demands that these imply to ensure compatibility with the labour supply.

Monitoring and Evaluation

During implementation, the following issues need to be reviewed:

- appropriateness of conservation and agricultural practices introduced with respect to environmental and production impact and adoption by farmers;
- appropriateness of species introduced;
- competence of extension agents;
- distribution of benefits from activities, disaggregated by gender, age and ethnicity; and
- conflicts over resources and benefits generated.

Crosscutting Issues

Tenure: Security of tenure is essential in ensuring that people have the incentive to make productivity-enhancing investments, particularly if these only provide benefits in the long run. Research has also shown that tenure security is a crucial determinant of technology adoption. If tenure over resources is insecure, people will have limited incentives to manage these sustainably. Women and men, as well as different groups within a community, may have unequal rights over resources. Attention needs to be paid to the rights that are associated with certain species and what rights are conferred on both men and women.

Benefit-sharing arrangements: Since men and women may have different (customary) rights over different species, it is important to identify, when selecting and introducing new species, how men and women will benefit from different species and the potential income these may generate when marketed. Moreover, power relations within a community will affect the distribution of benefits at the community level and merit attention.

Conflict: There may be competing interests between different interest groups over the use of resources. This can lead to conflicts at the time of activity selection. For example, women may prefer improved species of staple crops whereas men may be more interested in improved species of commercial crops.

Laws, policies and institutions: Laws may restrict harvesting and/or marketing of certain crops, trees and tree products. Potential restrictions need to be identified when introducing crops and trees. In addition, formal and informal institutions regulating resource tenure and labour should be understood.

Participation: In the past, failure to adopt new technologies and practices can be partly attributed to failure to incorporate the preferences of end users. Participation can also help ensure that indigenous knowledge on conservation of natural resources and appropriate species is incorporated into programming.

Women: In most parts of the world, women are the main producers in rainfed agriculture. To be sustainable, these activities need to include women and be adapted to their specific needs. Women need to have access to these inputs, otherwise technical solutions to water problems may not be viable.

From Food Scarcity to Restored Livelihoods in the Highlands of Peru

In the more remote Sierra (highland valley and plateau areas) districts of Peru, the predominantly indigenous communities struggle to survive on a very fragile resource base. The soils are poor and highly erodible, and weather conditions are severe. Food grain production has been stagnant since 1970. To respond to this food and ecological crisis, WFP has provided assistance to the poorest subsistence farm households in these indigenous communities.

Indigenous communities in Peru were trained in improved practices for the management of Andean crops and in rehabilitating micro-watersheds. Women's committees were set up to increase women's participation in soil conservation work. Soil conservation activities, including the rehabilitation of traditional bench and stone terraces, gave positive results: the amount of improved farmland increased by 30 percent, productivity increased by 20 percent. Partly as a result of the ability to sell some of the excess yields, household income increased by an average of 12 percent. Most importantly, household consumption of foods increased by 15 percent overall.

Uses of multi-purpose trees

Ximenia americana	Used as food (edible fruit pulp for fruit, jellies, beer, kernel, oil, leaves, petals), fuel (fuelwood, charcoal), wood, browse, seed meal, hedges, medicine (for dysentery, etc.)
Acacia albida	Used as fodder, medicine (for coughing, fever and diarrhoea), land improvement (humus, nitrogen source, soil improvement), other uses (fuelwood, charcoal)
Oxytenanthera abyssinica (bamboo)	Used as beverage (alcohol and wine), fibre (for baskets), building materials (furniture, house construction, fencing), other uses (soil erosion control, rehabilitation of degraded sites)
Acacia tortilis	Used as fuel (fuelwood, charcoal), fodder (fruits, leaves, new shoots, seedlings), fencing, other uses (needles, clothes)

SOURCES OF TECHNICAL ASSISTANCE

World Overview of Conservation Approaches and Technologies (WOCAT)
Internet: www.wocat.net
Email: wocat@giub.unibe.ch

A project of the World Association of Soil and Water Conservation (WASWC) in collaboration with several institutions and coordinated by the University of Bern, Switzerland. It aims to promote the integration of successful soil and water conservation approaches and techniques in land-use systems worldwide. WOCAT aims to obtain insight into elements of soil and water conservation that have been successful under certain conditions and elements that were considered failures.

Land and Plant Nutrition Management Service, Food and Agriculture Organization of the United Nations
Internet: http://www.fao.org/ag/AGL/agll/
Email: parviz.koohafkan@fao.org

This Service is responsible for programmes and activities related to integrated planning and management of land and plant nutrient resources, enhancement of soil fertility and land productivity for food production and other social and environmental services of land. It promotes sustainable land use and land development policies, strategies and technologies, and integrated management of soil, water and plant nutrients, including the efficient use of fertilizer.

Water Resources, Development and Management Service, Food and Agriculture Organization of the United Nations
Internet: http://www.fao.org/ag/AGL/aglw/
Email: reto.florin@fao.org

A Service concerned with sustainable use and conservation of water in agriculture. It assesses water resources and monitors agricultural use; assists in water policy formulation; and promotes irrigated agriculture and efficient water use through management innovations, modernization and institutional reforms. The programmes and activities of the Service include development of water resources through small-scale irrigation and appropriate water control technologies; best practices for sustainable water use and conservation; and the avoidance and mitigation of environmental effects of water development.

Seed and Plant Genetic Resources Service, Food and Agriculture Organization of the United Nations
Internet: www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPS/
Email: Michael.Larinde@fao.org

The Service provides technical advice to FAO member countries on seed and planting material improvement and production programmes and policies, including seed security, exchange, testing, processing, quality control, storage and utilization. It assists and advises on conservation and sustainable utilization of plant genetic resources.

Plant Protection Service, Food and Agriculture Organization of the United Nations
Internet: http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/
Email: niek.vandergraaff@fao.org

This Service promotes effective plant protection that is safe to human health and the environment, so as to avoid or reduce crop losses caused by plant pests during growth, in transit and in storage. It aims to reduce the number of emergency situations caused by transboundary pests.

International Food Policy Research Institute
Internet: www.ifpri.cgiar.org
Email: R.Pandya-Lorch@cgiar.org

Research at IFPRI concentrates on economic growth and poverty alleviation in low-income countries, improvement of the well-being of poor people, and sound management of the natural resource base that supports agriculture. IFPRI seeks to make its research results available to all those in a position to use them and to strengthen institutions in developing countries that conduct research relevant to its mandate.

Intermediate Technology Development Group
Internet: www.itdg.org

The ITDG supports development of low-input, sustainable agricultural approaches. ITDG's work with small-scale farmers and pastoralists aims to help them increase their food production capacity in order to achieve sustainable livelihoods in the context of a rapidly changing global food system. With farmers in East Africa, Latin America, southern Africa and elsewhere, ITDG assists communities to develop and improve low-input, sustainable agriculture.

Chapter 6

Strategy 2: Improving Women's Access to and Control Over Natural Resources and Activity Benefits

Chapter 6

Strategy 2: Improving Women's Access to and Control Over Natural Resources and Activity Benefits

A programme approach based on this strategy may be appropriate when the following conditions occur:

- Low levels of female land ownership or unequal distribution of natural resources between men and women
- Low levels of productivity in agricultural/livestock production activities undertaken by women
- High numbers of hours per day spent by women and girls to collect fuelwood or water[21]
- High percentages of women and girls involved in labour-intensive food-for-work activities

PROBLEM

Overview

Women in developing countries rely heavily on natural resources – land, water and forests – to meet their household food, water, fuel and medicinal requirements. In some parts of the world, they produce between 60 and 80 percent of all food and staple crops, and are primarily responsible for identifying, preserving and managing plants and raising small livestock.[22] These tasks often require large amounts of time and heavy labour (e.g. weeding, harvesting, transport, storage and processing of crops; and collecting water and wood for cooking).

21 The UNDP Human Development Report, 2000 states that in rural areas of selected developing countries women work 20 percent more time than men.

22 CIDA. 2000. *Towards a healthy, well-nourished world.* Discussion paper.

Natural resource degradation increases the time women spend meeting their family's food, water and fuel needs, time that could be put towards more productive activities. In particular, women are affected by:

- limited access to and control over natural resources, including secure land tenure;
- increased time spent on subsistence-related activities because of deteriorating environmental conditions that reduce agricultural and animal productivity;
- low literacy and skill levels that prevent adoption of improved technologies, involvement in micro-enterprises or the securing of land tenure;
- cultural practices that limit women's participation in marketable activities (e.g. marketing of produce or growing of certain crops);
- poor access to extension services that provide information and inputs on new technologies, plant varieties and cultural practices. (Women's access to extension services is approximately 1/20th of that of men worldwide[23]);
- limited access to suitable tools or other inputs (e.g. because of lack of credit for purchasing inputs or certain tools not being designed for women); and
- reduced availability of labour as a result of disease, death, armed conflict, or seasonal and longer-term migration of men.

Problem areas

WFP's experience with NRM activities highlights the following problem areas:

1. Access to and control over natural resources

Women in many cultures are particularly disadvantaged in terms of their access to and control over land, water and forest resources, and in obtaining the benefits from assets created with WFP support.

- In many countries, law or custom prevents women from owning or inheriting land and they may only rent land or gain use rights through marriage. In other countries, where women do have ownership rights protected through legislation, custom can threaten these rights. For example, communities that now experience land shortages or rapidly increasing land values may be unable or reluctant to prevent male relatives from claiming land over which women have rights. This may pose a particular problem for widowed or single women.
- Unless women's rights are specifically protected when formal land titling and registration procedures are established (e.g. as part of land reform), legal documents may provide rights only to the household head – usually a man.[24]
- Similar inequalities regarding tenure and access also exist with regard to water and forest resources. For example, women's water rights are often subordinate to those of their husbands, and their needs usually receive lower priority than those

23 FAO. 1995. SD *Dimensions Plan of Action for Women in Development*. Food and Agriculture Organization Conference, Twenty-Eighth Session. Rome.

24 Please refer to the technical background documents on land, water and forest tenure for more information.

of men. Women may hold exclusive rights to certain parts of a tree such as its leaves and fruit while the tree itself remains the property of a man.
- Women often lack access to what they produce and, in some regions, are not allowed to go to markets or sell selected crops.
- Women tend to be excluded from decisions regarding asset creation, maintenance and sharing of benefits (including the use of generated funds). In addition, they are often not given equal shares of activity benefits, for example fodder, fuelwood and some species (e.g. sal, teak and bamboo).
- Some types of natural resource production activities negatively change women's traditional patterns of access to resources.

Another issue is the potential effects of death of male family members caused by HIV/AIDS on women's control over natural resources, in particular patterns of land ownership. In societies where men traditionally own land, women face two major problems with the death of a husband: the inability to inherit land and "land grabbing" by relatives of the deceased husband. Resource management practices that rely on strong property rights are severely strained in areas affected by HIV/AIDS, often leaving women with reduced abilities to farm lands that have in the past been under their management. In some cases women become sharecroppers on their own land; in others they lose all access to their productive base.

> The laws of inheritance in Uganda, favouring male heirs over female, represent a major barrier to women to own land. Estimates of the proportion of land owned by women range from 7 to 26 percent. Thus, men own between 74 and 93 percent of all land. Also, women tend to have smaller landholdings than men, and their land is largely controlled by their husband or another male relative.[25]

2. Women's heavy workload

Participatory tools applied in the field to examine women's and men's daily routines confirm that women usually work more hours than men, often doing very strenuous activities. For a variety of cultural and social reasons, women assume more time- and labour-consuming agricultural and household tasks than men. These include both production activities for markets, production activities for subsistence and care activities. Another concern is that rural women and girls who have lost husbands/fathers to HIV/AIDS often have to take over tasks that they were not traditionally involved in, leading to a major increase in their workloads.

25 Elson, D., Evers, B. and Gideon, J. 2000. Gender Aware Country Economic Reports. GENECO, University of Manchester.

In addition, tools and machinery are not suited for use by women and girls, again increasing the amount of time and labour women must expend to perform their tasks. Examples include using hand hoes where men use oxen to plough, hauling bamboo that men have cut, and hauling stones often for considerable distances for men to build bunds and terraces).[26]

> In Uganda, in addition to their housework, it is estimated that women do 60 percent of the digging and planting, 70 percent of the weeding, 60 percent of the harvesting, 90 percent of the post-harvest processing and 100 percent of the hand hoeing. For example, when tilling is done by hand, it is exclusively a woman's job; when oxen are used, men do the tilling. In recent years, loss of oxen in cattle raids in eastern districts has forced a shift to hand hoeing. This has to led to a decline in the area of land cultivated and an increase in women's working hours.[27]

Most NRM activities supported by WFP tend to be labour intensive and are carried out based on government work norms. This approach can overburden women who already have heavy workloads and who may have to work as expectant mothers, carrying infants on their backs or while their small children accompany them. Women involved in these activities have expressed concern about the hard work involved and the need to arrange for day care of older children and/or to take infants and younger children to the work site. Often it is their daughters who help them take care of the younger siblings and manage the housework instead of attending school. Another concern is that work norms sometimes do not exist for activities that directly benefit women, for example creating animal feed lots or vegetable gardens or attending training programmes, and they are excluded from WFP-supported programmes.

