Thomas Hoerz

with Nancy Chege, Karen Jacobsen,
Muiruri J. Kimani and Charles O. Nyandiga

Participatory Environmental Management for Refugee Hosting Areas

A Sourcebook for Decision Makers and Fieldworkers

Concepts, Experiences and Guidelines for Participatory Environmental Mitigation in Refugee Hosting Areas of Kenya, Tanzania, Uganda and Congo DR

Impressum

Thomas Hoerz with Nancy Chege, Karen Jacobsen,
Muiruri J. Kimani and Charles O. Nyandiga:
Participatory Environmental Management for Refugee Hosting Areas –
A Sourcebook for Decision Makers and Fieldworkers

Publisher's address:
Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH
GATE-ISAT
P.O. Box 51 80
D-65726 Eschborn
Telephone: 49/6196/79-3185
Fax: 49/6196/79 73 52
email: gate-isat@gtz.de

Contents

List of Figures, Charts and Text Boxes

Figures

Charts

Text Boxes

Preface

The engagement of GTZ in environmental management of refugee hosting areas dates back to the early 1980s, when activities for fuel-supply, afforestation and energy-saving where carried out for Afghan refugees in northern Pakistan. Since then, numerous other projects have been carried out under the umbrella of UNHCR refugee assistance programmes in Somalia, Ethiopia, Kenya, Zaire (now Congo), to name only a few African countries. While the on-site experience is vast, GTZ has only started in 1995 to consolidate it's knowledge about 'refugee hosting environments' with the publication of a literature review by the same author.

GATE-ISAT is a service provided by GTZ for the development, adaptation and dissemination of Appropriate Technologies that use local resources to improve the economic, ecological and socio-cultural conditions of disadvantaged segments of the population. It is highly appreciated that GATE-ISAT has addressed the issue of environmental management in refugee hosting areas. The sourcebook is just in time to complement the results of a comprehensive UNHCR research project "Towards Sustainable Environmental Management Practices in Refugee-Affected Areas" (TSEMPRAA). Author and co-authors, most of whom had been involved in TSEMPRAA-project as well, summarize and make accessible and ready-for-use the state-of-the-art in a field of growing complexity and concern.

The sourcebook which is presented here fills a gap that had long been felt. It provides a theoretical framework, methodology and management concepts and a range of implementation examples for practicioners and planners in the field of environmental management for refugee settlements. It's focus on participation goes beyond the 'grassroots-approach' of the 1980s but advocates under the term of 'participatory systems' a much wider understanding of interinstitutional cooperation to tackle complex emergency situations. Based on this understanding, the sourcebook provides yet another step in making development-orientied emergency aid of which refugee programmes are an important part become practical in the field.

The lessons learnt in recent years are condensed in the sourcebook: first, participation should involve all of the important stakeholders during all stages of environmental management. Second, participation can best be achieved with a mix of appropriate institutional structures, the application of sound methodologies and by the creative use of tangible benefits for all those who participate.

In the concluding chapter, recommendations are listed for all those, for whom the sourcebook had been written: host government officials, UNHCR and other international agencies, field personnel and planners of implementing agencies, donors and, last but not least, the leadership of refugees and the local population concerned.

It is our hope that the study will encourage planners and practitioners to follow new paths in emergency environmental mitigation, leading to less short-lived and more sustainable projects of resource protection. The final yardstick for the success of participatory systems, however, will be the well-being of refugees and their local hosts.

Last not least we want to express our sincerest appreciation to all the people and institutions that contributed with their experience and advise to the making of the sourcebook.

Introduction

Why this sourcebook was written

Environmental degradation in refugee hosting areas (RHAs) has received increasing attention over recent years. Refugee movements and refugee settlements have been regarded increasingly not only as a humanitarian and political problem. The care for refugees is not only viewed as a logistical challenge, but also as a challenge to find durable solutions through integrating care & maintenance assistance, local settlement, resettlement, repatriation and reintegration programs. A major challenge is also to provide refugees with protection.

Environmental degradation, occurring during forced and mass migrations and in RHAs, features negatively in all the above mentioned challenges: not only are the refugees themselves threatened by diminishing firewood resources or polluted water, but the local population may find that the erosion of the natural resource base threatens their livelihoods and economic opportunities in the RHA. Irreversible degradation of valuable ecosystems are of international concern. Security concerns of host governments, inevitably linked to the stay of refugees, often have an environmental dimension. Competition over scarce natural resources and grievances over environmentally destructive practices can lead to hostility between refugees and the local population with negative implications for refugee protection and agencies' operations. Environmental degradation, brought about by refugees or aggravated by their prolonged presence can affect the willingness of host governments to cooperate with aid agencies or to host refugees at all.

In addition to systematic and scientific assessment and planning, sound management of environments under threat require behavioural change by the affected populations *and* aid providers. This change must be based on a consensus *how* to utilise the natural resources among those who live in the ecosystem (refugees, local population) *and* those who plan and implement assistance. Experiences with participatory approaches involving refugees, locals, the host government and relief agencies are not new, but their success has been limited. The sourcebook, therefore, attempts to contribute to a learning process and to policy development on how best to involve important stakeholders in sustainable resource management of RHAs.

Participation – in the way the term is still often understood – is not the sole solution to environmental problems in RHAs and elsewhere. It needs to be complemented by other tools and methods, for example scientific research and planning, effective management and security systems. The sourcebook, however, (remaining with the above examples) advocates to view researchers, planners, administrators and security officers as participants in the same system of decision making as the 'classic' clientele of participatory approaches, the refugee and local communities.

General concepts on participation that were developed by the authors do not only apply to environmental management. Participatory approaches are applicable in other areas of refugee assistance such as settlement planning, primary health care, water and sanitation, education and income generation. Refugees should be perceived as creative and productive participants and the local population should be involved in the assistance programmes. Environmental mitigation in RHAs can continue to pilot this learning process and its implementation in the field. Many other areas of refugee assistance like water supply, food provision and curative health care are to some degree manageable by technical and organisational interventions, even though participatory elements have become standard procedure. The natural resource base, in contrast, can *only* be utilised in a sustainable way if all those who depend on a productive and intact environment participate actively.

It may often seem as if the research team 'demands' a *maximum* degree of participation which to achieve is neither feasible nor desirable. While we are well aware of practical limitations in the field, we advocate to engage in a *process* towards an *optimum* degree of participation, according to the specifics of the prevailing refugee situation. To support this process, the sourcebook offers a wide range of concepts, practical ideas and examples. Because the starting points for such processes are so different from situation to situation and so fluid in time, we had to do without trying to define (minimum) standards for participation.

The sourcebook is based on research carried out in Kenya, Tanzania, Uganda and Zaire (now Congo). Field visits to refugee camps, UNHCR Sub-Offices and Branch Offices were complemented by talks with local and district officials

as well as officials from the central governments of the four refugee hosting countries. The research areas include a wide variety of different climates, settlement structures and political systems. GTZ as an implementing partner of UNHCR or as a development agency in the RHAs is or has been involved to some extent in all four countries and has therefore a keen interest in participating in learning process with a regional focus.

The field research was severely hampered by the recent military and political changes in Zaire and Tanzania. While the Tanzanian government forced the repatriation of hundreds of thousands of Rwandan refugees, civil war in Zaire forced similar numbers of refugees either west into the forest or east back into Rwanda. The fluidity of refugee situations is a factor which both researchers and implementers have to deal with. Agencies must learn to act with short time horizons, prefer second best solutions to no solutions at all and strike a permanent compromise between seemingly efficient relief solutions and supposedly slow developmental approaches.

In this sourcebook, we have attempted to combine practical experience and proven field approaches with broader theoretical concepts of participation and participatory systems. Participatory approaches which are promising can be found in almost every refugee camp or settlement. In fact, none of the environmental mitigation projects we visited worked *without* such approaches. However, none of the four countries has a fully developed participatory system involving all stakeholders and all levels of decision making. Participatory approaches still depend largely on the initiative of committed individuals who have a strong belief in developmental approaches for refugee situations.

For whom the sourcebook was written

This book was written for the field workers engaged in environmental mitigation in refugee hosting countries of Africa and, to a limited extent, for other countries around the world which host refugees.

The sourcebook is also addressed to relevant government officials who will find strong justifications for their increased involvement in refugee & environment issues. We also hope that the sourcebook will stimulate realistic policy development in capital cities, and at district and local levels. The example of hospitable governments like Uganda, who make their limited resources available to refugees, while furthering their own development in cooperation with refugee assistance, deserves being mentioned prominently.

For planners, the sourcebook will provide insight into developmental and participatory approaches of project planning. Donors, it is hoped, will acknowledge the need for longer-term allocation of funds and increased integration of relief and development funding.

Technical staff, engaged in environmental mitigation in RHAs may be disappointed by the lack of deeper insights in technical environmental solutions. Technical areas have been examined only insofar as they provide (or demand) options for increased participation. For technical staff, it is important to mention, that participation cannot replace technical expertise. Both outside expertise and indigenous knowledge are complementary elements for sustainable solutions.

1. Introduction to Displacement and Environmental Management

The introductory chapter is written for those who are unfamiliar with the refugee-environment complex. It examines concepts like 'carrying capacity' and 'environment' and how refugees affect them. It examines the refugees' natural resource use and how it differs from the resource management systems of local populations as well as relief vs. development approaches to environmental mitigation. The institutional response to refugee induced environmental degradation is critically examined and options outlined. Finally, the need for specific responses to gender inequalities among the affected populations are outlined.

1.1 Fast Onset and Breakdown of Control

The rapid destruction of environmental resources associated with the 1994 influx of refugees into Tanzania and Zaire is a familiar but exaggerated version of most refugee influxes, which are generally of fewer numbers and spread over a longer time span. Nevertheless, the host governments and the aid providers are almost always caught by surprise, overwhelmed by the magnitude and simultaneity of tasks to be performed.

For good reasons, life-saving measures like the provision of food, water, urgent medical care and, last but not least, *protection* are in the foreground of UNHCR's mandate and implementing agencies' activities. According to UNHCR's environmental policy, environmental concerns should be dealt with from the onset of a refugee crisis. In practice, aid providers often have no choice but to allocate limited resources to life-saving measures first, unless areas of special environmental value are endangered as in the case of the Virunga National Park in Zaire and funds are specifically earmarked for environmental protection.

For the local population however, it makes no difference if the endangered environment is a national park or seemingly unproductive bush: they depend, often entirely, on the natural resource base for their livelihoods. For them, the ecosystem is a *livelihood environment.*

With a massive and sudden influx of refugees, traditional and legal controls on resource use break down due to the limited enforcement capacities and inappropriate protection designs. Refugees are allowed access to otherwise restricted resources on humanitarian grounds: refugees *have* to collect firewood where they are and they *have* to build shelter structures to support the UNHCR-donated plastic sheeting. If alternatives to nearby natural resources (e.g. firewood, building poles) cannot be provided or transported, the unsustainable use of resources is tolerated on the grounds that the stay of refugees is a temporary problem. In the case of large camps such as in the Ngara and Goma complexes, it is indeed impossible to fund and organise the provision of alternatives to locally collected firewood and building material over prolonged periods.

Population Density and Carrying Capacity

The sudden rise of population densities in refugee hosting environments is another problem in the refugee-environment complex. As opposed to natural population growth or economically induced migration, refugees have no option but to live where they are confined. Refugees lack the option to move to areas that are relatively abundant with natural resources like water, firewood and arable land. They are unable to avoid areas of scarcity or of already overused natural resources.

With traditional technology levels (house design, stove designs, agricultural practices etc.) and a population that has steeply risen, the demand for natural resources exceeds the productivity of the ecosystem. As a result, environmental destruction is unavoidable. One option for increasing the carrying capacity of a RHE is to improve natural resource use patterns. This can be done by intensifying agricultural practices, optimising the use of firewood, saving building material in house construction and improving the efficiency of charcoal production, to name only a few examples. Optimising the use of natural resources is a viable, yet limited, option for increasing the carrying capacity. It's main advantage lies in the sustainability and cost-effectiveness of measures, which involve training and awareness creation rather than supplies of material.

An expensive but effective measure to reduce pressure on the environment is the supply of alternatives to locally gathered material. If outside supply of firewood, water, and food can be sus-

tained during the stay of refugees, carrying capacities can be increased considerably. Urban settlements adopt in principle the same strategy and develop reasonably stable resource utilisation systems. A solution to the dilemma of impact vs. sustainability lies in the ability to balance both approaches: while massive supplies of alternatives are important during the initial stages of refugee settlement, they can be gradually (but only partly) phased out by optimising the use of local natural resources. Below are a number of factors to be taken into account when considering carrying capacities:

- size of the area which is utilised by refugees in terms of natural resource use
- size of the local and refugee population in the RHA;
- main use of natural resources (pastoralism, agriculture etc.);
- levels of pre-influx resource use and pre-influx environmental degradation;
- kinds of natural resources refugees depend on (poles, firewood, grass for thatching etc.) and those natural resources delivered by agencies;
- environmental mitigation efforts which are underway to compensate for or reduce the (over-)use of natural resources.
- ecological resilience of the RHA (soils, gradients, vegetation, precipitation etc.)

1.2 Refugee Resource Use vs. Local Resource Management

It is often argued that, in contrast to settled local populations, refugees are less inclined to develop long-term resource management strategies because of the uncertainty of the duration of their exile. Refugees are also sometimes perceived as 'exceptional resource degraders', not because they are indifferent towards environmental developments in the camp, but because they possess different environmental knowledge, have pressing material needs and often lack alternatives that will lessen the over-use of natural resources. However, the experience gained in environmental mitigation projects (EMPs) in Kenya, Tanzania and Uganda shows that refugees in principle agree with the need of environmental protection and hence the restriction of natural resource use.

Among the most important factors contributing to excessive environmental degradation is the lack of ownership over land, water sources, trees and other vegetation. Natural resources are most effectively protected by defined and agreed owner- and user rights. Except for Uganda, refugees have no secured usufruct rights over natural resources in the four researched countries. In the absence of such rights, traditional rules of locals and, to a lesser extent those of refugees, can regulate the use of common property. During the initial stages of refugee settlement, however, such rules have neither time to emerge, nor is there a mechanism in place by which rules can be negotiated between locals and refugees.

While the options for income generation for settled populations have diversified over time, a large percentage of refugees still depend on the available natural resources to supplement their rations. This is most evident with income generating activities such as production of charcoal, harvesting of grass, cutting of stems and poles or game poaching.

Chart 1 (page 9) summarises the main and typical differences concerning environmental management between local rural populations and camp-settled refugees. The chart does not apply to local urban populations and urban refugees. It also does not fully apply to a situation where refugees are self-settled or live in agricultural settlements.

There are many obstacles in trying to establish common grounds to use environmental resources jointly and sustainably. Communication, to begin with, is difficult and prone to yield misunderstandings especially if refugees and locals do not share similar language and culture. The host population may not see why they should make concessions for refugees they haven't invited to settle on their land. Refugees, on the other hand, may insist on their refugee status and their entitlement to goods and services to ensure their livelihood. But even if they have a sense of responsibility towards their host environment, they may be forced to over-use natural resources for their survival. It will be up to UNHCR, its implementing agencies and the host government to change these attitudes. This can be achieved by preparing the local population at the earliest possible time for the arrival of refugees:

- by involving the local population in settlement planning and camp-layout;
- by agreements with the local population about access to refugee facilities (water, health, education, employment, income generating activities etc.);
- by clarifying the economic benefits which arise from the stay of refugees and agencies (enhanced trade, increased transport facilities, cheap labour, etc.);

	Local Population	Refugees
Reason to settle in the respective area	• Availability of natural resources for agriculture or pastoralism; • lack of natural resources in other areas; • availability of resources for industry, trade, etc. • population pressure and agreements with neighbouring ethnic groups	• Political decision of host government, advice by UNHCR • wish to remain in border-close areas for early and easy return home • the natural resource base, especially water is considered for refugee settlement • security concerns of host government
Area of direct environmental impact	• depending on transport facilities (footing distance, donkey carts, lorries); • partly determined by trade links to market natural resources	• in most cases footing distance; • during prolonged stays, increasing radius by improved transport; • trade links less developed, of less importance for area of environmental impact
Dependency on natural resources	• often total dependence for all aspects of livelihood; • often no alternatives to farming, animal husbandry and gathering; • sometimes higher diversification of income through trade, industry, and government employment	• livelihood secured to a large extent by agency provisions; • initially, low diversification of income generating activities – high dependency on selected natural resources
Internal mechanisms to control access to natural resources	• common property resource management systems of various degrees; • traditional or written user- and ownership rights	• initially, highly restricted mobility through lack of transport facilities; • (agency facilitated) self restriction; • traditional natural resource use as practised in home country
External control mechanisms	• government environmental laws and regulations; • restrictions imposed by scarcity of natural resources	• government environmental laws and regulations • restrictions to movement; • agency imposed regulations; • 'hostile restriction' by locals; • restrictions imposed by scarcity
Negotiated control mechanisms	• ***self-restriction negotiated with other stakeholders***	• ***self-restriction negotiated with other stakeholders***
Environmental knowledge	• area specific and adapted to socio-economic conditions; • professional environmental knowledge adapted to local conditions	• specific to home areas, knowledge not necessarily applicable to RHE • environmental knowledge 'from home' may be complementary or innovative in RHE
Adaptation to environmental challenges	• difficult, as environmentally relevant practices are rooted in traditions and have proven successful over long periods	• less difficult as traditions are in flux and the change in (environmental) frame conditions from home to exile is obvious
Magnitude of environmental impact	• usually moderate, as population densities and environmentally relevant practices are balanced to some degree with environmental productivity and resilience	• often severe and sudden due to settlement sizes which are unrestricted by availability of natural resources

Chart 1: Differences Between Local and Refugee Natural Resource Use

- by making it clear that the duration of the stay of refugees cannot be foreseen and is likely to be longer than all parties wish;
- by explaining the contents of international agreements regarding refugees which the host government has signed and has to adhere to;

and by discussing with refugees as early as possible about environmental concerns:

- by cautioning refugees that funds for their relief supplies may dry up, leaving them more and more dependent on the natural resources of the RHA;
- by informing refugees about the foreseeable problems for them after depleting natural resources in the vicinity of camps;
- by enlightening refugees about traditional and legal regulations for the use of natural resources.

Wherever possible, these environmental sensitisation programs should be organised with and attended by both refugees and local communities to cultivate and encourage social interaction.

1.3 The Concept of Livelihood Environment

Resource-poor people perceive their permanent or temporary environment as a source of livelihood or, in extreme cases, as a base for survival. Their interest and willingness to participate in environmental protection is directly related to their interest in natural resources for income generation, subsistence and survival. Promoting participatory environmental management will be more feasible if the activities undertaken support the target groups' *livelihoods*, both in kind and in cash. Environmental concerns which should be addressed first and foremost are those that affect the communities' livelihoods directly and in the short run. These are, among others, their need for firewood, building material, water and problems related to sustainable agricultural production. Long-term environmental issues such as reforestation, biodiversity etc. can be pursued more efficiently when fundamental livelihood environmental issues are contained, and when the general environmental awareness can accommodate non-livelihood environmental concerns.

Text Box 1 shows, by an example from Northern Uganda, how environmental mitigation through addressing livelihood needs can work.

Priority for Agricultural Production

In Northern Uganda, over 300.000 (1995/96) Sudanese refugees live in agricultural settlements on land provided by the GoU and the local population. Gaining food self-sufficiency over the next years is a matter of crucial importance for the settlers. They are aware that food supplies by WFP will gradually be phased out and even present rations are often just covering the bare calorific minimum. In addition, agriculture is the most viable option for income generation. Agencies working in environmental mitigation are, besides promoting agricultural production, concerned with the dwindling tree cover around refugee settlements. Tree planting has become the dominant environmental activity, while refugees themselves continue to clear land for farming and harvest trees for sale or charcoal production.

This apparent clash of strategies can be resolved by *retaining soil fertility by means of tree integration*. There is often a perceived antagonism between agriculture and environment that prevents extension staff from exploring the common goals that exist i.e. in maintaining the agricultural productivity together with the environmental quality of an area. One approach is therefore to argue for trees *because* they can improve agricultural production rather than pointing out their value as an environmental asset, competing with agriculture for land and labour.

Text Box 1: Priority for Agricultural Production in Northern Uganda

The Need to Protect 'Non-Livelihood Environment'

Many people believe that exceptional ecosystems like the Virunga Park near Goma, a UNESCO world heritage, must be protected, regardless of whether or not there is an immediate consensus among the actors and irrespective of the role these ecosystems play in ensuring their livelihoods. Most importantly, such places should be avoided at all cost for refugee settlement and a save distance kept. If, for whatever reasons, refugees have been settled close to extraordinary ecosystems, environmental protection requires innovative approaches, awareness-building and education. Long-term benefits of protected areas, such as tourism, must be made transparent to the communities who depend on the same area for their livelihoods. These approaches often need to be supported by a careful set of regulations and sanctions. This is of particular importance during the early stages of refugee settlement, when pressing needs drive refugees to use resources unrestrictedly, and when agencies have

Trees planted by refugees are best protected around the homesteads of the owner

to allocate resources (manpower!) most efficiently. Certainly in the long run, participation becomes essential: gazetted areas or rare species cannot be protected over prolonged periods *against the residents* but only *with them*.

None of the principle groups of actors (host government, local population, refugees, UNHCR, implementing agencies) can be expected to have the same concepts of 'environmental protection'. But although individual and group concepts may diverge, they need not contradict each other. The art of facilitation is, therefore, to productively use the tension of diverging concepts for the common goal of sound environmental management. A precondition for this is an exchange of individual and group objectives and views regarding their concepts of 'environment' and 'environmental management'.

1.4 Relief Responses vs. Development Approaches

In recent years, it is commonly acknowledged that there is a *continuum from relief to development* despite a still clear division of the concepts. Relief is understood as support to populations that have lost their ability to help themselves. Development, in contrast, are activities geared at supporting self-help mechanisms and empowerment of disadvantaged groups among the target population.

There is a growing awareness among donors and implementers that a refugee influx requires more than adequate levels of relief supplies. For various reasons, a refugee influx is a development challenge for the entire RHA in terms of economic changes, conflict mitigation and environmental management. First, it is not only the refugees that are affected during their influx and settlement. Second, the impact of the influx will be felt in different ways long after the refugees have left, and third, the presence of refugees may be prolonged for many years. Environmental mitigation projects (EMPs) have realised that, even during short periods of refugee presence, the socio-ecological problems of refugees and the local population cannot be dealt with in isolation of each other. Consequently, long-term development projects are increasingly implemented in conjunction with relief projects. Political frame conditions can immensely favour the continuum from relief to development like in Uganda, where refugee assistance is mainstreamed in the development of the RHA.

Relief and development approaches, however, are still largely separated and implemented under different agency umbrellas. This separation prevents the integration of quick (emergency)

Maintaining agricultural yields is the main objective for refugee farmers in Uganda

Leftovers of the Virunga forest near Mugunga Camp, Congo DR

Firewood for Relief, Tree Nurseries for Development and Missed Opportunities

When GTZ, together with CARE and other agencies started to respond to the firewood crisis in the camps of the Goma complex, two distinct approaches were developed to address the different needs of refugees and local population. While a massive firewood supply operation was started for the refugees, the local population was supported to intensify their on-farm tree planting activities. By purchasing firewood partly from the local farmers in the vicinity of camps, tree planting as a commercial enterprise was effectively encouraged. Various agencies were engaged in fuelwood saving programmes for refugees, involving interventions such as improved stoves of different models, training in kitchen management and the building of firewood drying racks.

But as much as addressing both target groups according to their immediate needs and priorities was commendable, chances for further integration were missed. The workforce and skills of refugees could not be harnessed for massive fuelwood plantations around the camps as the refugees' movement outside the camps was restricted by the Zairian army. In addition, planting trees was seen by agencies as a symbol for prolonged stay of refugees and therefore undesirable.

The household energy interventions were not extended to local communities for a sustainable reduction of their firewood consumption. Furthermore, marketing options for the planted trees apart from the 'refugee market' were not explored or facilitated. After the flight of refugees from advancing rebels in Nov. 1996, the situation of the local population in environmental terms has not improved as compared to the time of pre-influx: the wasteful three-stone-fires are still the dominant stove, the marketing of timber has not improved and the destiny of the village based tree nurseries is uncertain.

Text Box 2: Integration of Relief and Development Approaches in Goma

responses and sustainable (development) approaches. In fact, some agencies make it explicit that they are dealing exclusively with either relief for refugees or with development projects for the local population. There is, however, no reason why projects in RHAs should not incorporate both approaches. If operational plans and funds allocations are flexible enough, it is possible to respond to relief needs of newly arrived refugees and turn to sustainable development for both target groups as soon as the situation and the capacity of agencies allows. Text Box 2 provides an example for (missed) opportunities in Goma / Zaire (Congo DR).

We argue that one-dimensional EMPs with relief character are only a first step and that they should give way to *relief & development projects for mitigating environmental degradation in RHAs*. For Goma this would have meant that the involvement of refugees goes beyond the construction of improved stoves and extends to area protection, re-afforestation and fuelwood plantation. Planting trees and utilising improved stoves by the local population should have had the long-term goal of improving local livelihoods, rather than solving a short-term refugee problem. Most importantly, yet difficult to achieve under the Zairian conditions, would have been to open communication channels between refugees and locals by which the use of natural resources could have been discussed and negotiated.

Chart 2 (page 14) provides summary of differences between relief and development approaches in environmental mitigation.

Relief and development approaches as portrayed in chart 2 should not be misunderstood as alternatives, they are the two ends of the continuum from relief to development and characterise as such a *process*. In fact, they do not exist in these extreme forms in practice. Relief elements in otherwise developmental oriented EMPs may be even desirable, for instance stove building campaigns, massive afforestation schemes or enforced restrictions for access to vulnerable areas. Chart 2 is, thus, mainly intended to critically analyse where an EMP stands in the continuum and which potential it has to move on towards sustainable development.

1.5 Institutional Opportunities for Environmental Mitigation in Relief Operations

Environmental mitigation in a refugee context faces additional obstacles as compared to a development context (see chapter 1.1 and 1.2). There is often little time and expertise available for planning, implementation and evaluation approaches which are standard in development projects. Dealing with two different target groups only aggravates the problems. In spite of these difficulties, a refugee situation provides unique opportunities for aid providers.

One of the biggest assets for environmental mitigation in RHAs is the growing awareness world-wide about the environmental impact of refugees. Extensive media coverage, especially

Aspects of Environmental Mitigation	Relief Approach	Development Approach
Geographical coverage	• small, restricted to immediate surroundings of the refugee settlement; • restricted to areas of direct and visible environmental effects;	• strives to address a larger area in which direct and indirect effects of refugee presence occur;
Target group coverage	• formerly restricted to refugees, addressing them as a uniform target group; • recently involving – to a lesser extent – local population in the direct vicinity of camps and settlements;	• addresses target groups across refugee and local populations like women, vulnerable groups, resource-poor members of the community, youth, professionals; • different ethnic communities of both target groups are taken into consideration;
Refugees are viewed as ...	• potential destroyers of the environment; • 'participants' in implementation (manual work); • providers of information for conventional project planning; • primary recipients of environmental education;	• part of the (environmental) problem and part of the solution; • participants in decision making, implementation and monitoring; • possessors of information for participatory project planning; • participants in environmental learning process;
Local population is viewed as ...	• victims of refugee-induced environmental degradation; • providers of information for conventional project planning; • secondary recipients of environmental education;	• victims of *and* contributors to environmental degradation; • participants in decision making, implementation and monitoring; • owners of information for participatory project planning; • participants in environmental learning process; • main resource persons of local environmental knowledge;
Women are viewed as ...	• harvesters / destroyers of natural resources; • providers of information; • vulnerable members of target groups needing additional protection and assistance;	• harvesters / managers of natural resources; • owners of information; • members of the target groups with specific vulnerabilities and capacities necessitating gender sensitive approaches; • potential active participants;
Overall objectives	• protecting the refugee hosting environment, repairing damage resulting from refugees' presence; • conserving the status quo of the environment;	• sustaining the natural resource base to support the livelihood of refugees and local population; • developing sustainable, community based resource management structures;
Main management approaches	• efficiency to achieve 'hardware goals' (hectares planted, quantity of firewood delivered, stoves built); • monitoring of plan realisation;	• sensitivity to achieve 'software goals' (environmental awareness, joint planning capacity, sustainability of environmental activities);

Aspects of Environmental Mitigation	Relief Approach	Development Approach
	• stress on uninterrupted chain of command;	• monitoring of socio-economic impact; • stress on uninterrupted information flows between target groups and management.
Main technical approaches	• massive afforestation schemes; • firewood distribution as relief item to refugees; • stove building campaigns; • agency and government imposed restrictions to areas and resources;	• reinforcement of environmental awareness and knowledge; • removing bottlenecks to environmental activities by market mechanisms and ownership rights; • negotiated restrictions to areas and resources
Project duration	• usually annual budgets, at times only three months planning horizon; • depending on stay of refugees;	• several years • independent of stay of refugees;

Chart 2: Development Approach vs. Relief Approach in Environmental Mitigation

during the emergency phase, transmits information to a wide cross-section of the public. As a result of that, the funding situation for environmental projects in RHAs is usually good. Due to the fast onset and massive character of environmental degradation, funds are often disbursed without the lengthy approval procedures that development projects have to deal with.

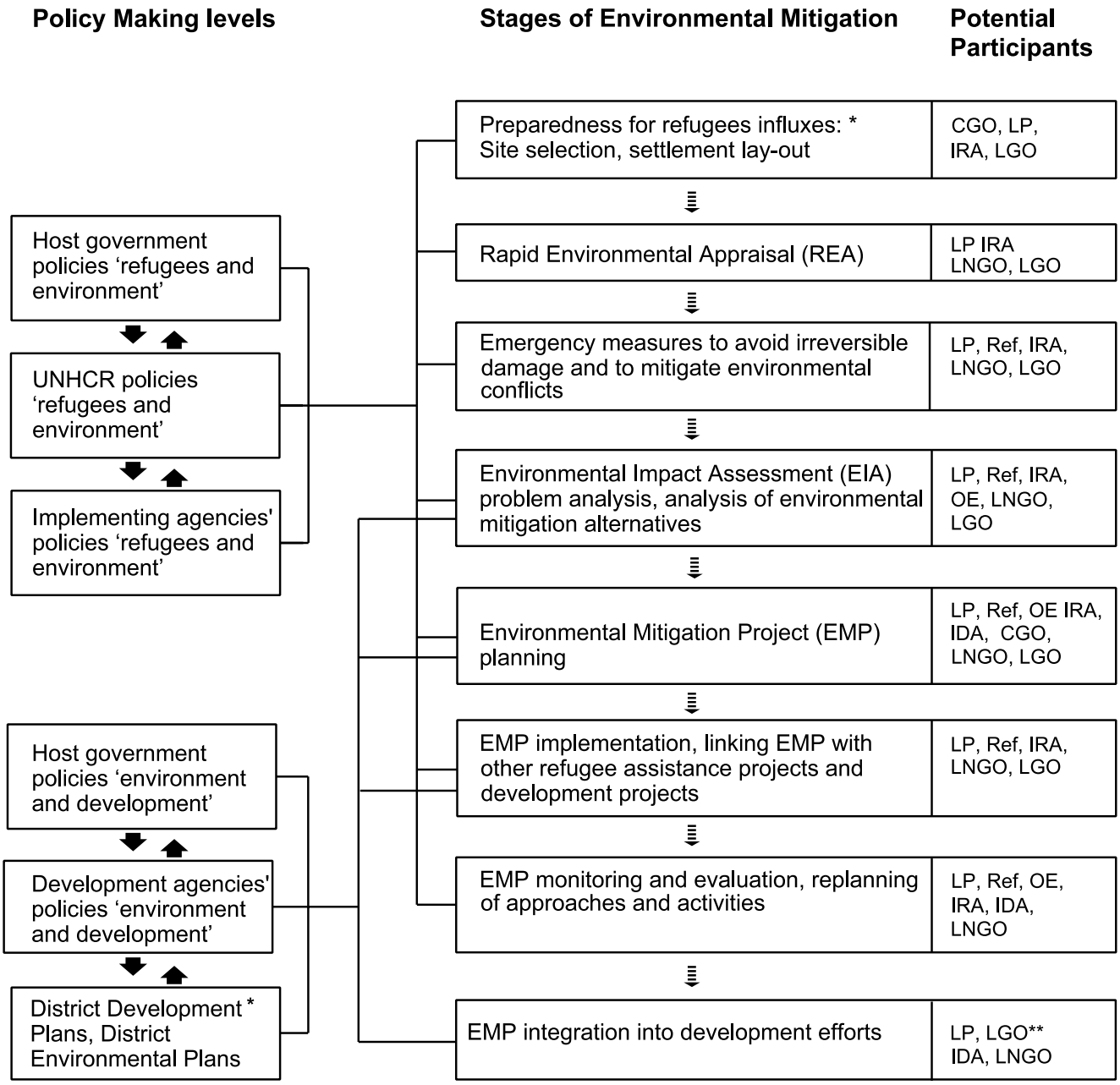
For other – very practical – reasons, environmental mitigation in a refugee context can be easier than in a development context: the geographical area directly impacted by the refugee influx is usually small. Local and refugee communities live in relative proximity. Communication flows within the ethnic groups of a refugee community tend to be fast, due to the camp and settlement patterns. The dense agency network can potentially support environmental mitigation through education-, health- and other sector projects or by providing support with transport, communication and administration.

The role of UNHCR as coordinator of environmental mitigation in areas affected by refugee influxes is crucial to make use of these opportunities. The tools for enhancing agency participation and -coordination are discussed in chapter 4. Effective linkages between the RHAs and the media, as well as between donors and implementers are important. Progress has been made by UNHCR in Geneva to pool information on environmental mitigation in RHAs by the appointment of a Senior Coordinator on Environmental Affairs. Ongoing research by UNHCR named TSEMPRAA (Towards Sustainable Environmental Management Practices in Refugee Affected Areas), will take stock of the world-wide experience of environmental mitigation projects (EMPs) undertaken by UNHCR and add important 'lessons learnt'.

Opportunities for participation arise at every stage of the project cycle. Fig. 1 (page 16) gives a brief outline of the stages of a typical EMP and links them to the policy making levels and to the potential participants.

1.6 Female Resource Users, Male Decision Makers

In an emergency situation, the traditional divisions and inequalities between men and women are brought out sharply. Women are more tied down and under more pressure because they have their usual household responsibilities as well as other tasks that arise as a result of the emergency. In addition, refugee women may have to cope with their own psychological and physical trauma of the flight. These burdens render women less able to respond to the situation as flexible as men. Men, in contrast, are cut off from their previous cash earning activities but have the time to experiment and find their niche in the camp economy. Text Box 3 (page 17) provides an example how problems related with firewood collection in Dadaab differently affect men and women.



Ref	Refugees
LP	Local Population
LNGO	Local NGOs
LGO	Local Government Officials
IRA	International Relief Agencies
IDA	International Development Agencies
OE	Outside Experts
CGO	Central Government Officials

* District and Local Government Officials should play a lead role in site planning

** Assuming refugees have returned or are permanently settled

Fig. 1: Stages of Environmental Mitigation, Policy Making Levels and Potential Participants

Protection Against Sexual Harassment

Simply being a refugee renders one disadvantaged and therefore vulnerable to a host of situations, irrespective of one's sex. Refugees need protection against armed attacks, protection against forced repatriation and protection to ensure access to basic items, such as food, shelter and medical care. From the time they flee their homes and travelling long distances in search of a safe and peaceful destination, women are at constant risk of sexual attack. For refugee women, participation in environmental activities is difficult when their minds are preoccupied with their safety and the safety of the young girls around them. Attendance at meetings involvement in activities cannot take place when their movements are restricted for fear of attack.

The need to offer special protection to refugee women has been recognised and addressed by UNHCR. Conferences and seminars have been hosted by UNHCR to discuss and make resolutions on the issue. Several documents have also been published (see Bibliography).