> Some of the major issues relevant to women's participation in WFP-supported NRM activities are:
>
> - the amount of labour that men and women can perform considering their nutritional status and effort required to perform the duty;
> - the working schedules for men and women considering time availability, convenience and location of the work;
> - special working considerations for expectant and nursing mothers, women with nutritional problems and women heads of household;
> - the need to establish communal day care centres to improve women's working conditions and to release their daughters from domestic tasks;
> - women's capacity to cope with heavy workloads;

26 In a survey of five sub-Saharan countries in Africa, it was found that many African women use poorly made hand tools. FAO, Agriculture 21, Spotlight: Women and Farm Tools. See: http://www.fao.org/WAICENT/FAOINFO/AGRICULT/magazine/9810/spot1.htm

27 Ibid

- delegation of women's domestic tasks to their daughters; and
- women's health and nutritional situation.[28]

3. Gender imbalances

WFP pursues the United Nations goal of achieving gender equality in countries and regions where there are gender gaps. WFP recognizes the need to address imbalances with respect to access to and control over natural resources and benefits in WFP-supported activities. The Commitments to Women represent an affirmative action, allocating where appropriate more resources and benefits for women and girls and giving them a more effective voice in decision-making in order to overcome gender imbalances. (See WFP Gender Glossary, 1996.)

WFP has already introduced a number of policies, directives and measures to address imbalances affecting women's access to natural resources and activity benefits. These include:

1. the Commitments to Women (1995), which call for allocating at least 25 percent of food-for-work (FFW) resources to activities in which women have a direct stake in the assets created and investing 25 percent of generated funds in activities that benefit women;

2. the Executive Director's Circular, Women's Access to Assets, Including Land, in WFP-assisted Activities (2001), seeks to go beyond the 25 percent and:

    - ensure that all private assets created (including the benefits flowing from these assets) are equally owned or shared by husbands and wives;
    - advocate for secure land tenure for women, where possible and appropriate; and
    - adopt gender mainstreaming in all stages of programming, using a gender analysis to understand women's and men's ownership and control of assets and their relative roles in food and livelihood security, and sensitizing men on the necessity of addressing gender imbalances.

However, programming has not always kept pace with these ambitious and forward-looking policies. In particular, there has been a tendency to continue the same types of activities with greater participation of women, rather than attempt to design new or complementary activities that meet women's specific priorities and concerns. Also, in some cases programming has focused on women only, without considering and addressing the relationship between women and men.

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28 For example, the extra time spent by women in some parts of Africa to fetch water has been estimated to increase their nutritional requirement by up to a quarter or more of the daily food intake. Rodda, 1991. In Martine, G. and Villarreal, M. 1997. Gender and Sustainability: Re-assessing Linkages and Issues. See: http://www.fao.org/sd/wpdirect/WPan0020.htm

ROLE OF FOOD AID

Food aid can be used to:

- create assets that meet women's needs (e.g. for water, fuel, vegetable gardens). This can reduce the number of hours that women spend fetching water, carrying fuelwood, etc. and in NRM activities (both market-oriented and production subsistence activities);
- free women from daily subsistence activities, giving them time for other activities. For example, food aid can compensate women for time spent attending awareness raising and training sessions to strengthen their skills, knowledge and leadership; and
- serve as leverage to secure women's access to and control over natural resources and assets.

ACTIVITY AREAS

Assistance to NRM activities for women would require:

- labour-saving technologies for agricultural production (e.g. crop diversification techniques, no tillage cropping) and labour- and time-saving activities and practices regarding women's NRM activities;
- promoting training to upgrade women's skills, literacy and self-confidence;
- capacity-building with counterparts, providing training and sensitization, e.g. to promote improved NRM extension and technical support services to women and the use of female extension agents; and
- advocating at all levels – with community leaders, NGOs and district and national government counterparts – on the need to put assets under the direct control of women and to improve women's rights and access to land and natural resources.[29]

EXPECTED RESULTS/OUTCOMES

An effective programme response would be expected to have the following results:

- increased women's access to, and/or control over, natural resources (land, water and forests), or sharing of long-term benefits over assets created (e.g. ponds, woodlots);
- a reduced amount of time spent in accessing natural resources for domestic and agricultural tasks; and
- an improved gender balance.

29 Refer to the other strategies, in particular 1, 3 and 4.

Suggested Activities

Activity area	Activity	Examples of outcome indicators
Introduce labour-saving technologies for women	• Promote labour-saving technologies for agricultural production, e.g. crop diversification techniques, no tillage cropping, etc.). • Promote labour-saving technologies regarding women's NRM responsibilities, e.g. structures to increase access to water, fuel-efficient stoves to reduce the use of wood, technologies for transportation of forest products (wheelbarrows, pull-carts). • Promote food processing implements (e.g. simple hand grinders, fast dryers). • Introduce wells, cisterns and pumps for water collection and storage; establish fuelwood plantations or plant woodlots and trees for fuelwood close to women's homes.	• Reduced average amount of time spent by women on water fetching • Reduced average amount of time spent by women in food processing • Reduced average amount of time spent by women in collecting fuelwood • Number and percentage of women who have gained additional assets • Percentage of women using WFP-supported assets
Institute training programmes for women	• Support training for women to upgrade skills, literacy, leadership and self-confidence. • Support training to increase skills for men on gender awareness.	• Percentage of women with improved knowledge, attitude and practice (KAP) • Percentage of women in decision-making positions
Capacity-building for counterparts (government and NGOs)	• Conduct training workshops with counterparts to introduce gender perspective in NRM and livelihood activities. • Promote female extension staff in counterpart organizations.	• Number and percentage of counterpart staff applying gender analysis in projects • Number and percentage of female extension agents in partner and counterpart organizations
Advocacy	• Promote the review of national and local policies related to women's land ownership with the participation of government, United Nations, NGOs, community-based organizations, women's groups and associations, etc. • Advocacy with counterparts to increase women's ownership, access to and control of assets created with WFP support, and to ensure equity in project's benefits.	• Number of initiatives to increase awareness on the need to reduce gender gaps in access and control of natural resources • Percentage increase in women's ownership of land or other assets created with WFP support

PROGRAMMING CONSIDERATIONS

A gender perspective[30] is central to all steps in the programme cycle, in particular for the effective design and monitoring of NRM activities:

Design

Using participatory tools helps to better understand women's priorities and constraints in relation to NRM and livelihood activities. This is important to:

- consider time and efforts men and women can contribute to WFP-supported activities, taking into account their nutritional status and daily schedules;
- plan activities and work programmes to accommodate women's time availability, also consider activity location and support women may require in order to participate;
- introduce working arrangements to meet the special needs of women, for example the provision of communal childcare facilities for women with small children; and
- design complementary activities to meet women's priorities. It is recognized that community priorities may reflect a perceived common need, for example irrigation, rather than address specific problems faced by women.

Monitoring and Evaluation

Gender aspects can be strengthened during implementation by:

- conducting baseline studies to allow tracking of project outcomes (e.g. women's access to and control over natural resources);
- identifying key gender indicators in consultation with women and other key stakeholders; and
- undertaking periodic qualitative and quantitative data collection and analysis to review progress in addressing gender imbalances.

Qualitative data derived through the use of participatory tools is crucial in understanding changes in gender relations with respect to cultural and social barriers.

Crosscutting Issues

Conflict: It is important to understand women's key role in mediating and managing conflict in the community. Their traditional role should be enhanced and project design should benefit from women's experience in conflicts and mediation, which

30 Gender analysis examines roles, responsibilities, priorities and constraints that women and men face in their access to and control over natural resources and assets creation. Socio-cultural, political and institutional factors are examined to overcome constraints and to reduce gender imbalances.

often differs from that of men. Affirmative actions and empowering women may lead to conflict, both at community level and within households. Women need support throughout this process.

Appropriate technology: It is almost always necessary to modify technologies and management practices to suit local conditions and to fit the specific requirements of participants, in particular young women and women with young children.

Empowerment: It is important to actively develop means for ensuring full and meaningful participation of women. One way is to partner with women's groups associations at national and local level. Experiences show that women's organizations play an important role in advocating for women's rights to land or trees. Participation in decision-making and management roles enhances women's confidence, so they are better prepared to participate in other community activities.

Keep in mind that nominating women on management committees is a good first step, but it is their active, full participation that we are aiming for.

Reducing Women's Workload in Zambia

The programme Improving Household Food Security and Nutrition through Community Empowerment in Zambia contributes to reducing women's traditional workload with the introduction of labour-saving services such as grinding mills, water supply points and fuelwood from trees planted in their backyards. The rural water supply and health activities contribute to decreasing water-borne diseases and to lightening women's workload by reducing the distance travelled to fetch water. This has freed up women's time to be involved in other private or communal works. Women can participate in food-for-work activities according to flexible time schedules to allow completion of their domestic responsibilities. Vegetable gardens are a source of additional income and nutritious food. (Case Study Food Security Programme in Tigray, Ethiopia. See Technical Background Document 8)

SOURCES OF TECHNICAL ASSISTANCE

The following sources can all be accessed through: www.fao.org/dimitra

- **FAO: Women and Population Division.** The Women and Population Division (SDW) of FAO integrates women-in-development, gender and population issues into development strategies and programmes. It works to eliminate legal constraints to women's access to resources, helps re-orient extension systems to include women and their needs, sponsors gender analysis training, and disseminates data disaggregated by gender. The division provides advice to policy makers and

programme managers on linkages between population, agriculture and rural development.

- **FAO: Gender and Food Security.** FAO's web site on gender and food security was launched on 8 March 1999. It contains 60 pages, available in English, French and Spanish, on gender issues related to rural and agricultural development, including fisheries and forestry. The material is divided into nine categories: agriculture; division of labour; environment; forestry; nutrition; fisheries; rural economics; population; and education, extension and communication. The site also contains a database with more than 200 bibliographic references, informational graphics, and dynamic maps with gender-specific statistics, photographs, and details about projects and articles.

- **Flame: African system on line.** Flame is a network of African women online, committed to strengthening the capacity of women through the use of information and communication technologies (ICT) to lobby, advocate and participate in the Beijing +5 process, regionally and globally. The links page takes you to full-text documents about the Beijing meeting and related activities. This site is available in French and English.

- **Mapping the World.** Mapping the World is a database of women's information services available throughout the world. The aim of Mapping the World is to increase the visibility of women's information services and to facilitate access to gender-specific information. Target users are women and women's organizations, policy-makers and general information services.

- **Department of Gender and Agriculture. Wageningen Agriculture University.** This web site provides information about the research, education, cooperation and networking activities of Gender Studies in Agriculture Group of Wageningen Agricultural University, as well as bibliographies, databases and publications. The site also provides interesting links to many other sites of interest in the field of gender, agriculture and rural development.

- **Forest, Trees and People Programme Network (FTPP).** This web site is part of FTPP's networking activities, which are jointly run by the Department of Rural Development Studies (DRDS) at the Swedish University of Agricultural Sciences (SLU); the Community Forestry Unit (CFU) based at FAO; and regional programme facilitators in Asia, Africa, Europe, and Latin and North America.

- **FTPP. Eastern Africa.** FTPP Eastern Africa is a multi-donor, global programme, coordinated and led by FAO. The programme is guided by the need to improve the livelihoods of people in developing countries, especially the rural poor. Its goal is to reinforce national and regional institutions that in turn work to strengthen local people's ability to manage and use their natural resources. The global programme is composed of distinct regional programmes in Eastern Africa, West Africa, Asia-Pacific, Central and South America, Europe, North America and the Caribbean.

- **Gender and Development at UNDP**. This web site is managed by the Gender in Development Programme (GIDP), and provides an overview of UNDP's policies and programmes for gender equality and the advancement of women at global and regional levels. The site is organized in different sections: the newsletter UNDP Gender Beat (published every three weeks); conceptual and operational information about gender mainstreaming; UNDP's key policy documents on gender; information about global and regional programmes; country-level information; Resource Room; information about various organizational levels that deal with gender issues at UNDP; and links to a directory of key gender focal points and their email addresses.

- **Gender CG.** The Gender Research Network was initiated by the Gender Programme of the Consultative Group on International Agricultural Research (CGIAR) and is now sponsored by the USAID/WID "Strengthening Development Policy Through Gender Analysis" project at IFPRI. Its aim is to link researchers at CGIAR centres, national research institutes and universities who are involved in gender and intra-household research. The network includes Gender-CG, an email network; a printed newsletter; and Gender-Prop, an email conference on gender and property rights.

- **Association for Women in Development (AWID)** is an international membership organization, based in the United States, committed to gender equality and a just and sustainable development process. AWID facilitates a three-way exchange among scholars, practitioners and policy-makers in order to develop effective and transformative approaches for improving the lives of women and girls worldwide. A dynamic network of women and men around the world, AWID members are working hard to make development a truly empowering, gender-equitable and transformative process from the grass-roots to major policy institutions.

- **Division for the Advancement of Women (DAW)**, based in New York, is part of the Department of Policy Coordination and Sustainable Development. DAW acted as the substantive secretariat for the Fourth World Conference on Women in Beijing (1995). Under the guidance of the Special Adviser on Gender Issues and Advancement of Women, DAW carried out the preparatory work for the 23rd special session of the United Nations General Assembly in 2000. DAW is responsible for servicing the Commission on the Status of Women (CSW), the main United Nations policy-making body for women. It also services the Committee on the Elimination of Discrimination against Women (CEDAW), which monitors the implementation of the Convention on the Elimination of All Forms of Discrimination against Women, a human rights treaty for women. This site contains links to the full text of most of the major official United Nations documents and General Assembly resolutions on women, several of which apply specifically to rural women.

- **The International Center for Research on Women (ICRW) and The Centre for Development and Population Activities (CEDPA)** are working in partnership on a grants programme, Promoting Women in Development (PROWID). This four-year

programme supports innovative pilot interventions, operations research, and advocacy activities that strengthen efforts to reach women and enhance their full participation in the development process. Funded by the Office of Women in Development at the United States Agency for International Development (USAID), PROWID seeks to improve the lives of women in developing countries and economies in transition by promoting development that is based on practical insights gained from field-tested interventions. This site provides descriptions of various projects that are being implemented with rural women.

- **The Women's Environment & Development Organization (WEDO)** is a global organization actively working to increase women's visibility, roles and leadership in public policy-making through peace, gender, human rights, and environmental and economic justice campaigns; through advocacy nationally, regionally, at the United Nations and in international financial institutions; and through local actions.