Collecting Firewood – No Longer Just for Women

For more than three years after the arrival of Somali refugees in Dadaab, women were expected to collect firewood and did continue to do so, even though their male counterparts had more time on their hands now that they were not involved in time-consuming income-generating activities. In Dadaab, the conditions under which women collect firewood are extremely difficult. The distances are long, the temperatures high and there is the constant fear of bandit attack. Young boys occasionally accompany their mothers to the bush and either help collect and carry the wood or are asked to scout the horizon and watch out for bandits. However, when they are older and have homes of their own, they do not collect firewood or even offer to assist. When asked about this selfish stance, they claim that

- they do not want to be laughed at by their peers for engaging in such feminine activities,
- they are afraid of being attacked and beaten up by bandits,
- they do not want to experience the trauma of watching their wives or daughters being raped.

Paradoxically, more and more men are venturing into the bush to collect firewood. They use donkey carts and travel for miles, often spending the night in the bush and returning the following afternoon. The wood obtained in these remote areas is of higher quality than that of the women collectors. It is sold in small bundles and fetches a price of Ksh 5.00 per bundle in the camp market. More frequently it is sold as cartload for Ksh 200 per cart.

Asked about the bandits they feared so much, the men are quick to reply that they have developed an interesting relationship with the bandits. The refugee men carry with them water in jerry cans and small amounts of cigarettes which they give to the bandits should they bump into them on the way. Happy with the 'gifts', bandits do not beat up these refugees.

Text Box 3: Gender Roles in Firewood Collection

Gender Sensitive Planning

Women and children make up a significant proportion of refugees and it becomes imperative, therefore, that camp-based activities and strategies are based on an awareness of gender differences, women's vulnerabilities and their strengths. However, in most cases and for most EMPs as well, these are overlooked for the following reasons:

- *No time to waste* – during a crisis, pressure is often felt by the agencies to disburse aid in the quickest and easiest fashion rather than take time to employ modalities that are more gender sensitive. For instance, although men are quick to apply for and get positions in the food distribution system, experience has shown that women are better suited to distribute food in a fair way.
- *Large-scale logistics* – during the emergency phase (and after), short term consultants, often male, are engaged in the provision of services that require technical expertise such as construction of bore-holes, water-stands, hospitals, clinics, houses, and other infrastructure. Before embarking on their assignments, these consultants and other relief personnel are rarely exposed to gender issues.
- *Qualifications and (language) skills* – men, more often than women, hold certificates that show formal qualifications acquired in technical fields. This gives men an advantage over women when agencies are in the process of identifying 'employable' refugees. Furthermore, men are usually more fluent in languages that are widely spoken, such as English or French whereas women experience a language barrier between them and expatriate aid workers because their knowledge of languages is often limited to local languages or dialects.

UNHCR Policies for Refugee Women

The plight of the refugee woman has been discussed and conclusions have been adopted at

Women carry low-quality firewood for home consumption in Dadaab

Donkey cart owners return from their overnight trip with high quality firewood (Dadaab)

various sessions of the Executive Committee of UNHCR since the mid eighties. These efforts have culminated in a policy framework recognising '... that programmes which are planned or implemented without the consultation or participation of half the target group (the women) cannot be effective and could, inadvertently, have a negative impact on their socio-economic situation.' [UNHCR Policy on Refugee Women]

The policy framework further highlights the fact that integration cannot be achieved simply by establishing women's projects. In fact, this sometimes alienates the women and further segregates them from mainstream activities. It is therefore suggested that gender issues are to be mainstreamed in policies – including environmental policies – through regular consultation with both men and women on matters of mutual concern.

Analysing Gender Specific Decision Making Processes

The participation of women in the decision making process is often directly related to the degree of representation of women in the fora where decisions are made. The following factors contribute to the effectiveness of women's representation:

- an environment conducive for encouraging women to speak out, i.e. not being sidelined to the periphery of a meeting;
- the number of women present at the forum (there is a strength in numbers!)
- a sufficient understanding of the issues under discussion;

To have an opportunity to sit in this kind of forum, women often have to be in a position of leadership. Leadership patterns differ from camp to camp. In some camps, the deputy position of section leaders is to be held by women. In others, a small number of women hold positions to which they are elected in competition with men. Again in other camps, the chairs of women groups are often regarded as sufficient to ensure female representation. Representatives of women's groups *can* form a link between women at grassroots level and those at the policy-making level. Recommendations could be forwarded to a meeting of a more diverse audience by women who have been selected by their own peers.

Extension workers employed by the agencies are often women. This is because they have direct contact with other refugees and have good knowledge of what is happening at the ground level. Furthermore, they have earned the trust of those with whom they work, making it possible for them to obtain and relay confidential matters. Extension workers are, therefore, sources of important information. It is crucial that there is an established link between them and policy makers. Female and male extension workers should, however, not be regarded as decision makers on behalf of refugees. Their employment involves split loyalties towards their social or ethnic group and the agency they are working for.

Whether in an emergency situation or not, women are often excluded from the policy-making process. Their views and opinions are not sought even as decisions that impact their lives, positively or negatively, are discussed and finalised. In fact, not only are women excluded from participating in making decisions, but the decisions made sometimes exacerbate the situation, leaving women in an even more disempowered state. For example, when shelter and overall camp layout makes them vulnerable to sexual harassment, or when an environmental ban denies them access to vital natural resources. The need to include women in policy-making processes cannot be over-emphasised. If rules, regulations, and policies are not worked out together with women, they are almost certain to worsen their socio-economic status.

2. From Participation to Participatory Systems

This chapter takes a broad view of participation in the process of environmental mitigation. The first stage of reaching a reasonable degree of target group participation has not been achieved in most of the refugee settings in Eastern Africa. Comprehensive target group participation forms the centrepiece of what is defined below as participatory system. Without a common understanding of the direction leading to the goal of 'participation' the participatory system will remain largely a super-structure and the division of power among stakeholders untouched. Initially, we examine the various concepts of participation. Then, we describe the process by which participation progresses from increasing empowerment of target groups to power-sharing among stakeholders.

Individuals and institutions are analysed and their changing roles in the system are outlined. Emphasis is put on desegregating target groups to understand the range of interests within one target group. Finally, we examine the different levels on which the system can operate in the host country both by the composition of participants as well as by the linkages between the levels.

2.1 Defining Participation

The World Bank Participation Learning Group summarises participation as 'a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them.' The Learning Group specifies, the activities by which this process is instituted:

- *information sharing:* people are told about a development project and how it may affect them and so can (theoretically) decide on their level of involvement in it;
- *consultation:* people are consulted on key issues, and may provide vital feedback to project managers;
- *decision making:* people are involved in the design and implementation of a project, and thus influence its development at every stage;
- *initiating action:* people organise themselves to take action in the face of a shared problem or area of interest, rather than responding to the initiative of outside agencies.

In the Oxfam Handbook of Development and Relief, the World Bank's definition is used and a few valuable comments are added:

- participation must be on the peoples' own terms. Agencies should not define what kind of participation strikes the optimum balance between the costs of participation (time, resources, risks) and the benefits of it.
- 'The people' is misleading in that it regards beneficiaries, target groups, etc. as a homogenous group. This may ignore conflicting interests within the social groups and prevent an understanding of the dynamics of participation. Oxfam calls this the 'fallacy of target groups'. It is dealt with in more depth in chapter 2.3.
- There are problems with evaluating the *quality* of participation. Determining whether the participation has had a positive or negative impact on the life of the participants is difficult. Quality is often mixed up with *'quantity'* of participation, assessed by a head-count approach to simply register the number of meetings, the number of people who attended etc.

On the latter point (assessing the quality of participation), little work has been done in academic research and practical implementation. The self-evaluation of a participatory structure (see Text Box 17) is a step in the right direction but will yield only limited insight regarding the impact of increased participation on the people's lives. The fact that participation has only indirect impact through behavioural change, reduced conflicts and increased transparency makes an assessment even more difficult. As a starting point to improve the 'quality control' of participatory approaches and structures, the following guiding questions may be of help:

- *Baseline Situation:* What structures are in place to ensure participation of the important stakeholders? Are these structures known and respected among stakeholders? Are participants relevant decision makers? Which actors / groups are so far left out? Do they have technical and social expertise? What are the procedures to turn resolutions (if any) into action? Which activities were based on resolutions of the participatory structure?
- *Present Situation:* Basically the same questions as above. Note the differences in answers. What has changed in structure and approaches? How do non-participating

members of target groups assess changes? What were the main lessons learnt from the history of participatory approaches and structures?

- *Future Situation:* Designing desirable structures and approaches of participation in the future by members of the target group and other stakeholders is an indirect way of identifying deficiencies in the present situation.

Another approach to monitor and evaluate the quality of participation is to establish a path towards 'optimum participation' similar to the steps in Fig. 2 (page 22). With situation-specific indicators, the EMP can evaluate from time to time it's advance on the path towards optimum participation.

Many agencies are very conscious about the merits of participation. Besides the merits, however, increasing participation may mean increasing risks. Participatory approaches *can* be very time-consuming and *may* jeopardise set time frames. Furthermore, the direction of the development or relief project *may* be questioned, altered or the authority of the agency challenged altogether. While, to an outsider, these can be regarded as encouraging signs of empowerment, it usually puts the project management in a state of uncertainty. On the other hand, an agency gains profile and legitimacy if it can claim meaningful participation by its target groups.

If an agency strives to implement its project in a participatory manner it is important to *know* the ultimate goal of 'full participation'. Of equal importance is the realistic assessment of the degree of participation attained so far, followed by the setting of a realistic target of the degree of participation that can be accomplished in a given project duration. For relief and development workers the next constructive step towards full participation and empowerment is often more important than the ultimate goal (which will probably always stay out of reach, especially in a refugee or relief situation). Fig. 2 can assist in identifying the current stage of participation, and the ultimate stage of participation that the project has set out to achieve.

'Participation' as a context-specific term should be defined jointly by agencies and target groups: "For us, participation means ...". Concrete proposals on how to institute and improve participation can then be expected. Ambitious definitions of participation, in contrast, can overwhelm relief agencies' capability to adopt developmental approaches if they have so far concentrated on relief-style managerial efficiency. They can also overwhelm local populations and refugees, who have often adapted to the top-down approaches of agencies.

Steps to Participation in Dadaab

When the GTZ RESCUE project was started in Dadaab in 1993, participation in problem analysis was understood as conducting a thorough socio-economic survey among refugee and local households, coupled with an environmental impact assessment by a professional forester. The broad framework of the project, however, was developed by a desk-study in the GTZ headquarters. Target group members responded to a pre-tested questionnaire and expressed their views on a number of open questions. Agency staff and local government officials were consulted to complete the gathered information. The findings and conclusions of the survey formed the basis of a project planning workshop (ZOPP) shortly before the beginning of implementation. There was, unfortunately, neither any feed-back to or discussion with the providers of information in Dadaab. The ZOPP workshop itself included representatives of UNHCR, CARE and government officials from Nairobi. Refugee and local representatives, local and District level government officials were not invited.

When implementation began, 'participation' seemed to work as refugees and locals picked up enthusiastically what the project had to offer: tree seedlings to be planted in their home compounds and improved stoves as a reward for the successful tree establishment. Beneficiaries were given the choice of several stove models and a variety of tree species. Participation was essentially involvement of refugees and locals in project activities.

In acknowledgement of the deficiencies in popular participation during the first planning phase, a 'Grassroots ZOPP' was conducted in Dadaab which involved local and refugee leaders as well as local and District government officials. Results were applied to the official ZOPP re-planning workshop. Most important was the request by target group representatives to install environmental fora in which all stakeholders can regularly consult each other. During the following months, a system of environmental working groups (EWGs) and technical support groups developed. Through the participation of UNHCR and local government in the EWG system the passed resolutions have gained considerable weight and are regularly adopted by official government structures. Refugees and locals can thus actively participate in shaping local laws governing the use and protection of natural resources.

Text Box 4: Steps to Participation in Dadaab

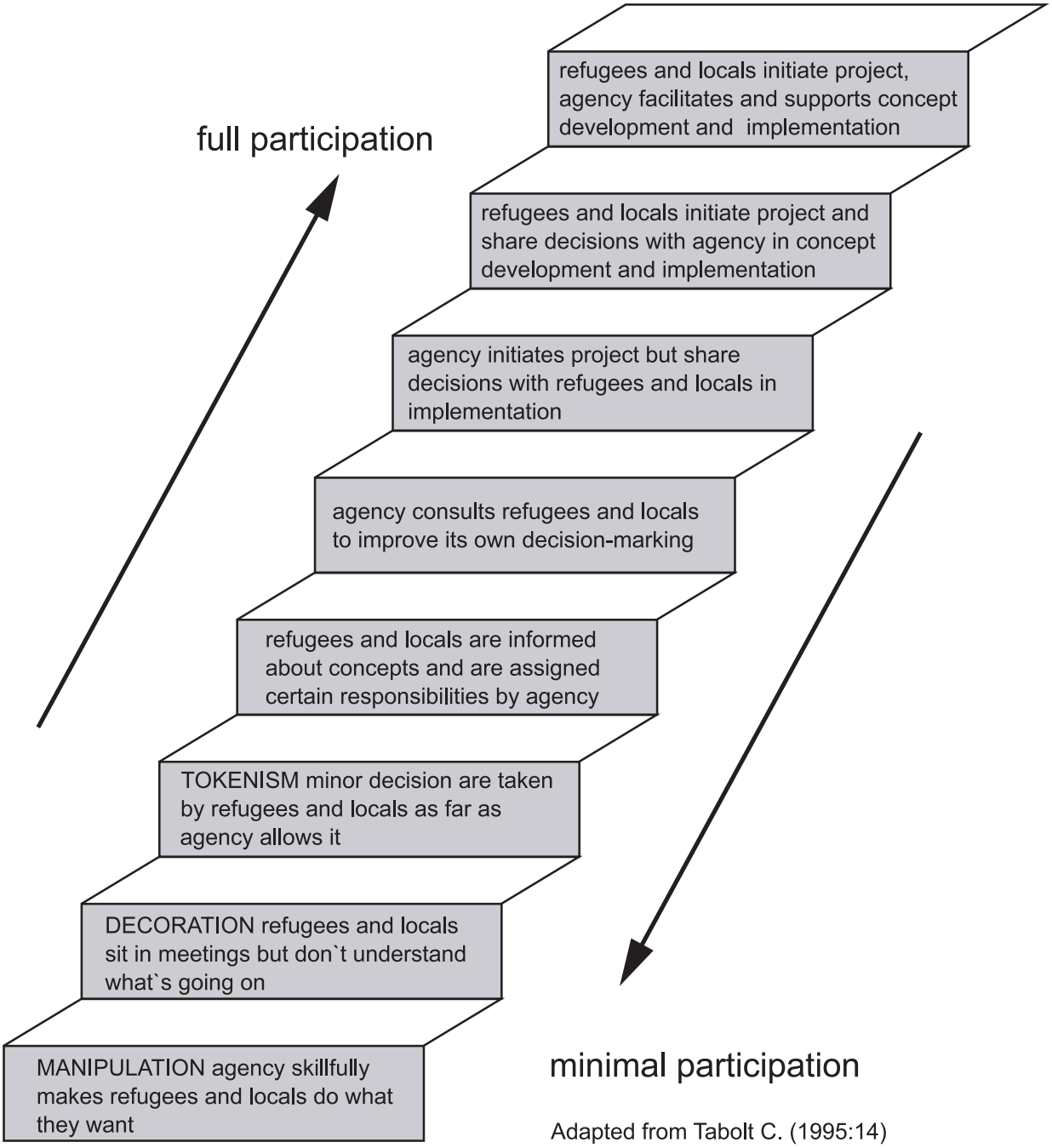


Fig. 2: Steps from Minimal Participation to Full Participation

2.2 From Empowerment to Power Sharing: the Systems View

When the research for this sourcebook was conducted, it began with a clear focus on *refugee participation* in the management of their host environments. Empowerment of refugees through information sharing, training, appropriate participatory structures and legal regulations was seen as the instant recipe to mitigate environmental destruction in RHAs. Participation of the local population in joint environmental fora was the next logical step. However, it soon became apparent that several obstacles rendered the participation of target groups less than effective. These included, for example:

- the lack of clear government policies for environmental mitigation in RHAs,
- the lack of agency and donor coordination,
- the deterioration of security around camps,
- the uncertain funding situation for EMPs.

Most of these factors cannot be influenced by refugees or local communities. The inclusion of

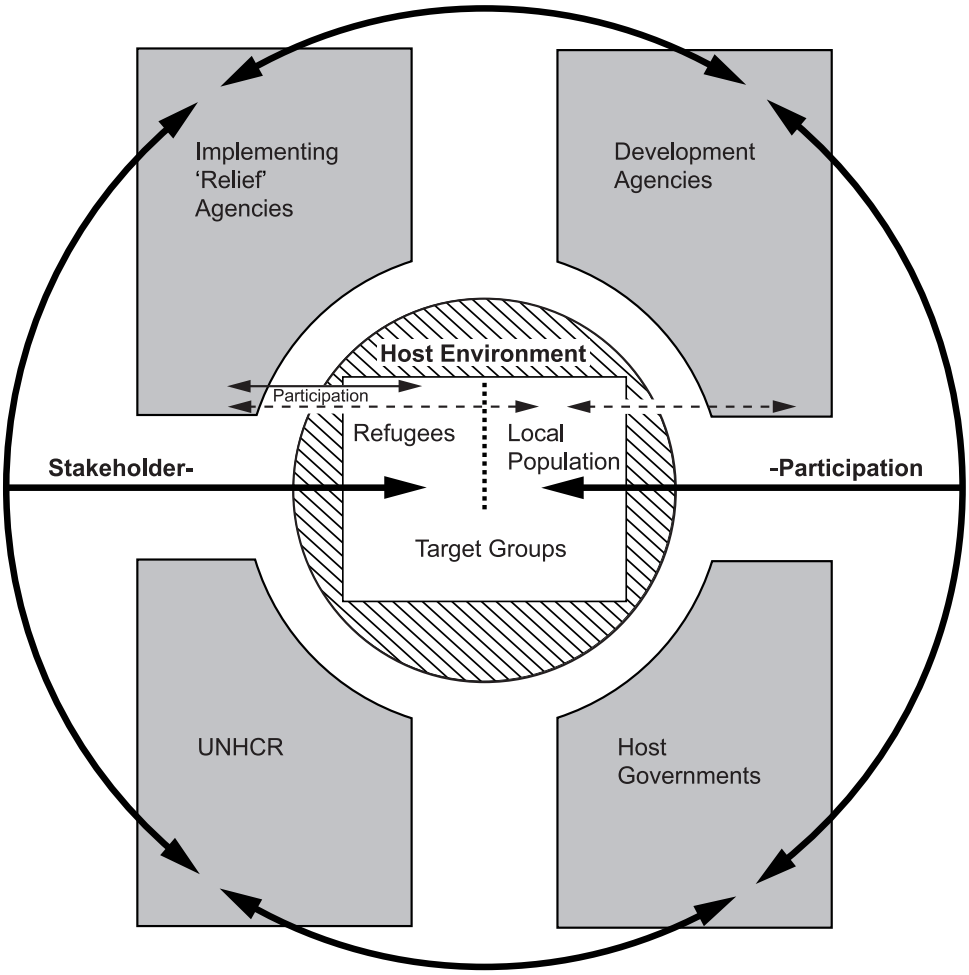


Fig. 3: From (Popular) Participation to Stakeholder Participation

other more powerful decision makers becomes essential. A similar process took place when the World Bank Participation Sourcebook was written: 'We also noted that [...] sponsors and designers of development activities had to work with and through powerful stakeholders to serve the needs of the poorest people. Attempts to bypass powerful stakeholders often resulted in opposition from them. [...] For these reasons, we shifted our focus from *popular participation to stakeholder participation* – the participation of all relevant stakeholders in the development process.' (italics added).