- **World Bank's Gender Net.** This site describes how the Bank promotes gender equality, summarizes knowledge and experience, and provides gender country profiles. The site contains a section to facilitate discussion on gender. The Bank seeks to improve gender equality through its programmes and projects, and to enhance the efficiency and sustainability of its operations by considering gender aspects.

- **The African Gender Institute (AGI).** AGI was established in 1996 at the University of Cape Town, South Africa, following a consultative process involving stakeholders in many parts of Africa. AGI's mission is to further gender equity in Africa by contributing towards transformation of inequitable institutions and social practices that constrain women's leadership potential and the furtherance of gender equity goals in Africa. In addition to information about AGI's programmes, including papers and reports published by AGI, the site contains a useful list of "electronic gender links".

Chapter 7

Strategy 3: Strengthening Livelihoods by Introducing Nutrition and Health Elements in Natural Resource Management Activities

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Strategy 3: Strengthening Livelihoods by Introducing Nutrition and Health Elements in Natural Resource Management Activities

A programme approach based on this strategy may be appropriate when the following conditions occur:

- Inadequate consumption of micronutrient-rich foods
- Seasonal food shortages
- High post-harvest losses resulting from a lack of conservation and preservation materials, skills and techniques and storage facilities, and from ineffective marketing systems
- Prevalence of water- and insect-borne diseases, such as cholera and hepatitis, and intestinal illnesses (e.g. diarrhoea)
- Decline in valued edible species or local varieties of food crops rich in micronutrients

PROBLEM

High numbers of food-insecure people living in marginal areas (agriculturists and pastoralists, forest dwellers and hunter-gatherers) depend upon fragile farmlands and forests for wild fruits, nuts, seeds, insects and vegetables, particularly during lean seasons and crop failures. These products are essential for providing a diverse and nutritious diet.

As the natural resource base degrades, households' livelihoods and especially their health and nutrition decline. They may be forced to:

- change their food habits, reducing the number of meals (or even going without meals), the quantity of food consumed and the types of food consumed, leading to malnutrition;
- rely on unclean water, causing communicable and intestinal illnesses and affecting their ability to work; and
- continually degrade their natural resource base (e.g. by overcutting woodlands for fuelwood for cooking and building materials for income), which leads to a further decrease in fuel available, forcing people to reduce cooking time, and increasing incidence of infectious and water-borne diseases.

The cycle is perpetuated as households adopt livelihood strategies that overexploit their natural resource base for immediate food consumption. They overharvest wild foods, cut trees to make charcoal, reduce fallow periods, increase planting in marginal areas and allow their animals to overgraze grasslands. In sum, degradation increases people's vulnerability to inadequate nutrition and health in the long term.

ROLE OF FOOD AID

Food meets short-term food consumption needs and enables people to undertake livelihood activities by reducing the risks associated with:

- introducing non-traditional crops with a higher nutritional value;
- adopting food processing techniques that conserve nutritional value of crops; and
- adopting NRM practices that will lead to better health and nutrition.

Moreover, food aid can compensate for time spent on awareness-raising and training sessions – time that would otherwise be spent on subsistence and production activities.

ACTIVITY AREAS

By linking nutrition and health directly with NRM practices, households can address both short-term food and nutrition and longer-term livelihood concerns. Linking these two problem areas improves household nutrition and health, strengthens livelihood strategies and prevents further depletion of the natural resource base.

Linkages can be strengthened by a number of measures, for example:

1. Introduce crops with high nutritional value and promoting food processing techniques that conserve nutrients (and reduce micronutrient losses).

   Examples of nutritious crops include:

   - yams, cassava, cocoyams, plantain, maize, okra, pumpkin, melon, leafy vegetables, chillies, guava, tomatoes, sweet potatoes, beans, local herbs and eggplant; and

- trees that bear fruits, seeds, flowers, roots, leaves and nuts with a high nutritional value.

Examples of tree uses	
Moringa oleifera	Fruits, seeds, leaves and flowers are eaten as nutritious vegetables; edible oil, fuel, forage, live fences and hedges, fertilizer, ropes, water purifier and medicine
*Ziziphus jujube (*or *Ziziphus mauritiana)*	Fruits, leaves and seeds are edible; alcoholic beverages, fuel, timber, forage and medicine

2. Promote natural resource management and complementary activities aimed at preventing and/or reducing pollution and contamination of natural resources that pose risks to health and sanitation.

   For example: securing sources of drinking water by introducing covered wells; establishing buffer zones to minimize pesticides and fertilizers in drinking water; and eliminating stagnant water through drainage systems (polluted or stagnant water can provide an ideal environment for water-related diseases that are a serious threat to the health and productivity of rural families).

3. Promote awareness-raising and training on health and nutrition. For example, issues related to vitamin sources, cooking times for selected foodstuffs, preparation methods including pre-soaking of legumes, water purification and waste disposal.

EXPECTED RESULTS/OUTCOMES

The introduction of NRM activities that promote nutritious food crops and adequate food processing and conservation techniques contributes to the following expected results:

- improved household nutrition and health through: (i) increased household consumption of a diversity of nutritionally rich food year-round; (ii) improved nutritional status of foods through better preservation of foods; and (iii) a healthier living and working environment;

- strengthened livelihoods through: (i) increased production of a more diverse array of crops; (ii) development of improved knowledge of nutrition and health; and (iii) diversification of livelihood strategies through income generation (sale of fruits, vegetables and processed foods outside of the harvest seasons); and

- an improved natural resource base over the long term, including cleaner drinking water, through improved NRM practices.

Suggested Activities

Activity area	Activity	Examples of outcome indicators
Introduce crops with high nutritional value	• Identify and introduce nutritious crops in: a) local farming systems, including home gardens and school gardens; b) tree planting activities, including border or boundary planting; c) agroforestry activities, e.g. managed trees, including fruit and fruit-bearing trees, in farming practices. • Establish nurseries and seed farms to propagate and promote cultivation of nutritious crops, including indigenous species, for planting on farmlands and other areas. • Introduce multi-crop systems that provide a diversified and continuous production of food, combining species with different maturity periods to diversify harvest times. • Improve access to and management of natural forest areas, e.g. community forestry, to protect and select nutritious food tree species. • Promote planting of trees that are high in nutritional value, as live fences around the home and public buildings, including health centres and schools.	• Improved nutrition • Improved diversity and quantity of food items consumed by season (number of items in family diet, variety of food basket) • Amount of edible forest products harvested per household on a yearly basis
Promote food processing techniques that conserve nutrients	• Promote introduction of food processing and conservation techniques (e.g. drying of nutritional foods, canning and dry storage).	• Increased number of different food items consumed by season
Promote NRM and complementary activities aimed at preventing and/or reducing pollution and contamination of natural resources, thereby decreasing health and sanitation risks	• Establish covered wells to avoid pollution and contamination of drinking water. • Introduce irrigation management practices (e.g. drip irrigation) that prevents stagnant or slowly moving water susceptible to diseases. • Introduce water drainage activities to remove standing water. • Construct latrines to improve sanitation. • Encourage integrated pest management as an alternative to pesticides to prevent/reduce water contamination and related health risks.	• Improved drinking water quality • Decreased incidence of water-borne diseases
Institute training and awareness-raising programmes on health and nutrition	• Support training, awareness-raising and demonstration activities. Involve households, extension workers, community promoters and community leaders, schools and mother and child health (MCH) centres to: a) promote the introduction and consumption of new crops and raise awareness of the nutritional benefits; b) promote use, management and maintenance of the new processing and conservation techniques; c) increase awareness of health and sanitation issues.	• Improved demonstrated knowledge, attitude and practices (KAP) on sound nutrition and health practices

PROGRAMMING CONSIDERATIONS

Design

Selecting target populations: The following kinds of households should be included:

- Those that depend on degraded natural resources (degraded lands, insufficient or low-quality water supply) and suffering from impaired health and malnutrition of vulnerable individuals;
- households where women spend large numbers of hours per day collecting fuelwood and water and undertaking physically demanding natural resource practices; and
- those living in or near forest areas that depend (permanently, periodically or occasionally) on the use of forest resources for nutritious variety as part of their food security.

Activity selection: when introducing new crops or production systems, such as home gardens, into a community, factors that should be carefully assessed include:

- acceptability of food, including cultural practices;
- availability of processing technologies for new crops;
- labour requirements and time allocation;
- availability of markets for an increased flow of a wider variety of foods; and
- extension services.

Monitoring and Evaluation

It is important to develop baseline information (e.g. on the crops currently grown, existing food processing techniques and health/sanitation practices) and measure changes in household nutrition resulting from WFP-supported activities. Follow-up monitoring also needs to be undertaken to track the appropriateness of tree species, crops and technologies introduced, management arrangements and maintenance. Readjustments should be a standard part of monitoring.

Crosscutting Issues

Participation: The planning and design will depend heavily on the knowledge and expertise of local stakeholders. Most importantly:

- participants' reliance on natural resource products, including non-wood forest products;
- their knowledge of indigenous species and their nutritional value;
- the appropriateness of new varieties and technologies from a social and environmental perspective; and
- the appropriateness of new varieties and technologies for different user groups.

Women's participation: As women bear the main responsibility for food production, storage, processing, preservation and preparation, they must be given a greater role in managing and controlling natural resources. Two crucial factors are:

- women's workload: As women generally have limited time available, introducing crops that are nutritious but labour-intensive may increase their workloads with numerous negative consequences; and

- crop choice: In many countries, there is a clear division of labour for different crops. Men often manage cereal crops, and women tend small vegetable gardens for home consumption and sale. Introducing marketable crops that can be controlled by women improves their incomes. Their control often translates into an increase in investments in health and education for the children. Moreover, some foods may be traditionally reserved for men (e.g. palm wine); women and children are unlikely to benefit from the promotion of such foods.

Tenure and access to and control over natural resources: Secure access to and control over natural resources, including tenure arrangements, benefit-sharing arrangements and user rights, are essential components of NRM programmes in general, in particular to ensure access to agricultural lands, forested areas and tree and forest products.

Indigenous knowledge: Building on indigenous knowledge of local preferences and traditional diets, seasonal food shortages, food storage and cooking practices will help to improve the success of the activities mentioned.

Conflict: There may be competing interests between different interest groups, for example between women and men, over the use of natural resources. This can lead to conflicts at the time of activity selection, such as the selection of crops.

Partnerships: Collaboration with key partners, including government ministries, national institutes, NGOs, and multilateral and bilateral agencies, is central to all NRM activities. In this context the following areas deserve attention:

- providing technical expertise in the identification of crops;
- strengthening extension services to introduce new crops and technologies;
- supporting training in nutrition, health and sanitation; and
- providing non-food items such as tools and seeds.

Live Fences Contribute to Food Security in the Sahel

Desertification, infertile soils, high temperatures, low rainfall and recurrent droughts are the daunting conditions facing nearly 50 million people living in the Sahel, most of whom struggle daily simply to feed themselves. To address these challenges, the International Centre for Research in Agroforestry (ICRAF), together with national and international partners, has developed agroforestry innovations that emphasize the enormous value of adding trees and shrubs to the agricultural production systems of the region. Incorporating trees can help the rural poor lift themselves out of hunger and poverty, improve their livelihoods and reduce their vulnerability to climatic adversities.

The establishment of "live fences" proved to be a successful agroforestry innovation, with important benefits in terms of food security and incomes. Live fences protect dry-season vegetable gardens and other high-value crops from free-ranging livestock during the dry season and make it possible for farmers in sub-Saharan Africa to diversify the food and cash crops grown. The impact of this diversification on the food security situation of the families is very important. Cassava, for example, has proved very valuable in years of poor rainfall and in general in the pre-harvest hunger months of August and September. Families who are able to practise vegetable production have improved their diet, with direct benefits in terms of health. The surplus vegetables are marketed and provide income that further improves the family's food security and quality of life in general.

In addition, the species used for live fences provide nutritional foods, vitamins and income-generating products. For example, the fruit of *Ziziphus mauritania* is an important source of nutrients and vitamins for children, and the leaves can be fed to animals. *Acacia nilotica* is used for tanning and as a medicine. The gum of *Acacia senegal* can be sold as incense and its leaves used for fodder. The dried leaves of *Lawsonia* can be made into henna and sold on the market. In addition, live fences are a good protection against soil erosion and a source of organic matter for improving soil fertility. (For more details, refer to technical Background Document 8.)

SOURCES OF TECHNICAL ASSISTANCE

International Food Policy Research Institute
Internet: www.ifpri.cgiar.org

Oxfam International, Oxford, UK
Internet: www.oxfam.org

International Development Research Centre (IDRC), Ottawa, Canada
Internet: www.idrc.ca

International Centre for Research in Agroforestry (ICRAF), Nairobi, Kenya
Internet: www.icraf.org

Consultative Group on International Agricultural Research (CGIAR)
Internet: http://www.cgiar.org

Ford Foundation
Internet: www.fordfound.org

International Food Policy Research Institute (IFPRI), Washington, DC, USA
Internet: www.ifpri.org

CARE International
Internet: www.care.org

World Resources Institute (WRI)
Internet: http://www.wri.org

FAO, Household Food Security and Nutrition
Internet: http://www.fao.org/es/ESN/NUTRI.HTM

United Nations Development Programme (UNDP)
Internet: http://www.undp.org

United Nations Children's Fund (UNICEF)
Internet: http://www.unicef.org

World Health Organization (WHO)
Internet: http://www.who.int/home-page/

Department for International Development (DFID – UK)
Internet: www.dfid.gov.uk

Willkommen bei der Gesellschaft für Technische Zusammenarbeit (GTZ)
Internet: http://www.gtz.de

Chapter 8

Strategy 4: Strengthening Livelihoods by Mitigating the Effects of Natural Hazards

Chapter 8

Strategy 4: Strengthening Livelihoods by Mitigating the Effects of Natural Hazards

A programme approach based on this strategy may be appropriate when the following conditions occur:[31]

- ➢ Recurring natural hazards, such as floods, drought and landslides, in one region, which negatively impact households' livelihoods
- ➢ Degradation of natural resources, which increases vulnerability to recurring natural hazards
- ➢ Households' inability to preserve assets because of recurring exposure to natural hazards

PROBLEM

Overview

It is important to emphasize that degraded natural resources increase a community's vulnerability to the effects of a natural hazard.[32] The degree to which drought, flooding and landslides affect communities greatly depends on the state of the land; however, marginal, low-potential lands, because they are fragile, degraded and have poor infrastructure, are more vulnerable to the long-term effects of natural disasters.