But even if stakeholder participation was fully realised in a RHA, one more dimension is missing. Representatives of stakeholders on the ground may not be in a position to influence policy decisions, and would therefore require the support from higher levels in the host government and agency hierarchies. Participatory structures for information exchange, effective coordination and policy development are required not only in the RHA, but also at other levels of the refugee hosting country. *Participatory System* seemed the most appropriate term to describe the complexity of the required structures.

We have illustrated this switch from popular participation to stakeholder participation in Fig. 3. The thin arrows between relief agencies and refugees and the dotted arrows between target groups and agencies represent the interaction that leads to (popular) participation. The thick arrows symbolise the interaction of relevant stakeholders or stakeholder participation.

In chart 3 (page 24) the implications of the switch from (popular) participation to participatory systems are summarised. It is important to note that participation and participatory systems are neither in conflict, nor are they mutually exclusive concepts: while participation without the system dimension remains inefficient, the participatory system, without true target group participation, remains an empty shell.

	Participation	Participatory Systems
Basic Concept	• empowerment of target group(s)	• power sharing among stakeholders
Communication	• communication between environmental agency and target group(s)	• communication between environmental agency and all stakeholders; • communication among stakeholders encouraged and facilitated
Levels Involved	• only the level of target group representation is relevant, usually up to Sub-Office or District level	• all important administrative levels of host government, UNHCR, agencies and all levels of target group representation involved
Problem Analysis	• target group representatives and environmental agency jointly formulate the main environmental problems; • jointly formulated problems form the basis for planning and action	• locally formulated problems are discussed with other stakeholders at higher levels; • problem hierarchy is developed together with all stakeholders
Planning	• environmental agency develops plan of action together with target group(s)	• stakeholders jointly develop plan of action; • plan is streamlined with environmental planning at district level and national level
Implementation	• environmental agency and target group(s) carry out implementation; • implementation is restricted to the refugee hosting environment	• other stakeholders take part in the implementation in cooperation with environmental agency and target group(s); • implementation is coordinated with other environmental and development programmes in the RHA
Monitoring	• target group(s) carry out monitoring, facilitated by agency; • information gathered is shared among agencies and target group(s)	• all stakeholders are encouraged to pool environmental information; • information gathered is disseminated to stakeholders at relevant levels
Evaluation	• agency and target group jointly evaluate project design and work; • evaluation results remain within the evaluation team	• evaluation team consists of important stakeholders; • evaluation results are relayed to all stakeholders, discussion of evaluation results is encouraged
Gender Aspects	• agency encourages discussions of gender aspects; • gender balanced representation of target group(s) is attempted; • agency strives for gender sensitive recruitment; • women among target group(s) are encouraged to participate and express themselves	• agency encourages other stakeholders to address gender aspects; • agency seeks cooperation with other programmes, in the RHA and nation-wide, dealing with gender aspects; • female professionals from 'outside' are encouraged to play a prominent role in all stages of the project cycle

Chart 3: Participation vs. Participatory System

2.3 Stakeholders, Actors, Participants

The overall management of the environment can be enhanced or hampered by a whole range of actors at different levels. If their specific strengths are well understood and harnessed, *actors in environmental change* can become *participants in environmental mitigation*. The group of *stakeholders* is comprised of both actors and participants, as well as of those who neither act nor participate, but are concerned with environmental degradation. The stakeholders thus form the multitude of individuals and institutions who have a potential interest or mandate to become participants in environmental mitigation.

It is too simplistic to talk about 'refugee participation' or 'participation of the local population'. Both communities are not homogeneous, but have varying and sometimes antagonistic interests. At times, problems and interests of these sub-groups cut across the larger grouping. For instance, an impoverished nomad family might have more in common with the majority of refugees than the refugee leader who sends his children to private schools in the host country's capital. Local women and refugee women might have more problems in common than male and female refugees. There is, therefore, a need to disaggregate the main groups (vertical strata) into subgroups (horizontal strata) and determine their potential for constructive participation separately:

Refugees: women, men, elderly, minors, children, farmers, pastoralists, relevant professionals, businessmen and -women, traditional and elected leaders, agency support staff etc.

Local Population: women, men, elderly, children, farmers, pastoralists, relevant professionals, businessmen and -women, local elders (traditional leaders), elected and appointed leaders like chiefs and councillors, local self-help groups and NGOs, agency staff etc.

[The formation of sub-groups among the refugees or locals is complicated by the fact that one individual can have several functions: a woman refugee, for example, can simultaneously hold the following responsibilities; businesswomen, agency staff, and women's group leader.]

Host Government: Refugee Departments (under different Ministries), relevant Ministries (Agriculture, Water, Forestry, Health) on national, district and local levels respectively.

UN Organisations: UNHCR (HQ Geneva, Branch Offices, Sub-Offices and Field Offices), UNDP, WFP, UNEP, UNICEF, FAO, World Bank with HQ staff and field staff.

Other Organisations: all the international, national and local NGOs, churches, bilateral and multilateral organisations who operate in the host country or in the RHA and can provide expertise, logistical and fund-raising support and lobby for the cause of environmental mitigation in RHAs.

Implementing Agencies: with direct involvement in environmental management of RHAs (agriculture, forestry, environmental education etc.) and agencies with peripheral interest (water, health, formal education, security, social services etc.).

Comprehensive Representation

The term 'comprehensive representation' was found most appropriate to describe a situation in which all majority and minority groups take part in the analytical and decision-making processes. Comprehensive representation is usually assumed to include the *vertical strata* of the actors concerned. In refugee situations, these are the five principle groups of actors (refugees, local population, host government, UNHCR, implementing agencies). Little attention has been given so far to the *horizontal strata* found within and across the principle groups of actors.

A chart (such as chart 4 and 5; pages 26 and 27) can be drawn to facilitate the understanding of comprehensive representation. The two charts are only examples, similar charts will vary from camp to camp, depending on the stratification of the populations. For example, in areas with a predominantly pastoral population, horizontal strata of target groups may be determined by herd sizes. In farming areas, the holding of land per family may define the strata. To differentiate between 'the wealthy' and 'the poor', wealth ranking techniques may be helpful to arrive at representation of otherwise under-represented groups.

Participation of Women

Because women have different needs and face specific constraints, it cannot be assumed that they will automatically participate in projects initiated or dominated by men. In fact, experience has shown that unless women are given extra consideration, and gender-sensitive issues are addressed throughout the project, it will fail to meet women's needs. Some of the barriers to women's participation (adopted from World Bank 1996) and possible responses of gender sensitive agencies include the following:

	Local Population		Refugees		
	ethnic group 1	ethnic group 2	ethnic group 1	ethnic group 2	ethnic group 3
Traditional and Opinion Leaders	their identity among groups, women and men often difficult to establish by outsiders		identity often difficult to establish by outsiders; prefer to work 'behind the scene' if they have a political agenda		
Elected Leaders	easy to identify; often overworked with other tasks; may hold paid government positions; not necessarily identical with opinion leaders		easy to identify; often overworked with other tasks; may have their own political agenda; often identical with opinion leaders		
Women (Representatives)	influential participants, if from well-established women structures (e.g. women groups)		their influence might be limited, if they represent agency induced women groups or associations; traditional women leaders often difficult to identify by outsiders, but can be an important channel to reach women		
'the Wealthy'	relatively well-known among local population, but have often little incentive to participate as meeting time competes with commercial activities		wealthy refugees tend to hide their status for fear of support withdrawal by agencies and UNHCR; often identical with opinion leaders		
'the Poor'	their opinion may not have adequate weight in meetings (the 'voiceless'); in need of support from facilitating agency		lack of influence and status not always linked to poverty (formerly high ranking officials might have lost everything during flight); important to identify the 'influential poor'		
Elderly, Minors, Youth	elderly influence decisions through family networks; youth may be represented in youth groups		elderly often without family network support; youth groups may not be established; their history of uprootedness can make minors a difficult group to involve in participatory structures		
Professionals	often identical with local NGO or government staff; participation important as it combines local insights with professional knowledge		often identical with agency staff; their participation may lead to over-representation of agencies; participation important as it combines professional knowledge with insights in refugee-specific problems		

Chart 4: Target Group Representation in the Participatory System

- Customs and Beliefs that Confine Women to the Domestic Quarters
  Agencies should encourage women to take up opportunities that offer skills training and professional enhancement. In many camps, a large number of the kiosks, stalls and restaurants are initiated and managed by women. For instance, a savings and loan scheme had been established in Kakuma Camp that saw an impressive number of women participate. Successful female entrepreneurs can be hired on a part-time basis to inform women at meetings about their experiences. Environmental mitigation also offers a wide range of options to create income (see chapter 5.8). Income generating activities with an environmental focus that strive to reach women, however, need to take into account that women are less free to be absent from their homes frequently and for long periods.
- Heavy Workloads that Allow Little or no Time for other Activities
  Determining the work peaks of women and men separately can assist in finding times that are suitable for their active participation

	Host Government [1)]	'Refugee Agencies' [2)]	UNHCR	Development Agencies [3)]	Environment Agencies [3)]
Policy Makers (international level)	participation desirable	participation important	lead role, participation indispensable	participation optional	participation optional
Policy Makers and Planners (national)	lead role, participation indispensable	important advisory function	main facilitator of planning process	participation desirable	participation desirable
Managers (local level)	important monitoring role	supervisors and implementers	coordination, facilitation	advisors and implementers	advisors and implementers
Field Workers	important role if seconded to agencies [4)]	main implementers	limited role	implementers, if subcontracted	implementers, if subcontracted

1) It is important to note that various Ministries have different degrees of interest in the refugee & environment complex, thus their involvement will be of varying intensity.
2) Involvement depends largely on the agencies' mandate. Agencies dealing with forestry, agriculture or household energy will have a stronger interest in participating compared to others who deal with social services, for instance. Nevertheless, their input can be important for the participatory process.
3) In these two columns, a great variety of agencies are lumped together, ranging from International and UN agencies to local NGOs. Involvement varies widely from level to level.
4) Assuming the host government does not have sufficient resources.

Chart 5: Institutional Representation in the Participatory System

in meetings and various other activities. Meeting venues should be located at a place where women can bring small children along. Women cannot afford to leave their homes unattended for long periods. Duration of meetings should take this factor into account. In camps, just like in any village, there are traditional meeting places for men and for women. Those for women are usually near wells or washing places at the river. If these places are incorporated in the extension plan, the participation of women is made a great deal easier.

- Laws and Customs that Impede Women's Access to Credit, Productive Inputs, Employment, Education and Information
  A never-ending cycle: women do not have the collateral required to borrow money from financial institutions and neither do they own the property that would generate income. Furthermore, women are often unable to attain high levels of education. This not only denies them opportunities to gainful employment but also hampers their ability to participate in decision making processes with the necessary self-confidence.

Determining Capacity of Fora Members

When determining roles and expected inputs of participants, it is necessary to analyse their strengths and weaknesses. Generally for all stakeholders, including agencies, government, target groups and individuals among them, the following should be taken into account:

1. the constituency of the stakeholder (whom he / she represents and the groups to which information is relayed);
2. the professional (and political?) history of the stakeholder and the present (quality of) involvement in the existing participatory system;
3. the existing relationship between the stakeholder and other actors in environmental mitigation;
4. the stakeholder's material and human resources (important if the stakeholder is an agency);

Women in Positions of Leadership

UNHCR has implemented camp-wide policies that serve to enhance the role played by women in decision making processes and to give women an opportunity to voice their concerns and problems. In Dadaab, Kenya, the homes of refugees are grouped into blocks. For each block, a Block Leader and an Assistant Block Leader are elected. It is UNHCR policy that every assistant elected should be a woman. It so happens that in some blocks, that both the Block Leader and the Assistant Block Leader is a woman.

Some of the camps in Kagera, Tanzania, are divided into zones. In Kyabilisa 1 each of the ten zones has a male Zone Leader and a female Deputy Zone Leader. Similarly, the Camp President is a man while the Camp Vice President is a woman.

It is unlikely that in the absence of this policies and the strict enforcement, women would be so well represented in the leadership structures. In Kakuma, Kenya, for instance, where UNHCR has not implemented a similar policy, all the top-most leadership positions have been secured by men.

Text Box 5: Women in Positions of Leadership

5. the stakeholder's time resources; this is of particular importance when striving to involve women in voluntary fora;
6. the stakeholders envisaged length of stay in the region and involvement in environmental mitigation;
7. the experience with the stakeholder's willingness to cooperate and flexibility to adapt to new situations;
8. the main role the stakeholder can play in the participatory system (e.g. policy making, fundraising, provision of technical expertise, workforce for implementation, monitoring & evaluation, gathering of information).

2.4 The Levels of Participatory Systems

The processes of environmental appraisal, problem analysis, proposal development, lobbying for funds, planning and finally implementation require specific inputs from different stakeholders. The stakeholders live and work in the camps, in nearby villages, in the UNHCR sub-office, in the Divisional or District HQ and in the capital of the host country. Some of the important decision makers even work abroad in Geneva, Oxford or Eschborn. On each of these levels, stakeholders play (theoretically) a role to shape EMPs in refugee situations.

Not all levels of the participatory system are of equal importance in improving sustainable resource management in RHAs. In small camps, for example, the overall camp environment committee might be the dominant body, while block committees only support the camp committee by information and monitoring. In accordance with the political structure in a host country, the province or district will take the lead role in encompassing the refugee and environment complex at the planning and monitoring stages. The capital level is usually important to assist in gaining support from government structures. It is only in the countries where the central government has ceased to exercise control (e.g. Somalia or Zaire in 1995/96), that the inclusion of the capital level is of little importance. The three following Text Boxes 6, 7 and 8 provide examples for participatory structures at the capital level, the district level and the sub-office level.

National Forum Environment & Refugees in Kampala / Uganda

The national participatory forum for the refugee & environment complex in Uganda is so far the only body in the four countries under research which meets regularly at a national level. Two factors have contributed to this: First, the UNHCR programme to rehabilitate RHAs in Uganda is the only existing refugee-related environmental mitigation project (EMP) with a national focus. Secondly, the development of an 'Environment Master Plan for Refugee Affected Areas' provided a tangible task for such a forum. The members of the forum include:

- UNHCR: Environmental Coordinator (EC), Social Services Officer;
- Government of Uganda (GoU): NEMA (National Environment Management Authority), MoLG (Ministry of Local Government, Refugee Directorate), MoNR (Ministry of Natural Resources);
- Implementing Partners: Oxfam, DED, ACORD, Interaid.

At this point it cannot be foreseen, whether the national forum will continue to perform its coordination role after the Environmental Master Plan is ready in its final version. The natural task for this forum would be to ensure that the recommendations in the Master Plan are observed and to provide some follow-up mechanism for its implementation. Responsibility for the continued work of the forum should be assumed by the UNHCR EC and the Refugee Directorate.

Text Box 6: National Forum Environment & Refugees in Kampala / Uganda

The Environmental Task Force (ETF) in Kagera, Tanzania

During the initial stages of environmental management of the large camps in Kagera Region, the ETF was created. It operated under the chairmanship of the UNHCR Environmental Coordinator and the Government of Tanzania (GoT). The aim was to bring together a large number of NGOs working in fuel-supply, stove construction, tree-marking and other environmental activities. Government officials from the refugee secretariat (Ministry of Home Affairs) and line ministries such as forestry and natural resources participated in the bi-weekly meetings.

The ETF had no mandate in planning or allocation of funds but was restricted to information exchange and coordination – an extremely important and difficult task during the initial emergency phase. Over time, however, certain shortcomings became obvious.

- The dual chairmanship of UNHCR an GoT made clear allocation of responsibilities difficult.
- The ETF could not influence decision making in a sufficient way due to lack of mandate and funds.
- Refugees and locals were not among the members of the ETF and there was no structure at a target group level to cooperate wit the ETF in camps and villages.

Text Box 7: Environmental Task Force Kagera

Chart 6 (page 30) summarises the various possible levels at which environmental mitigation can occur in a participatory system and their respective participants. The names of committees only serve as examples. In chart 7 (page 31) specific tasks are assigned to the same levels. Chart 6 and 7 should by no means be misunderstood as advocating to install all those fora and committees in all refugee hosting countries. The charts simply lists possible options of participatory structures. Time is a scarce resource for all stakeholders, therefore not the maximum, but the optimum density of participatory structures and communication links should be aimed at.

Linkages Between the Levels

Other than determining structures, participants and tasks at one level, it is also important to link each of these levels efficiently. The tasks to be performed on each level are inter-dependent. For policy formulation at the capital level, for example, detailed information from the camps and from the whole RHA is necessary. On the other hand, EMPs can not work satisfactory, if they do not receive support from the District or the Capital by way of applicable regulations, laws and policies.

The inherent danger of linking levels of decision making is the slowing down of necessary decisions at either of the levels. It is, therefore, important to establish clear responsibilities for decision making at each level in order not to delay implementation. But information exchange, not necessarily coupled with consultation and coordination, can only improve decision making processes.