Unsustainable NRM increases vulnerability and significantly affects the magnitude of a disaster. Floods and landslides are, to a great extent, the result of a combination of

31 It is the *combination and interaction* of the mentioned factors that indicates the appropriateness of this strategy.

32 In this paper, hazard refers to natural phenomena that could lead to natural disasters in vulnerable areas/regions.

excessive rain and previous deforestation, silting up of rivers and the reduction of natural hydraulic regulation systems, such as wetlands and mangroves.[33]

For example, high rates of deforestation in populated, mountainous regions exacerbated the destructive impacts of Hurricane Mitch in Honduras and Nicaragua. As the heavy, sustained rains fell, so did the unstable hillsides, bringing people's homes, agricultural lands, crops and families with them.

Problem Areas

In rural areas, natural hazards almost always result in the immediate loss of assets: agricultural production, animal life and stored seeds, and in the increased degradation of agricultural and pastoral land, in addition to human illness, injury and loss of life.

Repeated exposure to natural hazards slowly grinds away a household's resilience and capacity to survive. Even when households in highly vulnerable areas gain assets, there is a high likelihood that during the next hazard these newly obtained assets will be destroyed. Therefore, repeated exposure decreases a household's ability to preserve assets.

Degraded natural resources exacerbate the impacts of natural hazards on communities; at the same time, natural hazards degrade natural resources. In order to break this constant cycle, a two-pronged approach is needed: sound NRM and mitigation measures.

ROLE OF FOOD AID

Meeting short-term food consumption needs allows:

- valuable time to be directed to labour-intensive measures that would otherwise not be carried out (e.g. slope terracing); and
- investment in longer-term asset production and preservation to reduce vulnerability to natural disasters.

33 Central American Commission for Environment and Development. 1999. Strategy to reduce environmental vulnerability of the Central American region to natural disasters.

ACTIVITY AREAS

The first and most important line of defence against extreme natural events is to reduce vulnerability and mitigate[34] impacts through the practice of sound NRM techniques. Some examples of NRM practices that mitigate the effects of natural hazards are:

- prevention of soil erosion through the preservation of agricultural lands (e.g. water diversion measures, increasing soil fertility);
- diversification of planting techniques and patterns to increase vegetative cover (e.g. intercropping, crop rotation);
- implementation of water conservation measures (e.g. water storage structures, reforestation of catchment areas); and
- construction of water control structures (e.g. irrigation systems, embankments).

EXPECTED RESULTS/OUTCOMES

Sound NRM can reduce a community's vulnerability to natural disasters. At the same time, as people's vulnerability to natural disaster decreases, their long-term ability to gain and preserve assets increases, allowing for more sustainable livelihoods.

An increase in vegetative cover not only benefits households through diversification of plant and tree species, more shade cover and an increase in groundwater, but also through a decrease in their vulnerability to flooding, landslides and drought. This is especially true in mountainous regions and drought-prone areas.

Implementation of this strategy is expected to contribute to:

- reduced effects of natural disasters as a result of an increase in vegetative cover in vulnerable areas; and
- a decrease in the vulnerability of households to natural hazards, allowing them to improve their food production.

34 Disaster mitigation, for the purposes of this paper, includes disaster preparation, mitigation, crisis avoidance and prevention measures.

Suggested Activities[35]

Activity area	Activity	Examples of outcome indicators
Prevent soil erosion and landslides	• Slope terracing to trap fertile soils for crop production • Flat-land soil stabilization and land contouring	• Reduction of landslides during rainy season • Increased number of hectares of sustainable agricultural flat land
Increase vegetative cover	• Reforestation of ravines and mountainsides • Implementation of sustainable grazing techniques • Implementation of agroforestry techniques	• Reduction of landslides in reforested hillsides • Increased length of time water remains in catchment areas • Increase in land area with sustainable agroforestry systems
Water conservation and drought mitigation	• Construction of water storage structures, usable for irrigation • Planting of climate-appropriate crops (e.g. drought resistant) • Reforestation of water catchment areas • Well digging and construction • Recharge of the groundwater to be used by wells through soil and water conservation	• Amount of usable water in times of low rainfall • Increased acreage of climate-appropriate crops sown • Increased length of time water remains in catchment area during dry season • Increase in groundwater levels
Water control measures and flood mitigation[36]	• Construction of water diversion structures (gabions, dikes, embankments, etc.)	• Increase in land area protected from floods that can be used for agricultural or community purposes

35 As all activities listed in each strategy focus on sustainable NRM practices, there may be an overlap of activities between strategies. What is presented here is an incomplete list of activities that are particularly appropriate for this strategy.

36 Many activities suitable for flood mitigation are mentioned in "To prevent soil erosion and landslides" section.

Linking Activities and Results – an Example

Water conservation, through the construction of water storage structures and planting drought-resistant crops, is expected to result in:

- irrigation during the dry season;
- an increase in annual agricultural productivity; and
- a decrease in a community's vulnerability to floods and drought.

PROGRAMMING CONSIDERATIONS

Design

Vulnerability analysis: It is necessary to identify not only areas of repeated natural disasters, but also households within these vulnerable regions with high food insecurity. Upon the completion of a vulnerability analysis, WFP and partner staff should be able to identify high-priority regions and households to implement disaster mitigation measures. Use of VAM and the Food Insecurity and Vulnerability Information Mapping System (FIVIMS) can provide good sources of regional information and baseline studies.

Issues to be taken into consideration during a vulnerability analysis include, but are not limited to:

- which hazards affect which regions and how their frequencies and areas of impact may have changed as a result of changes in settlement patterns, development activities, environmental degradation, climate change, etc.;
- the number, characteristics and locations of people particularly vulnerable to disaster-related food insecurity and how and why they have been affected by particular hazards in the past;
- which risks and vulnerabilities are the most important and reducible, and the feasibility and likely effectiveness and costs of various reduction measures;
- the type, location and scale of disaster impacts that may still occur and therefore need to be prepared for; and
- how the food supply systems responded, or failed to respond, to environmental degradation and/or natural disasters.

Selecting target populations: It is important to assess highly vulnerable households in the region living in hazard-prone areas, and also to consider the food security of vulnerable households.

Groups that are highly vulnerable to natural disasters and degraded natural resources are:

- small-scale farmers or tenants whose crops have failed and/or who cannot find alternative employment;
- landless workers who lose their jobs when agricultural production declines or who face a rapid rise in food prices when their wages are stagnant;
- women, because of their role in managing subsistence-based natural resources; and
- rural workers who are affected by a drop in real income and purchasing power in marginal lands and lands highly vulnerable to the effects of natural hazards.

Timing: Considerations in terms of disaster mitigation timing include:

- many natural disasters affect communities on a seasonal basis;
- disaster mitigation measures are a process of implementation, feedback and incorporation of the feedback. It is important to understand that they are not miracle-saving devices;
- complete disaster vulnerability assessment must take place before the implementation of any disaster mitigation measure; and
- timely intervention, especially when mitigating the effects of drought, has the ability to preserve assets and food security and prevent further degradation.

Technical Assistance: WFP should participate in national emergency planning, especially in areas of policy, laws or creation of national standards related to food distribution and security. Through sound preparation and active participation, you will be able to help define WFP's role in times of disaster, and give technical advice on distribution, food storage and nutritional issues to governments, in coordination with other food distribution organizations.

Monitoring and Evaluation

Unfortunately, the best indicator of a well-designed and implemented measure focusing on mitigating the effects of natural disasters is the effect on a community after a natural hazard hits. Since this type of comparison is difficult to make, it is imperative to define sound indicators of success. The prevention of the death or destruction of a community may depend on such indicators.

Crosscutting Issues

Indigenous knowledge: Households living in natural-disaster-prone regions have indigenous coping mechanisms that have increased their ability to survive during times of crisis. Strengthening positive coping mechanisms, especially those that include good NRM techniques, can reduce a community's vulnerability to the effects of natural hazards while increasing productivity.

Tenure and conflict: Careful consideration must be taken when attempting to manage degraded natural resources used by numerous neighbouring communities. While NRM measures increase productivity in one community, there is always potential to increase disaster vulnerability in a neighbouring community. Also, as productivity increases in one community, tensions with less productive communities may arise.

Circumstances under which WFP should not undertake an activity: If the analysis of the effects of a potential disaster mitigation measure reveals that negative effects on either the vulnerability or productivity of a neighbouring community increase, then the measure should not be implemented. For example, a new road may increase the livelihood opportunities for some producers and traders but lead to increased erosion problems and risks of landslides for other communities along the route.

Gender: Because women are particularly impacted by degraded natural resources and resulting natural disasters, it is important to ensure a gender perspective in all stages of the programme cycle.

Potential Partners: As disaster mitigation involves a variety of sectors, and WFP typically does not initiate, implement or design all of these types of measures, it is important to form partnerships. Through many of the organizations and agencies listed below, coordination and collaboration can be formed.

Reforestation as a mitigation activity in Bangladesh

Three great rivers, the Ganges, Brahmaputra and Meghna, converge in the centre of Bangladesh, before flowing into a delta system eventually ending in the Bay of Bengal. Every year an average of more than 21 percent of the country is flooded. Flooding is such a common occurrence that in the Bangla language there are two words for flooding, barsha, which indicates a normal flood, and banya, which is translated as an abnormal flood.

One method that has been used to mitigate the more severe effects of flooding is the evacuation of communities to safe shelters. But, as many international workers have noticed, women typically do not participate in the evacuation because of cultural restraints. They are expected to stay put in order to protect the family's possessions. Reforestation has helped many women protect their families' assets and their lives.

Families plant groves of trees around their houses and agricultural lands. The trees serve multiple purposes. First, they mitigate wind damage to land and crops and stabilize precious soil used for agricultural production. The second purpose is a little less obvious. Trees can be climbed when there are quick-onset floods, a particularly important use for women who are left at the house.

SOURCES OF TECHNICAL ASSISTANCE

German Technical Cooperation (GTZ), Disaster Prevention and Mitigation Projects in Central America
Internet: www.gtz.de

OXFAM/UK, Disaster Vulnerability Assessment and Mitigation/Prevention projects in Sri Lanka, Bangladesh and Central America
Internet: www.oxfam.org.uk

Cooperative Housing Federation (CHF), Disaster Mitigation in Central America
Internet: www.chfhq.org

Regional Disaster Information Center (CRID)
Provides workshop and training materials in Spanish and English
Internet: http://www.crid.or.cr/crid/ESP/CAPACITa/Capacita.htm

OFDA/CRED Disaster Database
Internet: http://www.cred.be/emdat/intro.html

Pan-American Health Organization (PAHO), Health, Environment and Disasters
Internet: http://www.paho.org/Selection.asp?SEL=TP&LNG=ENG&CD=ADISASTER

International Strategy for Disaster Reduction (ISDR)
Internet: http://www.unisdr.org/unisdr/indexpage2.htm

World Bank, Disaster Management Facility
Internet: http://www.worldbank.org/dmf

Food and Agriculture Organization, desertification and other natural disaster information
Internet: http://www.fao.org/desertification/default.asp?lang=en

Chapter 9

Strategy 5: Strengthening Livelihoods Through the Conservation of Biological Diversity

Chapter 9

Strategy 5: Strengthening Livelihoods Through the Conservation of Biological Diversity

A programme approach based on this strategy may be appropriate when the following conditions occur:

- ➢ High numbers of households face threats to their livelihoods from declining biodiversity
- ➢ Poor people live in areas with high levels of biodiversity that need protection (e.g. tropical forests)
- ➢ Target communities possess a wealth of knowledge on management and protection of biological resources and this knowledge is at risk

PROBLEM[37]

Biological diversity, or biodiversity, is a term used to describe the great variety of life on earth. The Convention on Biological Diversity defines it as "…the variability among living organisms from all sources including…terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems". In other words, plants, animals and micro-organisms, their genes, and the ecosystems that living organisms inhabit, are all facets of biodiversity.[38]

37 This strategy draws heavily from the following sources: FAO (http://www.fao.org/biodiversity); IUCN (http://www.iucn.org); Cromwell, E. 1999. Agriculture, biodiversity and livelihoods: Issues and entry points. Oversees Development Institute; Koziel, I. Biodiversity and sustainable rural livelihoods. In Department for International Development (DFID). Sustainable rural livelihoods, What contribution can we make? (ed. D. Carney).

38 IUCN, http://www.iucn.org/bil/whatis.html

Households benefit from biodiversity in a number of ways:

- *direct use:* quantity and quality of food (e.g. harvested products for consumption such as fuelwood, fuel, fodder, game, meat, cash crops, material for shelter, timber, fish and medicine), nutritional contribution (provision of minerals, vitamins and protein, hunger crops), building/fencing materials and cash income;
- *indirect use:* production effects such as yield stability, pest/disease resistance, storability and root effects (nutrition and water uptake, soil stabilization, disease resistance); ecosystem functions (soil quality, water quality, habitat protection); and
- *non-use values:* such as maintenance of wildlife species and natural areas.