Community Environment Working Groups in Karagwe, Tanzania

The camp based working groups were initiated in 1996, but never started being operational. First, there was resistance from GoT officials. Refugees, it was argued, have no right to influence decisions regarding the Tanzanian environment. Secondly, the repatriation of Rwandan refugees made the working groups obsolete. We have chosen this case study nevertheless, because the proposal was prepared by a CARE team of fieldworkers with long standing experience in EMPs in the area and contains a stringent outline for such groups.

The tentative objectives of the Community Environment Working Groups (slightly shortened) were:

- to facilitate direct participation of local and refugee communities in the decision making processes regarding natural resource management;
- to provide opportunities for reducing conflicts resulting from unsustainable resource use;
- to ensure effective flow of information between the ETF, refugees and locals;
- to encourage participation in the development of an environmental code of conduct.

A list of some twenty members was drawn, including district government officials, elected local leaders, other local representatives, elected refugee leaders and other refugee representatives as well as agency and UNHCR staff. A set of initial tasks of the groups was developed:

- give a name / identity to the working groups;
- draw the working groups' final objectives and TORs;
- determine procedures like meeting days, times, venues and working language;
- decide on membership qualifications and propose membership;
- appoint chair, secretary and convenor;
- identify subsequent tasks for the working groups and formulate follow-up strategies.

The final part of the proposal contains a timeline for the setting up of the working groups, covering the first four months.

Text Box 8: Community Environment Working Groups in Karagwe

Level	Structures and Participants	Schedule
Block, Zone, Cellule, Village	ENVIRONMENT BLOCK COMMITTEE Refugee leaders, contact persons and employees of environment programmes, aid workers and extensionists, women representatives, heads of model households	bi-weekly or informally
Camp, Settlement, Village	ENVIRONMENT CAMP COMMITTEE Government representative (Camp Commander for GoU); UNHCR Field Officer and EC; camp managers of environmental programmes; refugee representatives; representatives of local population; local authorities, women leaders from both locals and refugees	bi-weekly or monthly
Sub-Office, Division	ENVIRONMENT MANAGEMENT COMMITTEE Government representatives in charge of refugees, environment, forestry, agriculture; UNHCR Head of Sub Office, EC; Coordinators of environmental programmes, local authorities, top refugee representatives	monthly
Sub-Office, Division	ENVIRONMENT TASK FORCE small group of environmental experts from refugees, locals, agencies and government for day-to day management and monitoring	weekly
District, Region	DISTRICT ENVIRONMENT COMMITTEE UNHCR EC and implementing agency coordinators join established bodies like 'District Environment Committee'	according to existing schedule
Capital of Host Country	STEERING COMMITTEE ENVIRONMENT & REFUGEES ministry in charge of refugees, line ministries for forestry, natural resources, water, agriculture etc.; UNHCR Representative and representatives of implementing agencies, donors	quarterly or on special invitation

Chart 6: Structures and Participants of the Participatory System

Within agencies, there is usually a well-established information flow between the camps, the field headquarters (HQ) and the HQ in the capital. However, between refugee representatives and their constituencies, there are numerous obstacles that hamper information flow. Among them is the large number of refugees vis-à-vis a small group of representatives, the lack of written information coupled with widespread illiteracy among refugees, as well as the ethnic and linguistic divisions of refugee populations. Text Box 9 (page 33) illustrates some of the problems encountered in Dadaab and proposed solutions.

Within the host government, information flow between various levels within a ministry functions usually well as they are able to rely on established reporting channels. As the refugees & environment complex is often a new field of government intervention, adequate new coordination structures are often not in place *between* different ministries.

Information and resolutions which are generated by participatory structures, need to be conveyed to the levels above and below. Delegates from the camp environment committee, for example, can informally pass information to representatives of the environment management committee. However, at levels above the Sub-Office upwards to District and Capital the quality of more formal written information becomes increasingly important.

Fig. 4 (page 32) visualises the linkages between stakeholders on one level and linkages within groups of stakeholders on different levels. Such figures illustrate the participatory system as a whole and are proposed as a tool for detecting weaknesses in the participatory system. Should

Level	Structures and Main Tasks
Block, Zone, Cellule, Village	ENVIRONMENT BLOCK COMMITTEE Main source of detail information regarding environmental status, implementation and impact of EMP; organisers of implementation work together with agencies; link between target groups and Environment Camp Committee; development of activities specific to the different ethnic groups
Camp, Settlement, Village	ENVIRONMENT CAMP COMMITTEE Pooling camp specific environmental information; ensuring comprehensive representation at camp level; developing camp-specific environmental mitigation concepts; link between camps and sub-office / Divisional structures; main forum for interaction between refugee and local leaders
Sub-Office, Division	ENVIRONMENT MANAGEMENT COMMITTEE Pooling RHA specific information; developing environmental strategies for the RHA; main forum for interaction of target groups, agencies and local government; determining and harnessing capacities of committee members for enhanced environmental management; overall monitoring of activities and impact of EMPs
Sub-Office, Division	ENVIRONMENT TASK FORCE Providing relevant environmental information to the Management Committee; initiating and supervising environmental activities in the RHA as assigned by the Environment Management Committee
District, Region	DISTRICT ENVIRONMENT COMMITTEE Streamlining environmental planning for district and for RHA; monitoring environmental impact beyond RHA; linking agencies and initiatives engaged in district development with EMPs in the RHA
Capital of Host Country	STEERING COMMITTEE 'ENVIRONMENT & REFUGEES' Streamlining national environmental legislation and policies with requirements of the RHAs; policy development for RHAs; forum for policy and decision makers among government, UN agencies and implementing agencies

Chart 7: Structures and Main Tasks of the Participatory System

linkages at one level be weak, it indicates the need for a participatory structure at that level. If linkages are weak within one group of stake-holders or if their representation is insufficient or non-existent at certain levels, communication flows need to be improved, perhaps by nominating representatives. The following text explains how the figure should be read.

- The Nairobi Level (outer ring)

Several of the players are not represented at the Nairobi level: refugees, local population and the local NGO Caravan. The Ministry of Home Affairs (MoHA), the Office of the President, UNHCR and GTZ have both a strong presence in Nairobi and are quite well linked, notwithstanding the fact that the relation is not free of conflicts. The MoHA, for example, complains about the lack of information from the side of UNHCR. The Ministry of Environment and Natural Resources (MoENR) is only starting to develop links to the MoHA. The intended official coordination body for refugees & environment (not yet formed at the time of writing) will strengthen this link and also bring other players on the Nairobi level on board. A list of potential participants includes ministries dealing with agriculture, livestock, planning, regional and national development, international agencies such as the World Food Programme (WFP), the United Nations Environment Programme (UNEP), the World Bank and others. The coordination body should also comprise other agencies already working in the field of refugees & environment such as the Lutheran World Federation (LWF), International Rescue Committee (IRC), CARE and GTZ.

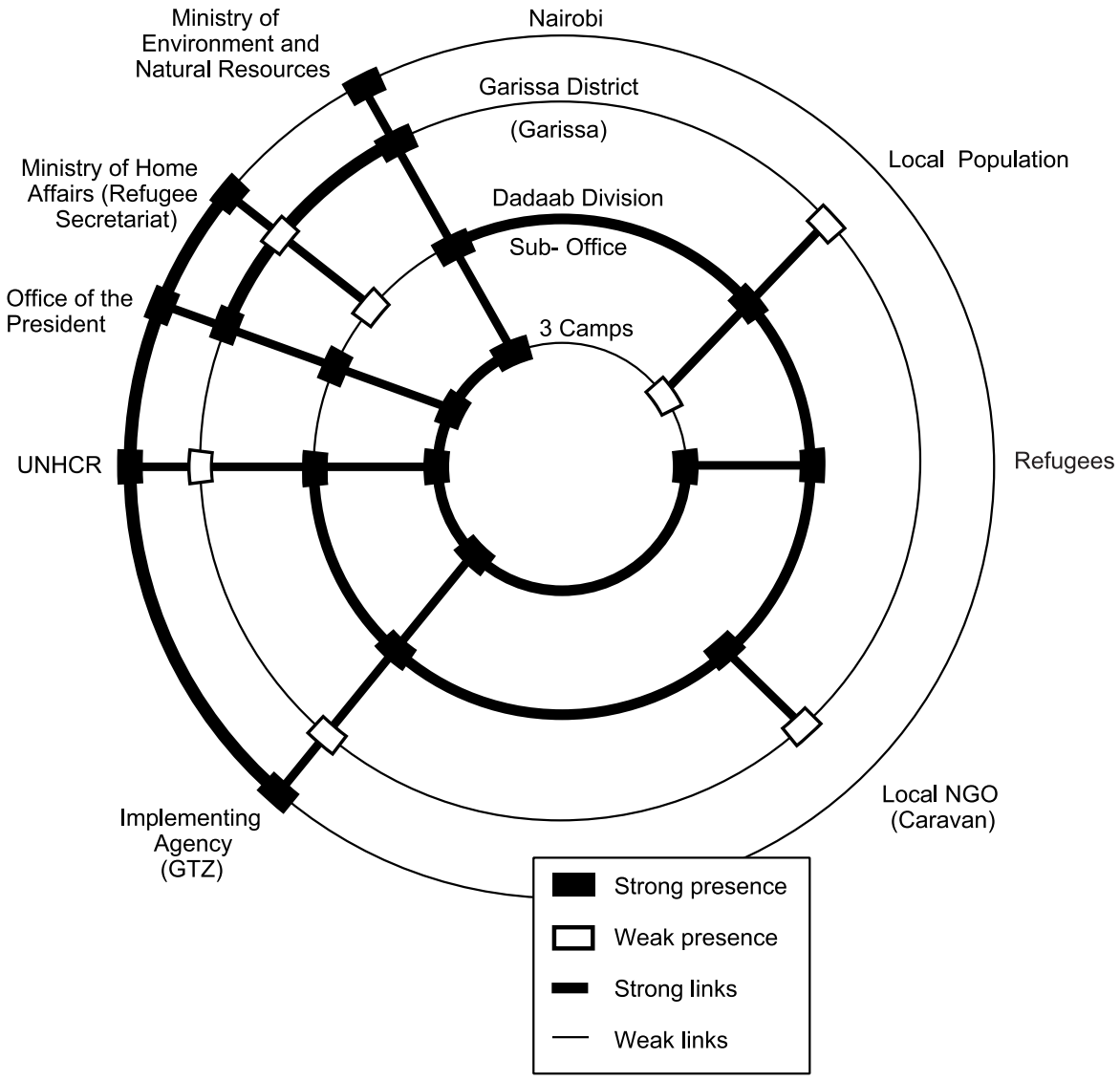


Fig. 4: Linkages in the Participatory System of Dadaab, Garissa and Nairobi

- The Garissa Level
  The Refugee Secretariat, UNHCR and GTZ have had a poor linkage to the District authorities in Garissa. A permanent presence is not recommended due to the high costs involved. However, UNHCR and GTZ should participate in the District Development Committee (DDC) meetings. The links with the Forest Department under MoENR should be more formalised e.g. through facilitating of regular visits of the District Forest Officer and the District Environment Officer. The secondment of government foresters to RESCUE further strengthens this link.
- The Dadaab Level
  Through the 'umbrella' Environment Working Group (EWG) in Dadaab, a near full circle of communication and participation is achieved at the Dadaab level. Only the Refugee Secretariat is not linked, because it is not permanently present. It recommended that the focal point for environment within the Refugee Secretariat spends occasional days in Dadaab, preferably as a participant in the EWG meeting.
- The Camp Level
  The local population and the local NGO Caravan are ill-represented at the camp based EWG meetings. It is recommended that one of the local participants in the umbrella EWG always participates in the camp EWGs and that RESCUE facilitates regular trips for selected locals and Caravan representatives to be able to monitor both the degradation process and the mitigation efforts.

2.5 UNHCR Policies on Instituting Participatory Systems for Environmental Mitigation

Instituting participatory systems is obviously the task of the refugee department within the respective ministry of the host government. However, since most host governments face the typical capacity constraints of developing countries, UNHCR has made it official policy to initiate and facilitate the necessary process. In the UNHCR Environmental Guidelines (1996) 'local participation' is one of the four '*Principles of UNHCR's Environmental Activities*':

> The solutions to resulting [environmental] problems must be tackled with the participation of all parties concerned and an understanding of the interdependence of refugee assistance operations and local resource management practices.

One of the two '*Operational Principles*' reads:

> Effectiveness of UNHCR environmental measures will depend [...] on the degree to which all participants in assistance operations are assigned suitable tasks and understand their purpose. [...] A number of parties are involved [...] in refugee-related environmental problems. The local actors include the host *national and local* governments, the refugees themselves, the local communities and local NGOs. The international bodies involved are the UNHCR, international NGOs, other UN agencies and multilateral and bilateral development agencies.

The '*Role of UNHCR*' is described in the Environmental Guidelines as follows:

> UNHCR must take a co-leader's role (with the host government), in promoting environmental protection and rehabilitation in the field, by setting objectives, priorities and policies, by overseeing the design and implementation of environmental projects and by coordinating the efforts of all parties concerned. UNHCR should promote linkages with other UN agencies and should strive to achieve a consistency of approaches across the UN spectrum.

Having made considerable progress in recent years in the field of environmental management of refugee camps, UNHCR in the Environmental Guidelines starts to assume the role of a *facilitator* in a comprehensive and multi-level participatory system. To further facilitate participatory systems, it is important that objectives, priorities, policies and the division of tasks are not set by UNHCR but evolve from a participatory process itself.

Informing Refugees about Environmental Resolutions in Dadaab

The Environmental Working Groups (EWGs) in the three camps and the sub-office of Dadaab are well-established fora to discuss issues of the RHE and formulate resolutions for mitigation. A survey carried out in these camps, however, revealed a lack of knowledge among refugees, not only about the contents of the discussions, but about the EWG system altogether. The main problems identified were:

- the names for the participatory structures within the EWG system were in English, thus bearing no meaning for the majority of Somali refugees who do not understand English;
- there was no standard procedure in place by which members of the EWGs could inform block leaders and who could, in turn, pass the information to their constituency; similarly, local EWG members did not inform the Dadaab population as a routine exercise;
- the extension workers of the EMP did not include the popularisation of the EWG information in their extension messages;
- other extension workers in public health and community development regarded the popularisation of EWG information as the task of the EMP;
- there was no written information available for refugees and local population.

Below are recommendations to tackle the problem of unsatisfactory information flow, some of which are already being put into practice:

- carry out a competition among refugees and locals to find a Somali name for EWG;
- establish regular public meetings for refugees and locals after the EWG meetings to discuss issues and resolutions;
- select key messages of the EWG information and allocate them to the three different extension systems in the camps;
- publish key messages on billboards and in a newsletter in Somali language.

Text Box 9: Information Flow from Environmental Forum to Refugees in Dadaab

3. Instituting Participatory Systems

While the previous chapters set the stage and analysed the situation under which participatory environmental mitigation is carried out, chapter 3 begins the 'action' part of the sourcebook. The sequence that goes from instituting the overall system (this chapter) to agency participation (chapter 4) to target group participation (chapter 5) should not be understood to necessarily follow in chronological order. Indeed, initiatives to further the participatory process at these three levels should be addressed simultaneously and according to existing priorities. Obstacles to participation described below concentrate on the district and capital levels. The 'steps to institute participatory systems' should be understood as an example of planning and implementing this process. Section 3.3 serves both as a condensed retrospective of previous chapters and an overview of the implementation details ahead.

3.1 Obstacles, Problems, Resistance

The institution of participatory systems encounters many obstacles and problems, at times even resistance from powerful institutional stakeholders. The development of participatory systems questions or even threatens mandates, puts outside expertise to the test and, initially, requires a great deal of work. But even if the principal concept is welcomed by those 'in charge', in host countries where refugees are only tolerated, the participation of refugees in decision-making fora may be politically unwanted. In none of our four countries, for example, are refugees or the local population of the RHA directly represented at the district or national level.

Obstacles at the National Level

In Kenya and Tanzania, conflict of interest between the government and UNHCR hampered the creation of a communication structure at the national level regarding refugees & environment. The governments felt that environmental degradation in the RHAs was not taken seriously enough by UNHCR and the donor community. UNHCR, on the other hand, did not want to take responsibility for adverse ecological developments despite efforts to mitigate degradation. Complaints by host governments about environmental destruction caused by refugee activity were seen by some agency officials as a way of putting pressure on donors for increased financial engagement in environmental mitigation. Informal meetings about 'refugees & environment' were preferred by both sides because such fora were perceived to be less threatening. Text Box 10 (page 35) illustrates the mentioned obstacles by the example of Kenya.

Obstacles at District Level

District officials are routinely involved in ETF meetings in Karagwe and Ngara (Tanzania) as well as in Arua and Adjumani (Uganda). Logistically this does not pose any problems, as the District HQs and the UNHCR Sub-Office are close by. In contrast, the Dadaab and Kakuma Sub-Offices (Kenya) are far from the Garissa and Lodwar District HQs. Due to the difficult and sometimes impassable road conditions and the high transportation costs, District Officials like the District Forester or the District Environment Protection Officer rarely visit Dadaab. However, they are invited for important planning meetings, participate in the EWG sessions once in a while, and are kept informed by project reports. The situation in Kakuma, which lacks structures like the EWG or an environmental lead agency, is less satisfactory (see Text Box 14 in chapter 4.2). Due to the distance and the lack of initiative from refugee agencies, the District Administration in Lodwar is not involved at all.

3.2 Steps to Institute Participatory Systems

There is neither a formula to institute participatory systems, nor a standard method *to facilitate their evolution*. Every refugee situation is unique and in most host countries some steps have already been accomplished. This chapter was written to develop a blueprint of a participatory system for an imaginary host country that has recently received an influx of refugees and is determined to tackle environmental issues in an uncompromisingly participatory fashion.

Brainstorming Period

Steps 1 to 3 involve making contact with officials 'in charge'. At this point it is more important to seek approval and support for the general idea than to get into the details of how such a

system could look and operate. The longer the concept remains open to suggestions, the more potential participants will be able to influence its shape and to identify with it. It is important that the main initiative for these steps should originate from an official who is generally acknowledged to have the mandate for refugee & environment issues such as the UNHCR EC.

Planning Period

Once a general consensus is reached that environmental mitigation in RHAs requires participation at certain levels of host government and UNHCR structures, steps 4 and 5 of the planning period begin. The role of the planner / facilitator becomes less central as certain planning steps are already performed by the stakeholders themselves. At this stage, however, the support of the facilitator is still crucial for streamlining and nurturing participatory structures in different Districts, Sub-Offices and Camps.

Implementation Period

During steps 6 and 7 important contributions come from the participants themselves. The discussion structures define their TORs and their role in the participatory system. The facilitating role at this stage is less crucial as it is partly superseded by the need to establish and strengthen links between the installed fora.

Operational Period

From step 8 onwards, the system continues to function with little interference. Ideally, the facilitating role ceases to be of importance, unless it is for specific activities like evaluation or information exchange with other host countries. Ongoing tasks like documentation can be performed by the monitor on a routine basis, without interfering in the discussion processes of the system.

The changing roles from "initiator", "planner", "facilitating planner", "facilitator", "moderator" to "monitor" should ideally be performed by one position or even one individual. The whole process of instituting such a nation-wide participatory system may well extend from several months to over one year. Instituting the various fora requires an 'engine' in the form of a committed individual or individuals. Initiating fora at whatever level, then leaving them to collapse after the departure of the "initiator" may lead to frustration on the side of participants. This should be avoided at all cost. Experience shows that continuity is

Coordination at National Level in Kenya

Kenya hosts two main groups of refugees: from Somalia, in the three camps of Dadaab and from Southern Sudan in Kakuma. While in Dadaab environmental mitigation is well established through the GTZ RESCUE project, Kakuma still lacks a coherent concept of environmental management. The GoK, being aware of the environmental damage around refugee camps, has not formulated a binding policy for the environments of RHAs. UNHCR Branch Office Nairobi, having initiated sound environmental mitigation in Dadaab, did not utilise the experience gathered there to transfer it to Kakuma, although the frame conditions are very similar. Initiatives for information exchange on environmental matters were left to agencies which organised exchange visits on an ad-hoc basis.

In June 1996, the research team initiated the first meeting of EMPs from Kakuma and Dadaab. It was enthusiastically supported by the Refugee Desk of the GoK. The agenda included:

- briefing on environmental activities by EMPs in Kakuma and Dadaab
- briefing on the environmental education pilot project in Kakuma and Dadaab
- increasing cooperation between Kakuma and Dadaab
- planning for continued coordination on the national level.

UNHCR, even though invited, attended neither of the two 'Information Exchange Meetings'. The Refugee Desk, acknowledging the importance of a national coordination forum for 'refugees & environment', would have had the mandate to invite participants for consecutive meetings but hasn't done so in the meantime.

What is to be learnt from this failed attempt to initiate participation at the national level? First, the research team did not lobby for the idea with UNHCR early enough. Had the coordination meeting been presented as the initiative of UNHCR in the first place, their participation would have been more likely. Secondly, in the case of reluctance from UNHCR, the Refugee Desk of the host government should have issued official invitations for the meeting. Thirdly, by not including all possible members of this meeting early enough, the agenda was imposed by the research team and was probably not attractive for some of the invited members.

There is, nevertheless, still hope that the idea will be taken up by a future UNHCR Environmental Coordinator. In particular for the formulation of the proposed national action plan for refugees & environment in Kenya, a national forum is indispensable.

Text Box 10: Coordination at National Level in Kenya

Steps to Institute Participatory Systems in Refugee Hosting Countries	Responsibilities
Step 1: Develop a first draft of a nation-wide system of participatory structures and lobby for the concept. Form a small group of interested and involved individuals (core team) to further develop the concept.	**'Initiator'** e.g. UNHCR Environmental Coordinator or Physical Planner, UNEP or UNDP focal point refugees & environment, host government refugee official
Step 2: Identify the decision making bodies in the complex 'refugees & environment' within the host government, UNHCR and other agencies. Identify their resources and capacities for constructive participation. Identify gaps of planning and decision making at all levels and draft a system of complementary structures of participation; use and strengthen existing structures and bodies. Prioritise needed additional structures and draw a time plan to initiate these structures.	**'Planner'** (as initiator above) in collaboration with core team
Step 3: Identify 'allies' among individuals within government departments and agencies to further the idea of participatory structures and to assist in their establishment.	**"planner"** with core team
Step 4: Draft TORs for the identified structures (fora) at all levels. Involve relevant stakeholders to draft TORs e.g. national government official for refugees and UNHCR on the capital level; district officials for environment etc. and agencies on the district level; refugees, locals, agencies on the camp levels.	**'Facilitating Planner'** with core team and selected stakeholders ('allies')
Step 5: Agree on responsibilities for each forum for inviting, chairing and documenting fora meetings. Assess funding necessities for these responsibilities and assist in fund-raising.	**'Facilitating Planner'** with host government, UNHCR and implementing agencies
Step 6: Define, tentatively, the participants of each forum (see Representation Chart in chapter 3) and invite them for initial meetings.	**'Facilitator'** with core team and selected stakeholders
Step 7: Draw (final) TORs for each forum and elaborate on details such as meeting frequency, venue, meeting and follow-up procedures. Define relations to other governmental and non-governmental bodies.	**'Facilitator'** with participants
Step 8: Ensure information flow between fora at different levels, facilitate fora proceedings and assist fora in crisis.	**'Moderator'** in collaboration with fora participants and involved institutions
Step 9: Ensure documentation of fora resolutions, proceedings and problems related to organisation and impact. Convey information about participatory system to other refugee hosting countries and agency headquarters.	**'Monitor'** in collaboration with fora participants and involved institutions
Step 10: Initiate self-evaluation of fora on all levels to improve procedures and impact.	**'Facilitator'** in collaboration with fora participants and involved institutions

Chart 8: Steps to Institute Participatory Systems

required at least up to step 5 of the process. To ensure a reliable momentum of the process, continuity up to step 7 should be aimed for.

There is indeed a danger that the participatory system becomes an end in itself and that such a system is not need-driven but agency-(bureaucracy-) driven. If that is the case, the system will neither be cost-effective nor sustainable. Screening the steps taken above for their efficiency and sustainability is, therefore, an important task for the initiator / facilitator:

- which of the fora, committees and other structures are actively taking part in decision making processes in terms of policy-making, planning or implementation?
- Which of these structures should only be involved in information sharing?
- Which of the proposed structures can be integrated in existing structures?
- What are the most cost-effective ways of sharing information and decisions?
- Which of the structures exist because of the refugee operation (and related funds) and which structures have the potential to become structures for indigenous environmental management?
- Which support levels could render important structures sustainable and which support levels are indicative for agency-driven structures?

Most importantly, each of the structures / fora / committees need clear TORs and descriptions of their decision making authorities. In particular structures at camp- and Sub-Office level, where interventions take place need to have clearly defined authority to decide and act accordingly. If environmental management structures are incorporated in existing structures, existing TORs need to be amended accordingly.

3.3 Summary: Hindrances to Participation and Proposed Solutions

The Camp Level

Hindrances to Participation	Proposed Solutions
Refugees perceive their stay as temporary and have thus limited interest in environmental mitigation.	• Create, through workshops and education programmes, awareness of refugees' responsibility towards host environment. • Link environmental activities with training possibilities for refugees, including the issue of certificates.
Refugees have other, more urgent needs and are therefore not willing to invest time in environmental activities.	• Identify those urgent needs that can be addressed by environmental activities (e.g. live fencing for security, eco-farming for increased yields, improved stoves for firewood saving, methods for improved housing etc.). • Link up with other agencies to include health aspects, security issues, income generating activities or nutrition aspects in environmental programmes.
Refugees cannot increase their income through environmental activities.	• Concentrate on labour-intensive environmental activities which generate income for large numbers of refugees. • Link the provision of non-essential items with environmental activities (e.g. tree planting for stoves, firewood or construction poles against work).
Refugees and locals do not comply with rules set up to control environmental degradation.	• Involve refugees (locals) in designing rules and regulations. • Agree with refugees (locals) on a set of sanctions and enforcement strategies. • Utilise existing traditional structures and leaders to enforce resolutions. • Provide job opportunities for refugees (locals) as forest guards, animators and 'environment authorities'. • Set up a commission with refugees and locals to discuss and sanction violation of regulations in cooperation with government authorities.

Hindrances to Participation	Proposed Solutions
Refugees or local leaders participating in environmental mitigation have 'hidden' political agendas.	• Develop job descriptions for certain posts together with refugees and locals. • Identify professionals (foresters, agronomists, development workers) among refugees and locals and encourage election of these to the relevant positions. • Develop TORs and procedures for environmental working groups to ensure that meetings are not 'hijacked'. • Where possible, take advantage of these 'agendas' and use them as entry points to support environmental protection.
The local population resents cooperation with refugees in environmental mitigation.	• Encourage, through workshops and regular meetings, a sense of joint responsibility for the environment. • Provide job opportunities in which refugees and locals work together (e.g. mixed forest patrols, tree nurseries with mixed workforce). • Make the economic advantages of hosting refugees (e.g. trade, job opportunities) transparent to locals and demonstrate viability of sound environmental management.
The local population feels left out from the relief effort of refugee agencies and thus show no interest in agency driven environmental mitigation efforts.	• Convince policy makers in agency headquarters that environmental projects must be designed for all stakeholders in the refugee hosting area. • Include local population in incentives-for-work-programmes.
Participation of refugee and local women remains limited to manual work.	• Analyse, together with target groups, the reasons for low women participation in environment fora. • Assess comparative advantages of increased women participation in existing structures vs. the installation of separate participatory structures for women. • Initiate, if appropriate, 'women environment groups' within environmental fora to include gender aspects in problem analysis, planning, monitoring and evaluation.
Competition between agencies leads to lack of coordination.	• UNHCR to negotiate on Sub-Office and Branch Office level with agencies for a clear division of labour. • If necessary, UNHCR should 'positively discriminate' and advice agencies which activities to undertake and which not. • Healthy competition between agencies in different camps can lead to higher efficiency and lower costs.
No agency feels responsible for initiating discussion on environmental matters	• UNHCR to appoint "lead agency environment". • Initiating environmental fora should be integral part of the TORs of environmental lead agency. • Lead agency to seek mandate and recognition from host government to facilitate environment fora.
Low level government officials lack training or initiative to participate fruitfully in environmental mitigation	• Organise training courses for low level government officers to equip and motivate them for better performance. • Lobby in the district or in the capital for the secondment of better qualified staff. • Top up low government salaries as reward for increased responsibilities and higher work output.
Host government officials are reluctant to admit refugees to official bodies such as environment fora	• Involve government officials in all stages of planning, during which the need for refugee participation will emerge. • Clearly define, together with host government, the mandate of the environment fora and the role of all participants. • Use the fora to advise and strengthen, not to replace existing structures, e.g. Divisional Environment Committees.

The District Level

Hindrances to Participation	Proposed Solutions
District authorities are inadequately informed about environmental degradation and mitigation efforts around refugee camps.	• Refugee (environment) agencies to participate in the District Development Committee (DDC), the District Environment Committee (DEC) or equivalent on a regular basis. • Seek for the appointment of a focal person for refugee / environment matters in the district administration. • Channel important reports to the district focal person. • Facilitate transport of focal person and relevant district line officers to the camps at regular intervals and for important meetings. • Facilitate information exchange between relevant government officers at the capital and district levels.
Uncertainty about the definition of 'refugee hosting area' and about the target population.	• Obtain a go-ahead from the central government to define the target area together with relevant district authorities, UNHCR, implementing agencies and natural resource specialists. • Define categories of mitigation activities (e.g. rehabilitation, protection, monitoring) in defined areas according to destruction levels. • Communicate the agreed upon definition to relevant decision makers and target groups.
Refugees & environment issues are not dealt with in the district planning (e.g. District Development Plan).	• Facilitate the formation of a working group on district level to develop district policies and an annex to the District Development Plan addressing refugees & environment issues. • Work out a district environmental monitoring procedure for RHAs.
District authorities are not informed about details of environmental mitigation projects.	• Project managers need to introduce the project formally to the district authorities *before* the beginning of implementation. • Copy of the tri-partite agreement should be forwarded to the District Commissioner or other relevant District officer. • Exhaustive information meeting with the district authorities and / or DDC should be organised annually. • District Officials should participate at different planning stages (ZOPP, monthly planning, annual workplan etc.).
Projects working on the refugee / environment field are poorly linked to other environmental and development projects in the district.	• DDC meetings should be used for information exchange with other projects. • Invite other projects to the camps for information exchange and brainstorming over better cooperation. • Exchange professional staff for several weeks to facilitate the exchange of knowledge. • Examine ways of cooperation on a permanent basis.
District authorities have poor knowledge about problems facing the local population and refugees.	• Facilitate delegations of the local population and refugees to inter-act with district authorities, either in the camps or in the District HQ

The Capital Level

Hindrances to Participation	Proposed Solutions
Lack of national policies for refugees & environment issues.	• UNHCR at BO level to take initiative for policy development on refugees & environment. • Explore successful examples of refugees & environment policy-making in the region and facilitate exchange of information. • Facilitate the formation of a joint body of host government, UNHCR and implementing agencies to develop government policy on refugees & environment.
Lack of coordination of host government and agencies at the capital level.	• Support host government to hold regular meetings with all agencies dealing with refugees & environment.
Poor communication flow between 'refugee ministry' and 'environment ministry'.	• Encourage host government to intensify inter-ministerial links through secondment and participation in joint meetings.
Poor communication flow between camp, district and capital within the host government system.	• Facilitate regular visits of national level and district level government officials to the refugee hosting areas. • Invite district level government staff to capital level meetings and vice versa.

The Agency Headquarters Level

Hindrances to Participation	Proposed Solutions
Costs for participatory approaches are rarely part of the proposed budgets.	• UNHCR should specify 'participation' in tenders and insist on budgeting for additional costs. • Implementing agencies to include 'participation' in all steps of their standard project cycle and in project budgets.
Lack of expertise within (relief) agencies to successfully introduce participatory approaches for environmental mitigation.	• Expose management staff to participatory approaches, structures and methods in other refugee hosting areas *before* the beginning of implementation. • Build up in-house expertise on refugees & environment, including 'participation'.
Short project duration in refugee-related work hampers long term development of participatory approaches and structures.	• Sensitise donors on the long-term nature of refugees' impact on the environment. • Combine quickly available relief funds with long term development funds to ensure longer lifespan of refugee / environment projects. • Consider the integration of the refugee / environment project into a larger district development programme. • Encourage joint donor projects, e.g. relief donations and development funds combined under one project umbrella.

Chart 9: Hindrances to Participation and Proposed Solutions

4. Tools to Enhance Agency Participation

This chapter introduces three main tools to enhance agency participation and overall coordination: the UNHCR Environmental Coordinator or similar positions that entail both the mandate and expertise to facilitate participatory environmental management; the environmental lead agency in RHAs as an engine for environmental mitigation and focal points within other agencies to enhance agency cooperation.

4.1 The UNHCR Environmental Coordinator

Enhancing agency participation in environmental mitigation rests on two pillars: the *political mandate* to coordinate and the *environmental / developmental expertise* to guide the process of participatory environmental mitigation. To fulfill this mandate, it is imperative for UNHCR to hire experts that have sound environmental knowledge as well as facilitator and moderator skills.

The position of an Environmental Coordinator (EC) has become a common feature in larger UNHCR country programmes. The EC can be based in the capital, in the sub-offices, or even in the camps. Where they exist, the UNHCR EC should be integrated in technical teams. In smaller country programmes, a suitable member of the technical team can fill the position of the EC with part of his time.

In Uganda, the EC has a national responsibility, even though his work station is the Arua Sub-Office. In Kenya, the creation of the position of an Environmental Coordinator / Planner who will be based in Nairobi is underway. The other two countries have or have had a UNHCR EC based in a Sub-Office. These positions are either directly funded by the UNHCR Environmental Unit / Geneva or by a trust fund or by the country programme. Encouraging experience in Uganda has shown that an operational budget at the disposal of the EC is of great help. This budget will not be sufficient to carry out major environmental mitigation programmes but it can serve to:

- initiate pilot projects, forming the base for larger projects later;
- support small scale local initiatives during their establishment until an implementing agency can take over;
- carry out environmental appraisals on behalf of implementing agencies or jointly with them (up to now, too many isolated appraisals are carried out by individual agencies);
- facilitate the formation of participatory structures at various levels and
- improve information flow between all levels from the camps to the capital and even Geneva.

The Environmental Coordinator in Goma

The EC in Goma was confronted with the sometimes difficult task of coordinating a dozen agencies working on environmental mitigation in five large camps with a total refugee population of over 700.000. All the camps were situated within walking distance of the Virunga National Park. Fuelwood needs of refugees coupled with charcoal burning as one of the few feasible income generating activities made the protection of the park extremely difficult. Cooperation with the Institut Zairois pour la Conservation de la Nature (IZCN), a Zairian parastatal organisation, was hampered by the chronic lack of resources of this agency. Working relations between environmental agencies were sometimes less than cordial, and with dwindling funds available, they became more and more competitive over implementation of activities like stove dissemination and firewood supply.

The EC had very close relations with the GTZ programme in Goma (he was in fact sharing an office with the GTZ Environment Coordinator). CARE, EU and UNDP were also participating in the environmental bureau. Unfortunately, there was no environmental lead agency appointed to support the EC.

The close working relation between the EC and GTZ had rather the opposite effect from what would be desired of an environmental lead agency. A certain degree of alienation between the Environmental Office (UNHCR and GTZ) and other players was observed. This was compounded by the fact that coordination meetings for all environmental agencies were held in the camps and in Goma Sub-Office only on an irregular basis.

The important achievement of the EC in Goma was the compilation of data regarding the ongoing destruction of the Virunga Park, the changes in firewood harvesting and firewood use. These data formed the basis for creating awareness among agencies providing solid arguments for fund-raising. Unfortunately, the solid monitoring data were not used to devise a holistic and sustainable strategy for all camps of the Goma complex.

Text Box 11: The Environmental Coordinator in Goma

To be able to encourage participation at all levels, the EC must be present or be represented at all these levels. Ideally, the EC should have a sufficient travel budget at his / her disposal, travel applications between the field and the capital should be handled in an unbureaucratic fashion.

The EC is the facilitator of stakeholder participation and the initiator of a participatory system. It is thus only logical to have the TORs developed by the institutional stakeholders prior to recruitment and approved by the funding source of the position. The TORs can be amended later on, depending on the results of the participatory process. Refugee and local representatives need to understand the role of the EC and should have options to comment on role and performance. In this way, the EC would be accountable to all the stakeholders and they, in turn, would be able to fully identify with the position. Text Boxes 11 (pages 41–42) to 13 provide a brief account of the experiences with UNHCR environmental coordination in Goma, Kagera and Northern Uganda.