The loss of biodiversity undermines people's livelihoods by decreasing supply of products from local varieties (reducing cropping options) and causing a loss of local knowledge and increased risk to natural and human-induced disasters. For example, in Zimbabwe, some poor households rely on wild fruit species as an alternative to cultivated grain for a quarter to all dry-season meals.[39]

Loss of biodiversity can be caused by, for example, agricultural expansion and crop uniformity. NRM activities supported by WFP, such as agricultural intensification and forest/watershed and rangeland management, can also potentially undermine local biodiversity by the introduction of monocultures and non-local crops that favour pest/disease outbreaks. The introduction of pure eucalyptus forests is one example.

In some situations, activities designed to maintain biodiversity can have a negative impact on livelihoods. For example, in Ethiopia and Pakistan natural resource protection activities, such as closure of newly planted areas, changed traditional patterns of access for the poorest farmers and herders. Such protected area programmes also sometimes lead to conflict between local communities and government authorities.

ROLE OF FOOD AID

Providing food to meet short-term food consumption needs enables people to:

- reduce the initial risks associated with cultivating local varieties and minor crops/ indigenous species, which are generally slower-growing and do not propagate well;
- reduce the initial risks associated with adopting new techniques and technologies to protect local biodiversity; and
- compensate for time spent away from subsistence and production activities.

39 Background paper on Agricultural Biodiversity, prepared for the FAO/Netherlands conference on the multifunctional character of agriculture and land.

ACTIVITY AREAS

WFP can support NRM initiatives (agriculture, forestry, agroforestry) that promote conservation and protect biodiversity. Activity areas to promote the conservation and protection of biodiversity include:

- introducing techniques and technologies to enable communities to conserve plant and animal biodiversity, such as community seed banks;
- providing incentives and other measures to promote the cultivation of local varieties and minor crops (including traditional, low-input agricultural technologies); and
- promoting alternatives to chemical pesticides and fertilizers.

EXPECTED RESULTS/OUTCOMES

An effective programme response would be expected to have the following results:

- sustainable supply of products from local varieties;
- preservation of local knowledge of diversity of species, in particular indigenous species and their uses; and
- reduced livelihood risk to natural and human-induced disaster.

Suggested Activities

Activity area	Activity	Examples of outcome indicators
Promote techniques and technologies to enable communities to protect local biodiversity	• Establish fruit-tree or agroforestry tree nurseries to grow threatened species. • Introduce *in situ* conservation of species, by provision of food to allow allocation of portion of land for the preservation of local varieties. • Adopt closure for natural regeneration techniques when feasible, including promotion of fences and live fences to allow natural regeneration. • Introduce seed multiplication programmes to increase local seed supplies and multiply selected varieties. • Maintain seed supplies through the construction of local seed stores, seed banks, grain banks or warehouses.	• Increase of local varieties in food production systems • Increase in seeds stored • Regular supply of products from local varieties

Suggested Activities

Activity area	Activity	Examples of outcome indicators
Provide incentives and other measures to promote the cultivation of local varieties and minor crops	• Promote traditional, low-input agricultural technologies. • Preserve natural habitat along streams, steep slopes and ecologically sensitive areas. • Support restocking and replanting of forest areas with indigenous species. • Promote farm trees for fuel consumption, home gardens etc. to avoid overcutting and a reduction in biodiversity.	• Percentage of ecologically sensitive areas successfully replanted • Over the longer term, an increase in diversity of forest species
Promote the use of alternatives to pesticides and fertilizers	• Support integrated pest management.	• Reduced pest infestation • Reduced use of pesticides

PROGRAMMING CONSIDERATIONS

Crosscutting Issues

There are a number of issues to be considered when programming activities for biodiversity.[40] These include:

Focus on people: The focus of NRM activities should be on maximizing benefits for households' livelihoods that arise out of the conservation of biodiversity. This means that activities should not obstruct conservation activities, but should at the same time avoid creating conditions in which local people are economically disadvantaged by the conservation of biodiversity (for example, where people depend on income from the sale of fuelwood).

Protection of traditional knowledge: Traditionally, communities, indigenous groups and local officials have preserved and developed plants for food, medicines and other uses. Women in particular have invaluable knowledge on the sustainable use and management of plant diversity for food security, acquired through their responsibilities and roles as food producers and food providers. It is important to increase understanding of the rights issues surrounding patenting and use of local varieties to protect traditional knowledge of natural resources. Moreover, women's knowledge of biodiversity and the conservation of natural resources must be considered in assessment, design and monitoring of activities.

Conflict: Activities aimed at protecting biodiversity, for example setting up protected areas, may sometimes lead to conflict between households, local communities and government authorities such as park officials.

40 For design and monitoring issues, refer to strategy 1.

Seed Restoration in Mozambique

Women play a very important role in keeping and taking care of traditional seeds. Activities related to seed restoration are key for food production and a possible entry point for creating assets controlled by women. (FAO, SD. 2001)

In the project Post-Disaster Rehabilitation and Seed Restoration in Flood-Affected Areas of Xai-Xai District, Mozambique, supported by FAO, the farmers affected by a flood expressed the following needs:

- immediate supply of seeds and planting materials to restart farming;
- recuperation of desired seeds (invariably the traditional varieties grown before the flood);
- storage of household or village seed reserves in a safe place;
- rehabilitation and further development of drainage canals in the lowlands;
- ox or tractor ploughing (currently most cultivation is by hoe); and
- improvement of rural roads.

To respond, the following components were planned:

- assessment of the variety of traditional seeds and other suitable seeds; seed conservation and gender roles; type of crops; and household food security;
- supply of seeds and planting materials to women to restart farming;
- mechanisms to strengthen women's control over seeds and activities related to restoring local seeds after emergencies and building seed lots; and
- participatory approaches with a gender perspective in which men and women take the lead in determining needs, identifying priorities and solutions, undertaking actions and participating in monitoring processes.

SOURCES OF TECHNICAL ASSISTANCE

International Development Research Centre (IDRC), Ottawa, Canada
Internet: www.idrc.ca

International Centre for Research in Agroforestry (ICRAF), Nairobi, Kenya
Internet: www.icraf.org

Consultative Group on International Agricultural Research (CGIAR)
Internet: http://www.cgiar.org

International Food Policy Research Institute (IFPRI)
(Includes information on HIV/AIDS): Internet: www.ifpri.org

World Resources Institute (WRI)
Internet: http://www.wri.org

Center for International Forestry Research (CIFOR)
Internet: http://www.cifor.org/publications/html/ar-98/biodiversity.html

The World Conservation Union (IUCN)
Internet: http://iucn.org/bil/IUCNFlash.html

Food and Agriculture Organization (FAO)
Internet: http://www.fao.org/biodiversity/default.asp?lang=en
(HIV/AIDS and food security): Internet: www.fao.org/Focus/E/aids/aids1- e.htm
Focal point for HIV/AIDS: Ms Marcela Villarreal, marcela.villarreal@fao.org

United Nations Development Fund for Women (UNIFEM)
Internet: http://www.unifem.undp.org/

Department for International Development (DFID)
(Includes information on HIV/AIDS): Internet: www.dfid.gov.uk

World Bank
Internet: http://wbln0018.worldbank.org/essd/essd.nsf/Biodiversity/Front+Page

Other agencies that look at the link between HIV/AIDS and NRM include:

Joint United Nations Programme on HIV/AIDS (UNAIDS)
Internet: www.unaids.org
Best practice on rural development activities within the context of HIV/AIDS:
www.unaids.org/bestpractice/digest/table.html#imp_agr

Livelihoods Connect
web site managed by the Institute of Development Studies (IDS) and funded by DFID
Internet: www.livelihoods.org

Save the Children Fund (SCF), United Kingdom
Internet: www.scfuk.org.uk.
SCF Food Security Unit (children and food security): fsu@scf.org.uk
SCF Development Dialogue Team (children and HIV/AIDS): dialogue@scfuk.org.uk

Catholic Agency for Overseas Development (CAFOD), London, United Kingdom
Internet: www.cafod.org.uk.
Email of AIDS Section: asmith@cafod.org.uk
AIDS Information Exchange Newsletter: www.cafod.org.uk/aidsindex.htm.

CARE International, Brussels, Belgium
Internet: www.care-international.org
Email: info@care-international.org

Chapter 10

Strategy 6: Settling/Resettling People to Enable them to Develop Sustainable Livelihood Strategies

Chapter 10

Strategy 6: Settling/Resettling People to Enable them to Develop Sustainable Livelihood Strategies

A programme approach based on this strategy may be appropriate when the following conditions occur:

- ➢ Settlement/resettlement/relocation of populations to marginal lands
- ➢ Degradation of natural resources base of (re)settled households

PROBLEM

The settlement or resettlement (relocation) of rural households greatly affects their food and livelihood security, and can give rise to some problematic issues, which are described below.[41] For this reason, WFP should be very wary of initiating support to such schemes. Because the success or failure of settlement/resettlement interventions is often outside WFP's direct control, it is important to recognize potential dangers before committing WFP support. Only in certain circumstances, in which a number of basic conditions have been met, may WFP support be appropriate.

In a number of cases, failed settlement/resettlement schemes have resulted in abandoned settlements (e.g. in Ethiopia after the fall of the Derg regime), settlers becoming dependent on external assistance, or the increasing impoverishment of settlers. In the worst cases, failure has lead to widespread communal violence and murder, and the forced displacement of the settlers (as has happened recently in many parts of Indonesia).

41 Although this document covers issues related to IDPs and refugees, it does not specifically deal with the return of refugees or IDPs to their place of origin (also known as re-insertion). However, many of the same or similar issues described in this document arise in assistance programmes for returnees, and should be addressed.

The most common reasons that settlement/resettlement interventions have failed are:

- the land on which people are settled/resettled belongs to, or is used by, others who are inadequately compensated. This creates communal tensions (e.g. Indonesia);

- the land area and/or supporting services provided are inadequate to enable settlers to become self-reliant. This is particularly important in situations in which settlers are expected to become self-reliant and WFP food aid will be phased out. In some cases, especially for refugees or internally displaced people (IDPs), settlement may be a short-term intervention and settlers are not expected to become fully self-reliant. Resettlement is simply an alternative to camp residence until a more permanent resolution can be achieved. In some situations, it may be that any land – and associated improvements in self-support and dignity – is better than none. In these cases, WFP food assistance will continue to be required, although presumably with smaller rations, reflecting the increased possibility of home production;

- the characteristics of the land on which people are (re)settled does not allow for continuation of traditional NRM activities (e.g. Sri Lanka, where villagers who used to be fishermen and farmers were resettled in a dry zone with no access to arable land or the sea). Such scenarios impose new vulnerabilities on the (re)settled populations and on the local residents;

- the settlers themselves come from a variety of backgrounds and ethnic groups and receive insufficient social support to create a community infrastructure strong enough to hold the settlement scheme together (e.g. Mali);

- settlers are not consulted on whether they wish to settle in the area or on the most appropriate timing for this process (e.g. Ethiopia in the mid-1980s and Sri Lanka in 1999; in the latter case, failure to consult with IDPs about the proposed removal of camp dwellers resulted in considerable antagonism between the displaced people and the local authorities. More recent resettlement interventions in Sri Lanka have been undertaken in conjunction with camp residents); and

- settlers are located in areas and climatic zones with which they are unfamiliar (e.g. Bolivians from highland areas who were settled in lowland zones) or among ethnic groups who have very different cultures, and even languages, from those of the settlers (e.g. Ethiopia in the mid-1980s and the transmigration programmes in Indonesia).

THE ROLE OF FOOD AID

A WFP country office staff member has an important role in determining whether WFP assistance should be initiated. Once support to settlement interventions has

commenced, it is extremely difficult to suspend or withdraw from the project, irrespective of how the overall intervention is progressing. In most settlement/resettlement interventions, food aid is usually provided directly to new settlers to cover their food needs until they have become self-reliant, typically after they have achieved one or two harvests. Thus, WFP is usually only playing a support role; the initiative for a settlement intervention, and by far the larger proportion of resources, will normally come from partners, typically the government. The provision of WFP's aid is unlikely to be a determining factor in the overall success or failure of the intervention.

Despite this supporting role, many individual poor families will be reliant on the regular provision of WFP assistance and will suffer if that assistance is suspended or withdrawn before they have become self-reliant. For settlers in a new area, there are likely to be only very limited options to obtain employment or in other ways replace the WFP food aid.

In some situations, WFP itself may initiate the settlement/resettlement process. This would typically be in IDP situations, where WFP is often *de facto* the lead (and sometimes the only) United Nations agency. Conditions in IDP camps often fall well below minimum acceptable standards. This is because most camps rely on national government support, but national finances are usually already strained (one of the reasons for this will be the ongoing conflict that has led to the displacement of civilians in the first place). Support from bilateral agencies and international NGOs for IDPs is also often limited. Furthermore, no single United Nations agency has a mandate to ensure that conditions in IDP camps meet acceptable standards. In these situations, it may be preferable to resettle camp residents, at least as a temporary measure, in such a way that the IDPs can regain some control over their lives and a semblance of dignity. However, even in these situations, while WFP may help to initiate the resettlement process, the main support and implementation will still come from partners.

ACTIVITY AREAS

There are three general situations in which WFP support to settlement/resettlement may be appropriate:

1. *The resettlement of those displaced by conflict (either refugees or IDPs).* The aim of such resettlement interventions is usually to improve the living conditions of refugees/IDPs who currently reside in camps or among hosts. However, resettlement of refugees or IDPs may also be part of a longer-term resolution of their situation, in which case resettlement may help to restore dignity and independence to people whose lives have been disrupted by conflict, and be a first step towards restoring livelihoods. In both situations, the resettlement schemes should provide at least the same level of services and security as are present in the camps/host communities where such people are located. In a conflict situation, it is critical to determine whether there are any possible political or military motivations behind the resettlement and if food aid risks being manipulated to support these.