The Environmental Coordinator in Kagera

Kagera Region in Western Tanzania is home to two UNHCR Sub-Offices, Ngara and Karagwe. Before the repatriation to Rwanda in autumn 1996, some 800.000 refugees lived there. UNHCR and the EC did not have the multitude of agencies to coordinate as did their colleagues in Goma. The donor community had not responded as generously as it had for Goma, because there was no Virunga Park equivalent close by. In late 1995, there were no funds available at all for EMPs of any sort. This lead to an abrupt halt of the firewood distribution and stove dissemination programmes as well as of the afforestation activities. With virtually nothing to coordinate, the EC was not in a position to concentrate on lobbying for funds in Dar-es-Salaam or even overseas. His workstation was Kagera and applications for travel were often difficult to get approved by the Branch Office in Dar-es-Salaam. The immobility of the EC had another negative effect: from the beginning of the refugee influx, Tanzania had lacked a government policy on refugees & environment. Facilitating the formulation of such a policy by the EC would have only been possible in Dar-es-Salaam or in the regional capital Bukoba.

Despite all the handicaps, the ECs in Kagera instituted and maintained a participatory structure at the Sub-Office / District level that gained reputation under the name 'Environmental Task Force' (ETF). It was a forum for environmental agencies and relevant government officers for over three years. Refugees and affected population, however were not represented in the ETF. Eventually, CARE initiated a 'Community Environment Working Group' in some of the camps in Karagwe. These structures, complimentary to the ETF, were designed to involve refugees and locals in decision making (see Text Box 8).

Text Box 12: The Environmental Coordinator in Kagera

The Environmental Coordinator in Northern Uganda

Northern Uganda, hosting some 350.000 refugees mainly from Sudan, was the target area of a UNHCR programme to rehabilitate refugee affected areas. Included in the budget were funds for an environmental coordinator. While the duty station of the EC was in Arua Sub-Office, his tasks also included convening meetings in Kampala, in Pakelle, the second Sub-Office in the north and in all the settlements. With ACORD, the EC had a competent and committed environmental lead agency as partner. Environmental agencies not only benefited from operational funds, administered by the EC, but also from workshops and meetings that were financed by the same source. Quarterly meetings of relevant government officers, UNHCR and implementing agencies in Kampala have yielded an Environment Master Plan for Refugee Affected Areas.

Monthly ETF meetings in Arua and Pakelle have involved agencies and GoU District Officials. Up to now, refugees and representatives of the local population have not been involved at this level. Presently, the EC is coordinating an attempt to install participatory environmental fora in newly established settlements.

This rehabilitation programme for RHAs with the EC as the central element to enhance participation of stakeholders on all levels and rational allocation of funds is so far the most promising approach to direct the formation of a participatory system. It should be carefully studied and documented to serve as a model for donors and UNHCR.

Text Box 13: The Environmental Coordinator in Northern Uganda

4.2 The Environmental Lead Agency

The task of environmental mitigation in one RHA is usually shared among a number of agencies. Agencies can either divide the task and work in different camps, or they divide the technical areas in all the camps. The former can lead to a situation like Goma, where five different household energy programmes were implemented in five different camps promoting five different

stove models with five different dissemination approaches. Some of the programmes were too small to afford first class expertise or to use management time for thorough strategy development. The assets of a multi-agency effort – variety of new ideas and range of different experiences – were never pooled, discussed and streamlined. The Environmental Coordinator, being basically a one-person office, did not have the capacity to take up that task. In such a case, an environmental lead agency can support the EC to analyse and optimise technologies and dissemination approaches.

The appointment of an environmental lead agency should by no means deteriorate into a monopoly position for environmental mitigation in a camp or in a Sub-Office. The positive effects of healthy competition and a wide base of different experiences to constantly improve the mitigation efforts are obvious. However, an appointed and recognised environmental lead agency is in an ideal position to spearhead the instituting of comprehensive participatory structures. Part of it's budget will be allocated for tasks such as convening meetings, carrying out participatory environmental appraisals and planning and participatory impact monitoring. In cooperation with other environmental agencies and host government departments, standards can be developed which allow efficient use of resources. The role of the EC in this process is to initiate, guide and monitor the above mentioned activities in close cooperation with the environmental lead agency.

Sharing Resources

Supporting the EC in coordinating EMPs and carrying out action-oriented, participatory research for all environmental agencies will help reduce unnecessary expenditures. Other examples for sharing resources through the initiatives of a lead agency are:

- staff training to improve technical knowhow and facilitation skills;
- production centres for improved stoves;
- central procurement of seeds, tools and other equipment;
- production of manuals, booklets for environmental education and other printed extension material;
- hiring of specialised outside expertise (short and long term).

There are three conceivable models to finance the additional activities of the lead agency: first, the agency implements an EMP and has separate budget lines for 'lead-activities'. Secondly, UNHCR can contribute to the costs for 'lead activities' through the country programme or the UNHCR Environmental Unit in Geneva. The third option is to set up a system of sharing the costs for 'lead-activities' by all environmental agencies and electing (appointing) a lead agency from among them. While this is the most 'democratic' option, in practice the 'sharing approach' can be cumbersome and prone to yield disagreements.

The most important qualification of a potential lead agency seems to be the previous work records in the RHA and the in-house expertise. To gain insight into the conceptual capabilities,

No Environmental Lead Agency in Kakuma

The Kakuma Camp in North-Western Kenya shelters some 60.000 refugees, mostly from Southern Sudan. Environmental mitigation is shared between two agencies. The Lutheran World Federation (LWF) supplies a small part of the required firewood, disseminates solar cookers and is engaged in small scale gardening. The International Rescue Committee (IRC) operates a tree nursery for refugees' home compounds, together with the Divisional Forester. IRC also engages in solar cooker dissemination, albeit a different model, and also promotes vegetable gardening. Both agencies have poultry projects. Neither of the two agencies has attempted to develop an overall environmental action plan for Kakuma. This lack of overall planning is most evident by the absence of an improved woodstove programme, a standard component of EMPs in refugee camps of East Africa.

The absence of an EC in Kenya has aggravated the situation. Rather than sharing responsibilities and coordinating efforts, the two environmental agencies are in a situation of permanent competition. A number of tasks, relevant for both agencies, have therefore not been pursued:

- prioritising environmental interventions according to urgency and cost-effectiveness (saving 100 mt of firewood with improved stoves is much cheaper than supplying 100 mt by truck!);
- linking up with other EMPs in the country and in the region to share experience;
- seeking the integration of the local population in environmental management;
- setting up participatory structures for environmental mitigation in Kakuma and linking the Kakuma EMPs with the District Environmental Committee;
- supporting the development of a national policy for refugees & environment.

Text Box 14: No Environmental Lead Agency in Kakuma

potential lead agencies should be requested to submit concept papers relating to:

- short- and long-term strategies for environmental mitigation and development in the RHA;
- the role of the lead agency and the EC;
- the role of other stakeholders and other environmental agencies;
- description and prioritising of technical interventions;
- contingency plans for (sudden) changes in the frame conditions (political, military, climatic).

One should, however, not be over-careful with the appointment of the lead agency. No lead agency at all is often the least preferable option. The example of Kakuma Camp in Kenya (Text Box 14, page 43) illustrates the effects of the absence of an environmental lead agency.

4.3 Focal Points for Refugees & Environment

In every RHA there are a number of agencies and government departments who have no direct link to or involvement in refugee related interventions. These institutions work in a variety of development programmes, including environmental management. Their main target groups are usually among the local population. Thus, they may show only limited interest in refugee & environment issues.

As we have shown before, refugees and local communities cannot be separated when it comes to sustainable resource management. To forge a personnel link between ongoing environmental and developmental work and refugee-centred operations, focal points for refugees & environment can be appointed. Focal points within these institutions are liason officers, i.e. designated individuals who are responsible for the overlaps of environmental mitigation in the RHA and ongoing development efforts. They may also be officers of relief agencies which do not deal directly with environmental mitigation, but affect the latter through their activities. To illustrate the concept of *focal points within institutional stakeholders*, some examples are given below. As in previous chapters, we have listed all conceivable options. By no means should all of those possible focal points be established. The optimum number of focal points depends on the degree of involvement of the agency or government department in question and their willingness to participate in committees dealing with refugee & environment issues. It also depends on the magnitude of refugee settlement and environmental impact.

Implementing Agencies

To ensure continued communication and cooperation, the agencies with direct or peripheral interest in the refugees & environment nexus can intensify their participation in the process at each level by designating focal points. This should be tied to a position rather than to an individual, even though the individual commitment and professional qualification determines largely the efficacy of a focal point. In a given camp, the number of focal points can constitute the following:

Health Agency: 'Focal Point Environmental Health and Sanitation'

Water & Sanitation Ag.: 'Focal Point Environmental Health and Sanitation'

Food Distribution Agency: 'Focal Point for Kitchen Management and Household Energy'

Education Agency: 'Focal Point for Environmental Education'

Social Services Agency: 'Focal Point for Environmental Awareness Creation'

Income Generation Ag.: 'Focal Point for Environment and Income Generation'

Agricultural Agency: 'Focal Point for Agroforestry and Soil Erosion Control'

Host Government Ministries

The links between Ministries concerned with refugee issues and those concerned with the environment are usually weak. To ensure that the Ministries of Agriculture, Water, Forestry or Natural Resources etc. are involved, they can appoint an officer who concentrates on problems of his / her field in the RHAs. Such an officer, while participating in meetings and visiting the RHAs will acquire an understanding of the refugee situation which will help to put the technical expertise into context. A typical steering committee meeting for environment & refugee issues at the capital and district level can comprise of the following government representatives:

Ministry of Environment and Natural Resources	'Focal Point RHAs'
Ministry of Tourism and Wildlife	'Focal Point RHAs'
Ministry of Home Affairs, Refugee Secretariat	'Focal Point Environment'
Ministry of Agriculture and Animal Husbandry	'Focal Point RHAs'
Ministry of Health	'Focal Point Environmental Health in RHAs'

International (UN) Agencies

Environmental degradation in RHAs cuts across various mandates of international (UN) agencies. Some agencies may be directly involved in refugee matters like the WFP or UNICEF or not (yet) directly involved as it is often the case with UNEP, UNDP, WHO, FAO, World Bank and others. As each of these and other international agencies have specific expertise and fund-raising networks, it is important to develop communication links with them, at least on the national level. Typical focal points could be:

UNHCR	Environmental Coordinator
UNEP	'Focal Point for Refugees'
UNDP	'Focal Point Development and Environment in RHAs'
UNESCO	'Focal Point Environmental Education for RHAs'
WHO	'Focal Point Environmental Health Refugees'
WFP	'Focal Point Refugees & Environment'

The UNHCR Focal Point Environment in Dadaab

During the last four years of implementation in Dadaab, the RESCUE Project was in a favourable position to have one permanent contact person, the UNHCR Focal Point for Environment in the Dadaab Sub-Office. The expertise and reliable presence was crucial in setting up the EWG system (see Text Boxes 9 and 17) by UNHCR and GTZ. Through the Focal Point, for example, UNHCR and GTZ were able to develop and implement the 'live-fencing' of refugee compounds and greenbelts (see Text Box 23).

The shortcomings of this position was constant overloading with activities other than environmental tasks. Sufficient time should clearly be allocated to the focal point at any level.

The Focal Point Environment in Dadaab, however, could not replace a UNHCR EC. His mandate was reduced to keeping contact with RESCUE in Dadaab and carrying out certain monitoring tasks.

Text Box 15: UNHCR Focal Point Environment in Dadaab

5. Methods and Tools to Enhance Target Group Participation

The methods and tools discussed in this chapter could be summarised under 'community mobilisation'. None of the mentioned approaches will be an effective tool by itself. They build upon each other and follow a time-line ranging from analysis to planning, to implementation and monitoring & evaluation. Without a participatory assessment of the situation, for example, planning cannot be carried out in a participatory fashion. Only jointly planned interventions will be supported by all stakeholders. To be able to judge the success of environmental activities, the evaluators need a full insight in the problems and limitations of project work. For this, they must be involved in all stages and aspects of implementation.

The boundary between the tools 'income generation' and 'appropriate incentive schemes' is fluid, almost by definition. The selection and optimum combination of tools and methods will have to be decided by the stakeholders on site. Finally, these methods need prioritisation: skills surveys, for example, have their greatest impact at a very early stage of the environmental mitigation process, while school approaches or household competitions are elements of EMPs at a later stage.

5.1 Participatory Environmental Appraisal and Planning

Adapted from Participatory Rural Appraisals (PRA), the Participatory Environmental Appraisal and Planning (PEAP) limits its focus on environmental matters while adding explicitly the dimension of planning for joint action. PRA and PEAP are based on the conviction that:

- the values and knowledge of 'the people' must have priority over values and knowledge of 'outsiders';
- those affected must set the criteria and preferences for planning and action;
- the appraisal itself belongs to the people, and it must be carried out *not only with but by the people*;
- the consequent action should be driven and carried out by the people themselves;
- monitoring and evaluation must answer first and foremost the question: what impact does the project have on the lives of the people?

The vast experiences gained with PRA in recent years are being increasingly adopted in refugee assistance and environmental mitigation in RHAs. Where top-down planning approaches still persist, it is mainly because of the time pressure in relief situations, the short planning and budgeting periods and the overwhelming dominance of live-saving activities. Participatory and top-down planning approaches, however, need not necessarily contradict each other. As in the case of Northern Uganda (Text Box 16, page 47), professional planners and environmentalists *together* with refugees and local communities can initiate a joint assessment and planning process.

In the following pages, we have provided a range of PEAP tools that can be applied in most RHAs. To effectively involve the target groups, however, there are *no standard solutions or pre-fabricated methods.* What is needed most, is common sense, the willingness to share power and the flexibility to react to the expressed needs and priorities of the participants.

Stakeholder Analysis

Determining the roles, capacities and vulnerabilities of stakeholders is a main feature of PRA sessions. For rural development, wealth ranking as well as vulnerability and capacity assessments are dominant techniques. For environmental mitigation it is important to determine the roles of actors and the potential roles for other stakeholders in the process of environmental *degradation and mitigation*. Two simple charts below (charts 10 and 11, pages 48–49) provide examples how these roles can be visualized. In reality, of course, such charts are rendered more complex by the number of actors involved and the varying aspects of environmental degradation and mitigation.

Area Protection Appraisals

Not all the land surround of a refugee camp or settlement is under the same environmental stress. Locals usually know best which areas are more prone to soil erosion, uncontrolled bushfires, overgrazing or generally, at risk of degradation. To translate this information into planning, a series of cross-section walks can culminate in a joint mapping exercise (see Text Box 28), by which locals and refugees classify areas, draw main movements of firewood collectors, differentiate between highly and less endangered

The PEAP Process in Northern Uganda

Since 1994, refugees from Southern Sudan have been shifted from so-called transit camps to agricultural settlements scattered in the Arua and East Moyo Districts. Planning for refugee settlement was reduced to access roads, water supply and the demarcation of plots. Other infrastructure like schools and clinics were developed alongside with the settlement. Environmental mitigation followed later, usually when the destruction became obvious. This happened often years after the establishment of the settlements.

The experience of refugee settlement in other areas of Northern Uganda shows clearly that the destruction of woodland and the consequent deterioration of other vegetation, soils and wildlife habitat is most severe during the initial stages of settlement. The following reasons for this are:

- High demand for poles and other building material
- High need for cash income (through selling of poles, firewood and charcoal) to bridge the gap until agricultural yields materialise.
- Seemingly abundant tree resources combined with the need to clear home compounds and agricultural plots.
- Internal rules and regulations for environmental management are yet to be established, and local, 'traditional' regulations are not known by newcomers.
- Agencies have to concentrate on providing to immediate food / water / health and infrastructure needs.

To involve refugees and locals alongside with agencies and host government, a PEAP process was initiated in 1997 by UNHCR. Two pilot settlements were selected, the newly settled Mongula site and the Maji site, where refugees had not started to settle yet. While in Mongula PEAP had a re-active character (refugees had started clearing large areas for income generation), in Maji the rare opportunity arose to plan in a pro-active fashion the use and protection of natural resources. For both areas PEAP exercises were to be carried out with the following elements:

- Assessment of the natural resources available, attempting a ranking of natural resources according to the importance for the livelihood of refugees and locals (water sources, farmland, trees, (riverine) forests, other vegetation, wildlife etc).
- Assessment of the threats to these natural resources by activities of locals and refugees.
- Assessment of the protection needs and designing of the protection measures, including responsibilities of the sub-groups of each community.
- Planning of an overall participatory environmental strategy.
- Designing structures and procedures to ensure sustained participatory environmental management through communication, joint learning and cooperation.

Text Box: 16: Participatory Environmental Appraisal and Planning in Northern Uganda

areas, and finally agree on different protection measures for different pieces of land. These measures can range from total protection (no-go areas), areas of moderate exploitation (only dry firewood), areas of controlled harvesting (poles from certain trees) or areas for refugee farming where limited tree-felling is permitted. Chart 12 (page 49) is an example of how target groups can visualize the categories they have agreed upon.

Seminars to Determine Value and Protection Needs of Trees

During a cross-section walk, a mixed group of refugees and locals collect, leaves, fruits and pieces of bark of a wide variety of indigenous trees. The trees are then discussed according to their different uses, their quality for these different uses, their numbers per ha, and the degree of threat by locals and refugees. As a second step, the trees can be ranked according to their value for daily life and according to their need for protection. In a concluding step, tree-specific protection measures may be agreed upon.

A similar appraisal can be organised for tree species currently raised in tree nurseries and used in afforestation activities. Foresters will be surprised to learn about the reasons why certain trees are preferred and the target groups will understand better why foresters have decided in favour of certain species. Combining local and technical knowledge will improve the species selection of the tree nurseries. For local species which are difficult to raise in tree nurseries, other forms of seedling production may be developed, for example, collecting naturally grown seedlings in the bush (thus protecting them from bush fires) and replanting them at a later stage.