2. *The resettlement of those displaced by natural disaster.* After many kinds of natural disasters (e.g. drought, earthquakes, landslides, tidal waves) it is just not possible for the survivors to return either to their villages/towns or to their normal livelihoods. Consequently, there may be no option but to resettle survivors in a new location. The intention in such situations is to enable survivors to restore livelihoods or create new livelihoods and lifestyles as quickly as possible.

3. *Voluntary settlement.* For example, men and women settle on newly developed irrigated lands or lands reclaimed from the desert or the sea. (Any settlements that pose major environmental implications are to be avoided.) The intention of such voluntary settlement schemes is that people's livelihoods are improved on the new lands. Food aid should be provided only when all the other conditions for the creation of new livelihoods have been met and essential inputs put in place. In addition, food aid should be provided for a strictly limited period to avoid creating dependency and disincentives.

In addition to these situations, WFP is often requested to support involuntary resettlement, such as when major development projects (e.g. dams, agricultural schemes) result in the destruction of homes or villages.[42] In most cases, a role for WFP will be hard to justify.

Activity areas that could help to strengthen the livelihoods of populations in (re)settlement areas are:

- promotion of sustainable food and agricultural production methods, so as to enable households to acquire production practices to become self-reliant, increase their asset base and reduce the need for overexploitation of their natural resource base. This will be particularly important for populations (re)settled in areas where they cannot practise their traditional livelihood activities;

- assistance in livelihood diversification, both within NRM and in other economic fields, including income-generation activities;

- promotion of sustainable NRM practices, to improve the natural resource base and decrease (the risk of) further degradation; and

- advocacy to ensure that basic minimum requirements for settlement areas are met by the implementing partner agencies.[43]

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42 Following the World Bank, the term "involuntary" is used because the people displaced by the project do not have the option to refuse displacement. While they may fully participate in the design of the resettlement programme, and may be fully satisfied with the resettlement measures, their resettlement remains "involuntary" since they do not have the choice of continuing to remain in their current location.

43 See section on Key Issues and see Humanitarian Charter and Minimum Standards for Disaster Response. 1998. Geneva, The Sphere Project (Steering Committee for Humanitarian Response and Interaction with VOICE, ICRC and ICVA).

EXPECTED RESULTS/OUTCOMES

An effective programme response would be expected to have the following results:

- sustained food production through the adoption of sustainable agricultural production methods, resulting in adequate nutritional and health status;
- diverse incomes from alternative livelihood activities; and
- improved NRM practices and prevention of further degradation of available natural resources.

Suggested Activities

Activity area	Activity	Examples of outcome indicators
Promote sustainable food and agricultural production methods	• Provide advice on sustainable methods for food and agricultural production that are labour-efficient and particularly suitable for the type of terrain available. • Provide training on farming techniques appropriate to the (re)settlement area to those households that were traditionally engaged in different types of livelihood activities.	• Number of households able to sustainably produce or access sufficient quantities and quality of food
Provide assistance to households in livelihood diversification	• Introduce alternative farm activities (beekeeping, alternative livestock breeds), including training, provision of starting materials, provision of credit. • Introduce off-farm activities for income generation (production of handicrafts, tailoring, petty trading), including training, provision of starting materials, provision of credit.	• Increase in income derived from diversified livelihood activities
Promote sustainable NRM practices	• Introduce techniques for improved management of the natural resource base.	• Increase in vegetative cover, signifying an abatement of natural resource degradation
Advocate to ensure that minimum requirements for the (re)settlement site are met by WFP and implementing partners	• Undertake active advocacy for minimum requirements to be met for the (re)settlement site.	• Minimum requirements are met • Percentage of people (men, women and children) voluntarily resettled or settled • WFP interventions delayed until minimum requirements are met

PROGRAMMING CONSIDERATIONS

Key Issues

On the basis of WFP experiences with settlement/resettlement interventions, a number of key issues have been identified for implementing such interventions. These should be properly addressed by implementing partners before WFP agrees to provide food aid. In most cases, WFP should be satisfied that the following site-related conditions are met before committing its resources:

Site selection: Adopted from the Sphere Guidelines,[44] potential settlement site requirements, regardless of seasonal variations, should be in place. The site should:

- be located at a safe distance from possible external threats to physical security;
- be accessible from an all-weather road. If it is necessary to construct a road, the soil type and terrain should allow this;
- be located near existing social and economic facilities;
- have adequate quantities of water (for drinking, cooking, hygiene and sanitation);
- be not less than three metres above the anticipated water table in the rainy season;
- have a soil type suitable for digging and water infiltration;
- have sufficient grasses, shrubs and trees for shade and to avoid soil erosion;
- have sufficient sustainable resources of fuelwood and construction materials available;
- have sufficient and appropriate land available for the required levels of agriculture and animal husbandry; and
- not be prone to endemic diseases that might affect inhabitants or their livestock, to stagnant water or to flooding; it should not be situated on land at risk from landslides, nor should it be close to an active volcano.

Other issues that should be adequately addressed by WFP and its partners include:

Existing rights: It is rare for land to be completely free of ownership or traditional use. Proper attention to the concerns of current landowners and users during the design stage will reduce the likelihood of later tensions or conflicts. Existing tenure and utilization arrangements for the land on which settlement will take place need to be ascertained. For example:

- Have those who currently own or use land been properly consulted on the settlement proposals? Are they in agreement with the settlement proposals?
- Have they been properly compensated?
- Will they benefit or lose from the settlement proposals? If they may lose, in what ways can these losses be reduced?

44 Humanitarian Charter and Minimum Standards for Disaster Response. 1998. Geneva, The Sphere Project.

- Can the settlement proposals be redesigned so that traditional owners and users receive greater benefits (either direct, such as compensation, or indirect, such as new employment opportunities) from the settlement process?

Proposed tenure arrangements for the new settlers: Ensuring that tenure arrangements are sound and practicable before settlement will again reduce the likelihood of later tensions or conflicts. WFP stresses the importance of assigning equal tenure to both wives and husbands. Other common tenure issues include:

- Will settlers receive proper land title or only usufruct rights? For example, are they free to exchange, sell or inherit land title?
- Are they required to pay for land title, either directly (for the land) or indirectly (for lawyers' fees)? Are they obliged to pay taxes on the land? If so, when are the first taxes due? Will they be able to pay these taxes?
- Have water rights and the right to use other natural resources (e.g. wood, stone and sand) been clarified?

Sustainability: Landholding size and productivity is an important aspect of settlers being able to support themselves sustainably. Will settlers be given land of sufficient size and quality that they are able to support their families?

Infrastructure: The success of settlement interventions largely depends on the level of infrastructure provided by implementing partner agencies (usually, but not always, governments). However, partners often find that providing infrastructure is expensive, and experience has shown that the infrastructure provided is insufficient. WFP must also keep in mind that providing too much or a high quality of infrastructure may antagonize the host population, who may feel that the new settlers are receiving additional benefits that should also flow to them. Thus, there are strong pressures on the implementing partner to reduce the level of investment, which can leave settlers without adequate means of support. As a result, settlers may be delayed in reaching self-sufficiency, resulting in WFP being called on to extend the period of food assistance. (This was the case in Indonesia, where WFP provided assistance to transmigration programmes for up to ten years.)

The following represent the basic levels of infrastructure that may be required by settlers. In most cases, WFP should not support the intervention unless this infrastructure is in place prior to the arrival of the first settlers. Basic requirements of interventions include:

- housing, which, depending on the climate and the situation of the new settlers, may range from a complete house, to provision of building materials, to provision of credit facilities for the purchase of building materials;
- sound sanitation arrangements (latrines, drains, refuse sites);
- basic health and education facilities;
- land preparation and associated works, so that settlers can begin cultivation without delay. (Proposals to support basic land preparation through FFW should normally not be encouraged – the land should be ready for cultivation when the

settlers first arrive, not after they have arrived, which would be the case if FFW were to be used to prepare the land); and
- agricultural support services, including advice on how best to utilize the land provided, and the provision of seeds, tools, fertilizers (if required) and possibly animals.

> The initiation of WFP assistance should depend on our being assured that the key features of settlement/resettlement interventions have been properly addressed. We have an obligation to both the Programme and to the individual settlers to ensure that the settlement/resettlement process has been soundly designed and implemented. This implies a significant role for WFP in bringing these key features to the attention of implementing partners and in encouraging appropriate design and implementation processes. If there is any doubt about whether the issues will be properly addressed, then WFP should not commit support to the intervention. Giving clear and explicit reasons why support is being refused is also a way of providing assistance.

Design

Some additional issues need to be considered during project design and implementation:

Selection process for new settlers: The basis on which settlers are chosen is important for both practical and moral reasons. Selection should never be forced. Particularly for refugees and IDPs living in camps, regular consultations should be held to keep residents informed about proposals for their future. The following points should be kept in mind:

- *Physical means and knowledge base:* for practical reasons, proposed new settlers should have the physical means and knowledge base to ensure they can get the best from the land made available to them. This implies that selection criteria should probably give emphasis to poor farmers or ex-farmers with young families;[45]
- *Non-discriminatory:* the selection process should not discriminate between different ethnic groups, or discriminate on the basis of gender;
- *Participatory:* to the extent feasible, the selection process should be participatory, with each potential settler given the opportunity to make a case for why she or he should be selected; and
- *Transparent:* the selection process should be transparent, and potential settlers kept informed of the likely timing and stages of the settlement process.

45 It probably does not make sense to settle people from wealthier backgrounds on rural lands, as they are unlikely to work the lands themselves; or people from urban or professional backgrounds, as they are unlikely to have the necessary knowledge base or incentive to make best use of the land. Similarly, elderly people should not be selected for settlement, unless they are part of a larger family or community that can provide them with the necessary support. However, within the settlement process, opportunities to create other livelihood options for people from these different backgrounds should be explored.

Timing: Timing includes a number of different aspects:

- *The flow of the different activities that comprise the settlement/resettlement process:* a timetable and flow chart should be developed early in the process by WFP and the implementing partner, showing when different elements (e.g. setting up different types of infrastructure, provision of food aid, arrival of settlers) should take place. A flow chart is also helpful to identify key factors, without which the settlement process will be delayed or derailed altogether. For example, access roads must be in place before settlement begins, so that settlers can move themselves and their belongings to the proposed new settlement sites.

- *Seasonality considerations:* settlement interventions must be geared to the prevailing agricultural season. Settlers should be able to sow crops as soon as the season permits. This means that if they are expected to construct, or help construct, their dwellings, or clear and prepare land, then they should be settled well before the sowing season begins. If houses have already been constructed and the land has already been properly prepared, then settlement just prior to the sowing season may be feasible.

- *Period of WFP support:* settlement projects pose particular problems for determining the period for WFP support. If WFP support is not long enough, then the settlers will be left to their own resources before they are self-reliant. If WFP support continues for too long, it will act as a disincentive, discouraging people from becoming self-reliant. There is no simple solution to this problem – much will depend on the prevailing climate and agricultural systems, the area, quality and potential of the land provided to settlers, the level of infrastructure provided and the resources that individual settlers are able to bring to the intervention. Experience suggests that proposals to phase out WFP support after one or two harvests may be too optimistic (in Egypt, experience has shown that WFP support is required for at least four years for settlers to achieve an acceptable level of self-reliance). The following general rules-of-thumb may help:

  - Settlers who can produce a variety of crops are likely to require support over a shorter period than settlers reliant on a single-crop commodity (because they are more vulnerable to weather and market fluctuations).
  - Settlers reliant on tree crops are likely to require support for a longer period than those reliant on annual or grain crops.
  - Settlers on rainfed land are likely to require support for a longer period than settlers on irrigated land.
  - Settlers who were previously farmers are likely to require support for a shorter period than settlers who have no farming tradition (such as herders or urban dwellers).
  - Settlers who have to rely on credit to obtain agricultural implements and inputs are likely to require support for longer periods than those who have more secure finances.
  - Settlers who come from a single ethnic group of the same community are likely to require support for a shorter period (because they can rely on

existing community coping strategies) than those who come from different ethnic groups or mixed communities.
- Settlers who have relatively high numbers of women-headed households, children and the elderly are likely to require support for a longer period as they have fewer coping strategies at their disposal.

SOURCES OF TECHNICAL ASSISTANCE

World Bank
Internet: www.worldbank.org

United Nations High Commissioner for Refugees (UNHCR)
Internet: www.unhcr.org

OXFAM International
Internet: http://www.oxfaminternational.org/default.htm

CARE International
Internet: http://www.care.org/

International Organization for Migration (IOM)
Internet: www.iom.org

Chapter 11

Natural Resources and Livelihoods: an Analytical Framework

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Natural Resources and Livelihoods: an Analytical Framework

INTRODUCTION

Systematically analysing and understanding the key elements that constitute the livelihoods of the food-insecure can lead to better designed activities and stronger livelihood outcomes. But it may mean expanding the elements examined in current assessments. The analytical framework outlined in this chapter was developed specifically to incorporate natural resource management and livelihood aspects into standard design and monitoring methods. The framework is a work in progress. At the same time, it is also a concrete approach for analysing opportunities for and risks to livelihood improvement. Feel free to modify and use the framework as you think appropriate.

The analytical framework is divided into two parts.

- Part 1 describes the minimum elements for design relying on the construction of a livelihood profile for food-insecure groups; and
- Part 2 outlines an approach for monitoring NRM and livelihood diversification activities.

PART 1: LIVELIHOOD PROFILES

A livelihood profile provides a more comprehensive view than usual of the livelihood strategies and assets that people use in pursuing and securing their livelihoods. A livelihood profile can therefore help you to understand better:

- who the most food-insecure groups are in a particular vulnerable area;
- the assets upon which these different food-insecure groups rely;
- how they combine these assets in a livelihood strategy; and
- when and why these strategies are vulnerable and the key risk factors.

This information, while particularly valuable for design, can be used throughout the programme cycle during implementation, monitoring and phase-out.

Specifically, livelihood profiles assist us to:

- identify people's priorities and interests using a people-centred and participatory approach;
- identify different entry points for assistance, including WFP food aid;
- address the linkages between food aid and national policies, legal frameworks, institutions and processes;
- link different types of interventions;
- play a larger role in advocating for the food insecure;
- avoid conflict as a result of introduced activities and help diffuse existing latent tensions; and
- identify and remove social, political and institutional blockages.

The elements of a livelihood profile are:

1. **livelihood assets** of food-insecure groups: natural, human, financial, social and physical;
2. **livelihood strategies** of food-insecure groups: agricultural production, wage labour, migration, formal sector employment, sharecropping and coping mechanisms;
3. **vulnerability context:** including risks, conditions and trends; and
4. **political, legal and institutional context:** the factors that enable or do not permit people to make optimal use of or create new assets.

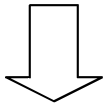
Linking VAM's Standard Analytical Framework with Livelihood Profiles

A standardized vulnerability methodology called the Standard Analytical Framework (SAF) is in the process of being developed for VAM use. Broadly, this is constructed through a three-step process involving a literature review, a secondary data analysis and a community food security profile. The SAF produces a vulnerable area profile that helps identify vulnerable areas, broad groupings of food-insecure people and their main livelihood strategies.

Developing a livelihood profile is the next step. The livelihood profile builds upon the SAF, fills gaps with respect to natural resource management and livelihoods and generates new information about the livelihoods of the food-insecure groups identified. Developing a livelihood profile relies heavily on participatory approaches to help deepen understanding of the food consumption problems for women and men in each food-insecure group, their livelihood strategies, their vulnerabilities and ways of overcoming these vulnerabilities. Thus, the profile can act as the basis for activity selection. Table 1 summarizes the VAM SAF and shows how livelihood profiles link with it.

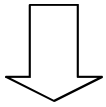
Table 1
Linking the Standard Analytical Framework and Livelihood Profiles

VAM's Comprehensive Vulnerability Assessment (CVA) process	
Literature Review (LR)	The LR provides an initial source of information about the sub-national food security and vulnerability status and dynamics in a country.
Secondary Data Analysis (SDA)	The SDA uses secondary data of all kinds to describe the sub-national food security and vulnerability status and dynamics in the country.
Community Food Security Profile (CFSP)	The CFSP recognizes, and is a response to, the limitations of secondary data analyses in identifying the nature and causes of vulnerability at the level of vulnerable communities and households. Nevertheless, the primary data collection and participatory analysis will be undertaken in the priority areas profile.



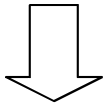
Vulnerable Areas Profile (VAP)

The VAP is a description of the food security and vulnerability status and dynamics in the most vulnerable zones and among the most vulnerable socio-economic groups of the country, based upon participatory approaches, and is the basis for a VAM input to the CP.



Livelihood profile analysis begins here

Livelihood Profile Analysis	
Identification of **livelihood assets** of food-insecure groups	Identification of main **livelihood and coping strategies** for food-insecure groups
Identification of **political, legal and institutional context**	Examination of **vulnerability context** and major conditions and trends for each food-insecure group



Livelihood profile

Developing a Livelihood Profile

As indicated in Table 1, the main elements of a livelihood profile are:

1. Livelihood assets
2. Coping strategies
3. Vulnerability context
4. Political, legal and institutional context

Each element contains key areas of analysis and the minimum information required.[46]

Livelihood Assets

Tangible and intangible assets help people to meet their needs. These assets include:

- **Natural:** land, forests, water, common-property resources, flora, fauna;
- **Social:** community, family, social organizations, organizational networks;
- **Financial:** wage employment, savings, credit, investments;
- **Human:** education, health, nutrition; and
- **Physical:** roads, markets, clinics, schools, bridges.

Key areas of analysis

- What is the distribution of assets between men and women and different groups?
- How has people's asset status changed over time?
- What is the importance of the particular assets in people's livelihoods?
- What are the interactions between different assets?

46 Refer to Guide to Deepen Understanding: Participatory Tools and Techniques for more information.

Table 2
Information Areas and Tools for Asset Mapping

Priority area	Information areas[47] (disaggregated)	Possible participatory tools: participatory rural appraisal (PRA) techniques
Natural Assets	• Major natural resource types • Condition of the natural resource • Diversity of natural resources that groups depend on	• Village resource maps • Transect walk • Resource time lines • Focus group meetings
Social Assets	• Informal groups and networks • Reciprocal arrangements for resource sharing • Community-based safety nets • Kinship arrangements and family ties • Participatory decision-making with respect to management of natural resources	• Social network map • Key informant interviews • Stakeholder analysis • Venn diagrams • Exploring the decision-making process
Financial Assets	• Sources of income • Distribution of intra-household income • Markets for goods • Non-farm employment • Savings and credit	• Daily schedules • Benefits analysis • Seasonal calendars • Expenditure surveys • Household interviews
Human Assets	• Indigenous knowledge of natural resource management • Health and nutrition status • Literacy and education • Skills base	• Seasonal calendar • Daily schedule • Youth focus groups • Household surveys
Physical Assets	• Roads and means of transport • Agricultural implements • Sanitation and quality of housing • Schools and health centres	• Community maps • Problems and solutions matrix

47 The information requirements presented in this table should be considered the minimum necessary for developing a livelihood profile. Particular situations may require additional information areas.

Livelihood and coping strategies

Analysing livelihood strategies involves understanding how people use and combine their assets to meet short- and longer-term needs. It also involves understanding how people cope in times of stress and shocks. It is important to note that livelihood priorities between women and men will differ given existing cultural norms and differing access to and control over livelihood assets and resources. An understanding of the livelihood strategies of women and men allows planners to identify activities to improve livelihoods by increasing alternatives and options, and reducing risks.

Strategies can include combinations of activities, including market-oriented activities (e.g. agricultural production, off-farm employment, formal sector employment) and subsistence production activities. People adapt their livelihood strategies over time and from one season to another in order to adapt to changing needs and asset status.

Food-insecure groups are highly vulnerable at times of stress and may therefore need to adopt coping strategies. A coping strategy is a dynamic process in which people adapt the activities they undertake, the resources they use and the allocation of their time during periods of stress. Coping strategies may produce short-term relief, but they have negative long-term effects:

- the depletion of natural resources caused by over-intensive use of land;
- food shortages, because households are forced to sell seeds;
- the depletion of household assets through the sale of agricultural tools; and
- increased workloads for women, who also undertake additional tasks.

Key areas for analysis

- How do people's strategies and use of assets change over time, by season and at times of stress?
- What are people's objectives and what additional assets are needed to allow people to reach these objectives and diversify their livelihoods?
- How do women and men use assets and time available for subsistence and market-oriented activities in their livelihood and coping strategies?
- How do coping strategies adapt in relation to changes in assets?
- What are the effects of livelihood and coping strategies on the natural resource base?
- What is the relationship between the strategies of different groups?

Table 3
Information Areas and Tools for Livelihood and Coping Strategies

Disaggregated information areas	Available tools (PRA)
Livelihood strategies • Livelihood strategies • How natural assets are used • Relative importance of different assets in the livelihood strategy • How different assets are combined • Investments in assets for the future • Time allocated to different activities • Asset constraints on options of livelihood strategies	• Seasonal calendar • Time line • Benefits analysis flow chart • Proportional piling • Problems and solutions • Focus-group meetings
Coping strategies • Type and quantity of asset depletion (livestock, seeds, storage food, agricultural tools, etc.) • Migration: temporary, seasonal, permanent • Changes in food consumption patterns • Use of safety nets (family, community, etc.) • Non natural-resource-based activities performed • Change in workload • Strategies adopted during the natural, economic, social or political crisis	• Seasonal calendar • Time line • Daily schedule • Problems and solutions • Exploring the decision-making process • Focus-group meetings

Vulnerability Context

Analysing the vulnerability context means identifying factors that directly influence the livelihood strategies of people depending on degraded natural resources. This involves analysing the characteristics of shocks (types, trends and seasonality) and people's ability to cope when a shock occurs. Much of this data is collected by VAM units in their vulnerability analysis. Therefore, it is important to review at the outset what data have already been collected and identify gaps in the available data.

Shocks are important determinants of food and livelihood insecurity and affect different livelihood groups in different ways. In addition, the difference in the strategies pursued by women and men means that similar shocks may have different effects on their livelihoods and ability to cope. Participatory methods and key informants can be particularly useful in this regard.

The vulnerability analysis will produce an overall picture of the vulnerability context within a particular community or area. It will also identify the major risk factors as summarized in Tables 4 and 5.

Key areas for analysis

In designing natural resource management and livelihood activities the essential points with respect to the vulnerability context are:

- What are the major shocks (natural, conflict, economic) and are any of these recurring?
- When do people suffer food shortages, how "deep" are the food gaps and how long do they last?
- What are the origins of seasonality (climatic, festivities, social obligations)?
- Is the community experiencing a steady increase in vulnerability and steady erosion of assets?
- What are the effects of shocks on men and women and on different groups?

Table 4
Information Areas and Tools for Analysing the Vulnerability Context

Area for analysis	Disaggregated information areas[48]	Available tools for primary and secondary data gathering
Trends	• Decreasing natural resource base • Degradation of natural resource base, including land, forest, water, biodiversity • Morbidity and mortality of animals, children • Food prices across the year • Tensions over natural resource use • Food prices	• Resource time lines • Resource maps • Focus group meetings • Conflict and resolution time line • Conflict and alliance mapping • Stakeholder analysis • Secondary data on climate, food prices, health
Shocks	• Natural shocks and disasters, including droughts, floods, earthquakes, landslides • Crop losses • Human health shocks, including HIV/AIDS • Conflict • Economic shocks	• Resource time lines • Focus group meetings • Conflict and resolution time lines • Conflict and alliance mapping
Seasonality	• Fluctuation in crop harvest and access to food at different times of the year • Length and intensity of hungry period and effects of "hungry period" • Use of cash income during certain times of the year (e.g. for school fees, festivals) • Availability of income-earning opportunities (agricultural, non-farm) • Proportion of household food needs met by own consumption and portion purchased • Proportion of output marketed • Price differences for crops and predictability of seasonal price fluctuation • Level of food stores across the year • Changes in health status by season	• Seasonal calendars • Resource maps • Focus group meetings • Resource time lines • Secondary data - meteorological - price, economic - health

48 This information builds upon VAM analysis.

Table 5
Understanding Risk and Vulnerability Factors Affecting Livelihood Assets

Livelihood assets	Factors that influence risk				
	Environmental	**Political**	**Social**	**Economic**	**Conflict**
Human assets	Disease epidemics (malaria, cholera, dysentery) due to poor sanitary conditions, AIDS	Declining public health expenditures, user charges, declining education expenditures	Breakdown in community support of social services	Privatization of social services, reduction in labour opportunities	Destruction of social infrastructure, mobility restrictions
Natural assets	Drought, flooding, land degradation, pests, animal disease	Land confiscation, no secure tenure rights, taxes, employment policies	Appropriation and loss of common property resources, increased theft	Price shocks, rapid inflation, food shortages	Loss of land, assets, and theft
Financial assets	Drought, flooding, pests, animal diseases	Change in banking institutions, credit opportunities	Increased theft	Price shocks, food shortages	Loss of assets, grain stores, and theft
Social assets	Recurring environmental shocks break down ability to reciprocate (households unable to retain assets for exchange) Morbidity and mortality affect social capital	Reduction in safety net support (school feeding, supplementary feeding, FFW, etc.)	Breakdown of labour reciprocity, breakdown of sharing mechanisms, stricter loan requirements, lack of social cohesion	Shift to institutional forms of trust, stricter loan collateral requirements, migration for employment	Displacement of communities resulting from armed conflict; theft and breakdown in trust
Physical assets	Seasonal climatic fluctuations, drought, flooding cyclones, affecting infrastructure, shelter, access to water, conditions of productive equipment	Poor maintenance of infrastructure on the part of government	Poor maintenance of infrastructure on the part of community	The cost of physical capital is too expensive	Infrastructure destroyed by war

Political, Legal and Institutional Context

A livelihood perspective can be a valuable way of bringing the broader political, legal and institutional context together with the livelihood strategies of the poorest. This is sometimes referred to as linking the micro and the macro as it obliges us to look at the policy, legal and institutional factors that can enable people to obtain livelihood security. Conversely, it allows us to identify those factors that prevent people from securing their livelihoods.

It is most often political, legal and institutional factors that affect how people use their assets and build other assets, and that prevent people from using these assets to secure their livelihoods.

These factors operate at community, regional and national levels, and sometimes even at the international level. From an activity design perspective the most important levels to consider are:

- *States*, which provide services and safety nets, and make laws and policies that can expand or limit freedoms that affect people's livelihood security;
- *civil society organizations* (NGOs, CBOs, parastatals, cooperatives, churches), which can provide enabling conditions or constrain opportunities for households by including or discriminating against certain groups;
- *formal networks*, which support livelihood strategies that people pursue through advocacy; and
- *the private sector*, which can also create or limit households' opportunities, for example by impeding or facilitating market transactions.

NRM and livelihood activities are embedded in a complex web of historical, political and social relations that often enables a powerful minority to dominate the majority. It is important in any analysis to take these various institutions into account and understand conflicting interests and the relative political strengths of different organizations.

At a minimum we should seek to avoid inequitable distribution of activity benefits, but we can do more. Understanding the blockages that prevent people from creating new or using existing assets and then working to address those that are within WFP's mandate are fundamental in building sustainable livelihoods.

Key areas of analysis

In designing natural resource management and livelihood activities the essential questions with respect to ***political, legal and institutional factors are:***

- Key stakeholder: *who are the natural resource owners*? Are resources owned, used, managed, and by whom (State, private owners or in common)?

- Entitlements[49] and rights issues and ensuring that entitlements and rights are equally respected and protected for all stakeholders: *who are the rights holders to natural resources?* Are rights clearly defined in the law and customary rules? What restrictions are present? Are customary rights legally recognized and enforceable? What use and/or managerial rights do women and marginalized groups have?

- Arrangements to enable the participation of marginal groups and ensure that costs and benefits will be equitably distributed: *which are the responsible institutions?* Which institutions are responsible for regulating use? Do these institutions fairly represent the interests of WFP's beneficiary groups?

- Overcoming conflicting interests and relative political strength: *what are the potential effects of WFP-supported NRM activities and livelihood activities?* How will proposed activities affect women's and men's access and control over natural resources? Are rights to natural resources made more secure for targeted women and men?

The following table provides an overview of the most relevant types of information in an analysis of political, legal and institutional issues.

49 Entitlements refer to legitimate, effective claims over sets of benefits derived from goods and services, which are instrumental in achieving well-being (e.g. entitlement to food can come about either through land-self sufficient production or through income- purchasing power).

Table 6
Information Areas and Tools for Political, Legal and Institutional Factors

Area for analysis	Disaggregated information areas	Available tools (PRA)
Resource owners	• Major natural resource types • Identification of stakeholders by resource use and user group • Concerns of each stakeholder group	• Village resource maps • Resource time lines • Stakeholder analysis • Focus group interviews • Household interviews
Resource rights holders	• The formal, legally defined tenure frameworks by resource type and user group (as laid down by statute law) • Existing formal legal structures by resource type and user group • Resource use rights and rules governing access or exclusion; restrictions • Access to common-property resources by group • Mechanisms to ensure that rights and entitlements of all stakeholders are equally respected and protected • The state of land markets	• National/district legislation • Land use policies • Resource use directives • Local conventions on land allocation/inheritance • Focus group meetings • Household interviews • Stakeholder analysis
Arrangements and responsible institutions	• Membership of local organizations • Traditional safety nets • Relief assistance programmes • Collective action mechanisms • Local governance systems • Role of local government, NGOs and donors • Advocacy mechanisms • Agreements reached on future access to and use of resources during and after the activity • Concrete benefit-sharing arrangements mutually agreed upon	• Social maps • Institutional diagrams • Stakeholder analysis • Key informant interviews • Understanding the decision-making process • Benefits flow analysis • Access to and control of resources/assets • Mapping the institutional landscape
Conflict management and arrangements to mitigate possible negative effects	• Indigenous technical knowledge • Gender roles in conflict management • Identification of those who will gain through the activity and those who will not • Parties responsible for paying compensation identified • Compensation arrangements in place for those who may suffer as a result of the activity	• Capacity match analysis • Conflict and resolution time line • Conflict and alliance mapping

Analysing Livelihood Data[50]

A livelihood analysis has the potential to generate too much information; thus it is important to determine from the very beginning:

- what is "necessary to know";
- what decisions will be made; and
- the strategy for linking qualitative and quantitative data.

Thus identifying the questions to be answered is critical. The analysis of information in the livelihood profile will contain both secondary and participatory primary data to help develop:

- a basis for deciding on activities;
- a baseline and preliminary indicators;
- insights on potential partners and their interests and capacities;
- an entry point for participation; and
- possible risks and factors that may limit attainment of results.

These elements will feed into the activity log-frame and help to determine the feasibility of the proposed activities.

To obtain the full benefit from the livelihood profiles, involve the people who provided the information in collating, analysing and developing the livelihood profile. This will increase group ownership and improve the ability of those people to participate in and understand decision-making processes. This type of empowerment can enable women, men and children in the future to secure their livelihoods.

50 Refer to Guide to Deepen Understanding: Participatory Tools and Techniques for more information.

PART 2: MONITORING NATURAL RESOURCES AND LIVELIHOODS

Introduction

While there are no M&E systems specifically designed for assessing livelihoods, experience has shown that following five underlying livelihood principles will help in developing and implementing livelihood monitoring and evaluation activities. These principles are summarized below.

- **People centred, gender sensitive and participatory:** livelihoods monitoring should be people centred, assessing not only whether the priorities of poor men and women are being addressed, but also their relative capacity to respond to various challenges. Thus monitoring of natural resources and livelihoods will need to be integrated into ongoing monitoring systems so that:

  - overall design and implementation of the system is a joint effort by stakeholders, including donors, partners and beneficiaries;
  - indicators (both qualitative and quantitative) are identified and negotiated with partners and WFP food-insecure groups, including both men and women; and
  - partners and WFP food-insecure groups are involved in the collection and analysis of information.

- **Comprehensive and cross-sectoral:** This requires looking beyond one type of programme outcome to consider a number of different effects on women and men, resulting from changes in: assets (natural, social, human, physical, financial), livelihood strategies, the vulnerability context and the political, legal and institutional context.

- **Go beyond local level:** It is important to trace actions and results not only at the local level but also at the district, national or policy level, and the linkages between these levels. Increasingly livelihoods are affected by factors outside the community.

- **Dynamic:** Given that livelihoods are dynamic and influenced by seasonal, cyclical and other trends it is important that these changes are captured by monitoring, for example changes in vulnerability and trends rather than only livelihood status.

- **Outcome oriented:** The sustainability of interventions should be considered not only in terms of environmental sustainability but also economic, social and institutional sustainability.

Using the above principles as a foundation, livelihood monitoring systems can be set up to meet a number of objectives. They can be used to:

- quantify changes in livelihoods (assets and outcomes) among food-insecure groups;

- understand the causes of these livelihood changes; and
- understand and analyse factors beyond the immediate purview of the activity and examine their effects on livelihood vulnerability and security.

Key Issues for Natural Resources and Livelihood Monitoring

Natural resource and livelihood monitoring normally use a range of quantitative and qualitative methods to explore livelihood results. The use of different methods allows us to develop a picture of the livelihood status of the poor, their use of assets and livelihood strategies, the vulnerability context and the political, legal and institutional context. Thus, natural resource and livelihood monitoring can be undertaken to answer a number of questions:

- How is the activity addressing key vulnerability factors facing food-insecure groups?
- What are the ways in which improved natural resource management and income-earning opportunities are improving livelihoods?
- What are the current trends in asset acquisition and depletion among project participants and how are activities affecting these assets?
- Is the activity having differential effects on men and women or different ethnic groups?
- How are benefits shared and are distributional equity measures taken into account?
- What contributions are NRM activities making to sustainable livelihoods (productivity, non-land-based income)?

Many of the issues related to the design of a natural resource management and livelihood monitoring system are set out in the livelihood profiles (see previous section). Table 7 depicts this relationship using a few issues related to livelihoods as an illustration of the linkages between livelihood profiles used for activity design and questions related to livelihoods monitoring.

Table 7
Livelihood Monitoring System: Key Questions[51]

Key questions	Expected information for monitoring purposes	Monitoring elements linking livelihood profiles
Question 1: assets and livelihood strategies What changes are occurring in the assets and livelihood strategies of food-insecure groups?	• Livelihood characteristics identified by food-insecure group • Changes in the livelihood assets, strategies and results outcomes tracked across seasons and years	• Livelihood profile baseline – full set of indicators taken from a sample of participants at the start of project • Livelihood baseline follow-ups at mid-term and after five years • Livelihood tracking surveys – using a subset of the livelihood baseline on a more frequent basis • Review of secondary data supplemented with fieldwork to identify the major household livelihood characteristics in the activity area • Case studies of post-activity households to understand what happens after the project finishes • Case studies looking at the intra-household effects of WFP-supported activities
Question 2: the vulnerability and political, legal and institutional context The bigger picture – what is happening in the broader livelihood context?	• Processes, vulnerability trends and political, legal and institutional dynamics affecting livelihoods • Tensions and conflicts over natural resources	• Case studies on changing institutions and policies • Reactive case studies responding to key livelihood issues identified by WFP and partner staff
Question 3: roles, responsibilities To whom are the changes identified in questions 1 and 2 attributable? Are they meeting responsibilities?	• Key linkages of activities results, both participating and non- participating households • Role and responsibilities of local organizations and national and international institutions	• Case studies with participants to identify cause/effect relationships • Institutional assessments of key service providers • Surveys to verify and assess the relative importance of the key linkages • Case studies of non-participating households to understand indirect (positive and negative) outcomes linked to activities

51 Turton. 2000. Livelihood Monitoring System: Follow-up Visit. Bangladesh.

Examples of cross-cutting issues to be monitored are:

Conflict
- Are there indications of increasing tensions as the activity is implemented? What is the cause of these? Can they be addressed by making minor alterations to activity design or implementation practices?
- Have stakeholders changed their position over access to and use of resources? If so, what are the implications for a successful outcome to the activity?

Tenure
- What activities are overcoming obstacles to secure tenure and mitigating adverse effects of insecure arrangements? Examples are negotiated agreements on access (short-term strategy), legal changes and promoting awareness and cultural change (long-term strategies).
- Are there problems with land confiscation, high land taxes, or land use policies?

Environment and Health
- Are disease epidemics caused by poor sanitary conditions improving?

It is important to remember that although a specific activity may have particular inputs and outputs, natural resource management and livelihood outcomes are often a result of additional and external factors. For example, food aid might be utilized as a means to foster soil and water conservation, but this represents an improvement to only one aspect of an overall livelihood strategy. Education, health, participation in political life and local associations, and physical safety are all equally relevant. An understanding of these factors highlights what needs are currently not being met and which trade-offs occur.

Livelihood monitoring is most effective when based on iterative learning processes that complement other monitoring activities, for example those that capture output delivery. Through periodic review lessons learned can be documented. These lessons will address both results and processes. Stakeholders at the community and regional levels can be brought together to interpret and analyse the information generated by monitoring.

Refer back to the strategies described in Chapters 5-10 for specific examples of natural resource and livelihood strategies, indicators to be measured and prospective outcomes. Remember that the strategies and indicators are intended as a guide and will have to be locally adapted to consider time, resources and problem areas to be tracked.

Working in partnership will help to develop a feasible approach for using livelihood diagnostic techniques to ensure good targeting and design. Similarly, opportunities exist to conduct livelihood monitoring with partners to capture both the intended and unintended consequences of activities and advocate for the removal of those factors leading to unintended negative consequences.

Chapter 12

Speaking on Behalf of the Poor

Chapter 12

Speaking on Behalf of the Poor

Successful implementation of NRM and livelihood activities may depend on effectively advocating to raise awareness on a select number of issues. Advocacy with, for example, donors, government counterparts or other partners, will be aimed at enhancing WFP assistance programmes generally within the context of United Nations Country Team efforts.

It is important to differentiate advocacy from broader public relations efforts – for example those that try to mobilize food or complementary resources for food-insecure people, or seek to establish or modify national food security policies. Rather, the focus of issue-related advocacy is on legal, policy and institutional changes that address issues related to natural resource entitlements that directly impact on people's food security. These changes may be promoted in a number of areas, such as land titling, inheritance laws or forest management.

In the context of Objective 5 of the Enabling Development policy, advocacy means activities undertaken by the country office with donors, national, regional and local counterparts and NGOs to:

- increase beneficiaries' access to and control over natural resources and other assets created with food aid support;
- ensure equal[52] sharing of short- and long-term activity benefits by both women and men;
- promote institutional, cultural, social, political and legal changes to improve the condition of women, the rural poor and indigenous people and minority groups; and
- promote investment in marginal, low-potential areas.

It will be important to select topics carefully for advocacy and ensure that they will strengthen WFP's natural resource management and livelihood programmes. The

52 Implies affirmative actions to overcome gender gaps.

selection of topics, therefore, will need to be based on a thorough understanding of the institutional, legal and structural factors that need to be in place to support the programme. This analysis will rely on WFP's various assessment processes (for example, all of the key steps of the VAM Standard Analytical Framework) to arrive at programme-specific advocacy topics and strategies. Identified topics and strategies will need to be discussed with the Country Team and other partners to determine how best to treat a particular issue.

The issues will be very country-specific, depending on whether existing policies, institutions and/or customs are inequitable in terms of the poor, women or minority groups and how they are inequitable. Three important steps in arriving at the appropriate advocacy strategy could include:

1) identifying the issues through a consultative process;
2) deciding who is best placed to raise the issue; and
3) agreeing on the best approach for achieving awareness with the identified parties.

In some cases it may be in the best interest of WFP's beneficiaries to let others with experience in advocacy raise issues.

Advocacy Issues: Examples of possible advocacy issues related to natural resource management and livelihoods are:

- security of land, forest and water tenure (e.g. land titles to land rehabilitated through food aid for women, tribal or indigenous people). This could also include calling for a review of national and local policies related to women's land ownership;
- equal benefit-sharing arrangements for assets created, equal harvesting rights to forest products or water use arrangements;
- strengthening agricultural extension services to reach women more effectively;
- lobbying for and facilitating the recruitment of female national project staff and female staff for monitoring and assessments;
- ensuring that basic minimum requirements for settlement areas are met, including sustainable resettlement strategies and equitable and sufficient resettlement packages;
- greater research on topics to address food security for those living in marginal areas, for example improved varieties of staple foods and intermediate food-processing technologies for women; and
- ownership and rights for communities regarding local plant varieties. It is important to increase understanding of the rights issues surrounding patenting and use of local varieties and advocate to protect people's traditional knowledge of their natural resource base.

WORLD FOOD PROGRAMME
Via Cesare Giulio Viola, 68/70 - 00148 Rome, Italy
Web Site: http://www.wfp.org
E-Mail: wfpinfo@wfp.org