Tree appraisals can give valuable hints for tree marking exercises. In Uganda and Tanzania, environmental agencies have embarked in the past on marking trees above a certain diameter, combined with environmental awareness creation, in the hope of providing a certain degree of protection to these trees. The success of these activities has always been short-lived. Previously marked stems were frequently found in the piles of timber for sale. Rather than marking trees with a specific diameter – regardless of their value – tree marking can be made more selective by involving the target groups in determining which trees qualify for being marked.

Appraising the Household Energy Situation

The use of firewood is often regarded as the main cause of deforestation around refugee camps. Seminars to appraise the whole complex

	newly arrived refugees	'old' refugees	Forest Departm.	EMP	landless locals	local landlords
bushfires	by being careless	not applicable (n. a.)	by insufficient patrols	n. a.	for hunting (main cause for fires)	the only group which is fighting fires to protect fields
timber extraction	n. a., new refugees are barred from timber trade	big role, have contracts with landlords	give permission too easily for 'fees'	does not provide alternative to timber related income	cheap labour makes timber logging viable	big players, organise timber trade
harvesting of 'green' firewood	main harvesters of green firewood	n.a., use mainly dry firewood	by insufficient patrols	by sealing off large protected forest areas	n.a., rely on harvest residues	n.a., use kerosine
soil erosion	by hastily clearing fields without contour lines	modest, as most have installed contour lines	lack of agro-forestry. Species in tree-nursery	little emphasis on farm trees	careless handling of leased land	n.a., have resources for soil erosion control
game poaching	n.a., are barred from poaching by locals	n.a., barred by locals	disclaim responsibility for game	no provision of alternatives to income by poaching	the only group of poachers	allegedly involved in game meat trade

Chart 10: Visualization Example – Actors in Environmental Degradation

of household energy, however, can reveal complex interrelations between household energy needs, limitations and demands upon women's work time and the level of technology used. Technologies include firewood collection, firewood storage, kitchen management and woodstoves.

Groups of women can be organised to visit previously selected households of refugees and locals to exchange knowledge and skills in kitchen management, cooking techniques, stove construction and firewood preparation. During the seminar, refugee women can teach local women (or vice versa) how to construct an improved mud stove, make a fireless stove, erect a firewood drying rack or generally to cook with less firewood. Appraising the household energy situation will be, through participation, an active process of learning by seeing, doing and teaching.

Environmental Monitoring Groups

In contrast to the seminars and appraisals described above, an environmental monitoring group is a more permanent communication instrument for environmental appraisal. Participants can exchange views on how they perceive the impact of environmental degradation and environmental mitigation on their lives. Technical experts can explain and discuss their assessments. Parallel to that, problems leading to environmental degradation can be analyzed and additional ideas of mitigation, based on the participatory analysis, developed.

Self-Evaluation of Environmental Working Groups

Community based environmental structures, if they are permanent institutions, need to review their work from time to time. The dilemma with participatory self-evaluation of a participatory structure is similar to the evaluation of an NGO project by the project management itself. Participants in the environmental working group will tend to defend their own work, thereby limiting constructive criticism and options for change.

	newly arrived refugees	'old' refugees	Forest Departm.	EMP	landless locals	local landlords
bushfire fighting	should build protected fireplaces	to help new arrivals to protect fireplaces	re-enforce patrols	provide incentives to patrols	difficult!! stricter punishm.?	cooperate with forest departm. and EMP
protection of value trees	can help in tree marking	advise on trees to be marked; help in marking	determine trees to be marked; help in organizing marking	support tree marking with incentives	select value species; help in tree marking	agreement with Forest Departm. to respect marked trees
household energy activities	participate in courses, build improved stoves	share experience with newcomers	send extension staff to courses, support dissemin. acitivities	organise and facilitate courses	participate in courses	n.a.
soil erosion control	participate in campaign to build contour lines	support campaign as instructors	support campaign with on-farm tree planting	facilitate campaign with tools and technical advice	participate in campaign	support campaign with incen-tives to land tenants
wildlife protection	participate in patrols	participate in patrols	re-enforce patrols	incentives for patrols	difficult!!	difficult!!

Chart 11: Visualization Example – Actors in Environmental Mitigation

Categories	Permitted Activities
National Park: no-go area	access only with permission from Wildlife Department, e.g. for herbalists and honey collectors
National Park buffer zone	collection of dry firewood; collection of herbs and fruits; bee-keeping; grazing of animals during dry season (grazing time and numbers of animals is de-termined by Wildlife Department, beneficiaries are chosen by Environment Committee)
Riverine forests, forested hillsides	see above and collection of thatching material; cutting of building poles (15 pcs. per family); grazing of animals in rotation (schedule fixed by Environment Committee)
Savannah and bush	see above and felling of unmarked trees for timber and charcoal production (minimum stump hight one metre); grazing of animals unrestricted
Allocated farmland	see above and uprooting of unmarked trees if five trees are established per uprooted tree (Task Group 'Trees' to supervise); grazing of animals only with permission of owner

Chart 12: Visualization Example – Categories of Protected Areas

Evaluation by outside experts, on the other hand, defeats the purpose of participation altogether. A solution to the dilemma may be two-fold:

Outside Evaluation Facilitators: Experienced moderators who can lead the discussion in a way that the self-critical potential of the participants is harnessed constructively and help the participants to search for un-orthodox or un-explored solutions.

'*Outsiders from Inside*': Those are members of the groups of stakeholders with a deep insight in the local conditions who have so far not participated in the environmental working group. Their role will be to critically examine the impact of the environmental mitigation efforts as felt by the target groups. Text Box 17 shows how a self-evaluation was carried out in Dadaab to examine the structure and procedures of the EWG system. Both 'solutions to the dilemma' were used: the 'facilitating outsiders' were a moderator with long-standing experience in participatory approaches and members of the research team of this sourcebook. The 'outsiders from inside' were additional refugee and local elders and representatives from women groups.

5.2 Skills Surveys

In every refugee population, there are individuals of higher knowledge and training on many aspects of refugee assistance, among others on forestry, farming, animal husbandry, household energy, house construction and environmental health. After the first weeks of an influx, a brain drain takes place by which well-educated and well-trained refugees find their way out of the camp, in search of a new (professional) future. The earlier these professional resources can be screened, the greater the possibility of retaining them to stay and work in the RHAs.

Informal skills can easily be overlooked by surveys which are conducted with standardised questionnaires. In particular women's skills are often perceived as common knowledge "... just what every housewife knows". It requires a little more patience to find out who among women knows better than others. House visits and discussions in small groups of women may be required to get answers to the following indicator questions:

- who has already installed an improved stove?
- who has the natural extension skills of speaking to groups?
- who builds the 'nicest' houses?
- who is an example for tree planting around the house?
- which vegetable garden is the 'envy of the neighbours'?

EWG Evaluation Workshop in Dadaab

Two years after its initiation, the GTZ RESCUE project invited members of the EWG system as well as government and agency staff for a two day workshop to review the structure and working mode of the EWG and its technical task groups. Participants of the workshop agreed on the following list of workshop objectives:

- Assessment of present procedures of EWG and Task Group meetings and proposals for improvement.
- Assessment of the current membership of the EWG system and proposals for inclusion of so far underrepresented groups.
- Assessment of current popularization and enforcement of EWG resolutions and proposals for improvement.
- Proposals for a further streamlining of the EWG system with government structures.
- Determining the future role of the EWG system.

The fear that the self-evaluation of the EWG system could lack 'bite' i.e. not be self-critical enough turned out to be unnecessary as soon as discussions started. Moderator and agency staff tried to soften the criticism that evolved and had to modulate the ambitious plans for future activities. After two days of heated debate, 48 recommendations were worked out, prioritised in three categories (immediate action, action soon, future action) and responsibilities assigned. A small team was formed to translate the recommendations into a feasible workplan with time-lines. Below are a few selected recommendations to illustrate the outcome.

On procedures of the EWG system: Establish procedures to select women members; translate minutes verbally to (illiterate) local and refugee members; regularise meeting schedules and announce in time; establish communication links between Task Groups and camp based EWGs.

On improved membership: Each agency to nominate focal point and deputy for EWG matters; include minority ethnic groups like Somali Bantus, Ethiopians and Sudanese; formulate criteria of membership; limit to seven the members of Task Groups with technical expertise.

On popularisation and enforcement: Utilise the extension arms of other agencies; publish quarterly bulletins in Somali language; use relevant government acts to enforce resolutions; hold bi-monthly public meetings in Dadaab village and all camps.

On streamlining of EWG with GoK structures: Intensify communication flow between EWG and GoK by exchange of reports, informal visits and regular invitations; lobby for support from District level to increase attendance of local GoK staff;

On the future role of EWG: Technical task groups should be appointed as need arises and for specific tasks only; support the capacity building of local NGOs; develop a phasing-out plan and formulate handing-over mechanisms to local NGOs.

An important – and unexpected – recommendation was to draft a Memorandum of Understanding between the EWG and the involved institutions and organisations. This memorandum should spell out clearly the role of each organisation in the EWG systems.

Text Box 17: Environmental Working Group Self-Evaluation in Dadaab

A stove seminar in Dadaab. Different stove models are tested for efficiency

A tree seminar in Dadaab. Women discuss advantages and disadvantages of trees

Whether the identified skilled women and men are better suited for voluntary membership in participatory structures, or whether they should be employed, can only be decided from case to case. Most refugees, of course, would like to be employed on a regular basis. Membership in a voluntary participatory structure is, therefore, often regarded as an entry point to more regular employment. Wherever possible, incentives from agencies should be avoided, but efforts made to ensure that participants derive benefits in terms of savings or other forms of income through their environmental activities. In the chapters 5.5 and 5.8 the question of incentives vs. other forms of benefits is dealt with in depth and a range of practical examples given.

5.3 Environmental Education

Environmental education is far more than merely a tool to enhance participation in the process of environmental mitigation. It is, if understood well and paternalistic teacher-student concepts avoided, the backbone of the whole process.

- Environmental education enables refugees, locals and agency staff to participate meaningfully in environmental assessment, environmental planning and in mitigation activities.
- Environmental education and awareness-creation can trigger the participation of those who have gained greater insight in the complexity of environmental issues.
- Curriculum and strategy development for environmental education is not possible without the active participation of the target groups and other stakeholders.
- Every environmental activity, from assessment to planning, to implementation, to monitoring and evaluation is an educative process for the participants if they are adequately involved.

There is a general agreement among agencies that participation is not possible without education and vice versa. What seems necessary indeed is to examine the understanding of *environmental education as a concept.* Pertinent questions therefore need to be asked:

- Who determines what needs to be learnt? Who selects 'necessary' knowledge and sorts out 'unnecessary' information?
- Who is the recipient and who is the provider of environmental knowledge, and, is such a division between recipient and provider helpful?
- What are the appropriate procedures to impart knowledge, share information and make best use of those?

It should be noted that the following refers mainly to the 'adult education' part of environmental education, while formal environmental education is dealt with in the section 5.4 'School Approaches' below. In the terminology of ongoing environmental education efforts, however, environmental education is understood as both non-formal and formal environmental education.

Facilitating Self-Education

Environmental education curricula for adults, though developed with the input of the target population (both refugees and locals), are to some extent prepared by outsiders who decide which parts of the indigenous knowledge to incorporate and which to discard. A curriculum can thus act as a 'filter' of indigenous knowledge on environmental issues. If ways are found to pass environmental knowledge unfiltered from one group to the other and from knowledgeable individuals to groups, less of the context-relevant knowledge would be lost.

- *Assessing Group Expertise*

When refugees settle in an area, different knowledge patterns enter traditional resource management systems. One example may illustrate this:

> Due to the land shortage in Rwanda and Burundi, farmers, many of whom became refugees, have long been under pressure to make maximum use of soil and surface resources. The high number of foreign-aided resource management projects in Rwanda may have contributed to the development of (labour-)intensive farming systems. In contrast to that, farmers among the host population in the Kagera Region of Tanzania are more conversant with specific soil- climate- and vegetation conditions and have developed, with abundant land resources, less intensive farming and grazing systems, involving slash-and-burn practices, shifting cultivation and grazing fallow. For both groups, frame conditions have changed: labour and produce markets altered and farmland has become more scarce.

In such a situation it is a worthwhile to assess and compare knowledge systems of refugees and locals and how they can be put to use, exchanged and welded together to respond to a new situation.

- *Organising Exchange and Mutual Support*

In principle, there are two approaches to making better use of the knowledge of refugees and locals

to improve their environmental education: First, agencies can employ experts from both groups to combine 'modern' knowledge with indigenous knowledge. Secondly, the direct dialogue between both groups can be organised through seminars and workshops.

Joint seminars to exchange knowledge and formulate strategies form the centrepiece for environmental (self-) education. Some examples given in section 5.1 fall under this category:

- Area Protection Seminars
- Tree Seminars
- Kitchen Management Seminars
- Stove Building Courses

Process-Oriented Environmental Education

Process-oriented environmental education is more about *how and why* to learn (from each other) than *what* to learn (from 'the others'). It is thus more a process of empowerment than a process of knowledge acquisition on environmental matters. Process-oriented environmental education, as compared to 'teaching environment' requires different and probably more refined skills from aid workers. PRA techniques have to be developed and tested for refugee situations, facilitating skills need to be upgraded and a thinking in complex interrelations encouraged. This field of environmental education clearly addresses the aid workers as an additional target group. A first attempt to structure process-oriented environmental education in four steps is given below:

- *Awareness of Shared Problems*

The awareness that environmental degradation affects both groups, albeit in different ways, needs to be strengthened. This includes the realization that refugees and local population may have to share the same natural resources for extended periods. It also includes the need to determine the different ways in which various groups within the local and refugee populations are affected by environmental degradation. For example:

- Is a scarcity of firewood around refugee camps a threat to the local economy or an asset?
- Who operates donkey carts, who sells firewood to refugees, who is gaining or losing?
- Is it the nomadic population, the farmers or the urban population that is most affected?
- Who carries the main burden of environmental degradation – women or men?

This first step in the learning process is mainly intended to break up self-centred views of environmental problems. It is important that the participants in the process move away from perceiving themselves as victims of environmental degradation brought about by 'the others'. Realizing that "we both have environmentally related problems and we are both part of the problem" may form a strong basis for joint mitigation efforts.

- *Learning about Common Goals*

One of the results of a learning process on shared problems is the realization of common goals and their precise formulation. Agency pre-set objectives for environmental mitigation projects could thus be questioned, specified or altered. If refugees and locals develop a set of common goals in environmental mitigation, agencies – and through them donors – could be approached more successfully to consider these shared objectives for inclusion in the EMPs.

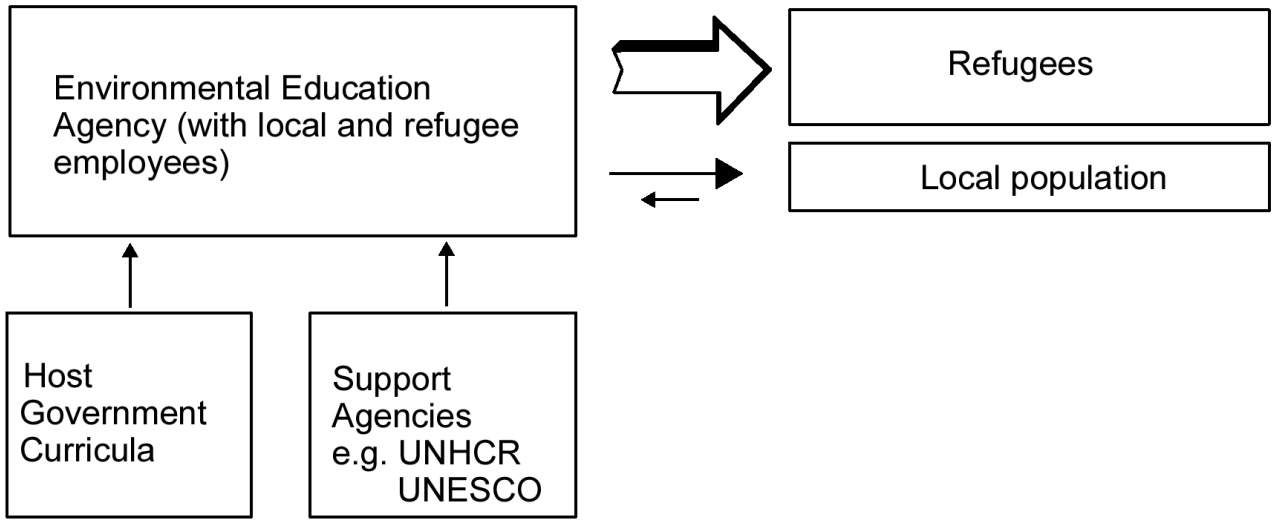
- *Learning about Procedures*

Stable local populations have normally developed negotiating procedures to solve their own problems related to natural resources. In a refugee situation, in contrast, there is a need for agreeing upon practicable negotiation procedures. In a situation of large camps vis-à-vis a rather small, dispersed local population, refugees and locals often find it difficult to talk and negotiate in formal meetings. Initial attempts to hold these sort of meetings, particularly about resource related conflicts, often yield more disagreement than constructive searching for solutions. Among procedural questions that need to be discussed are:

- the membership of the environmental fora and procedures to select members,
- appropriate meeting venues, meeting times and the 'standard language';
- questions of punctuality and quorum;
- questions of (rotating?) chair and secretary;
- information flow to target groups and other stakeholders;
- linkages to other developmental, environmental and relief institutions.

- *Learning about Joint Action*

With appropriate procedures in place, one of the biggest challenges is to put resolutions and guidelines jointly into practice. Refugees and locals do interact in business and private matters. Joint activities, however, like mixed forest patrols, afforestation work or clean-up campaigns need to be initiated, planned and monitored. Environmental education can encourage joint activities by describing successful examples of joint environ-



- Environmental education is detached from planning, implementation, evaluation and behavioural change (impact).
- Environmental knowledge and environmental awareness pattems are designed in agency think tank.
- Environmental capacity cannot respond to changing frame conditions.
- Environmental curricula are pre-designed and static.
- Environmental curricula need lengthy adaptation process to fit in other refugee situations.
- Environmental knowledge flows are mono-directional and static in intensity and quality (superiority of external expertise).
- Environmental education reinforces mental patterns of destructors of environment and victims of environmental destruction.

Fig. 5: Non-Formal Environmental Education: the Static Approach

mental action in other refugee hosting areas, by developing concrete ideas to be discussed and by proposing a ways to share work and responsibility.

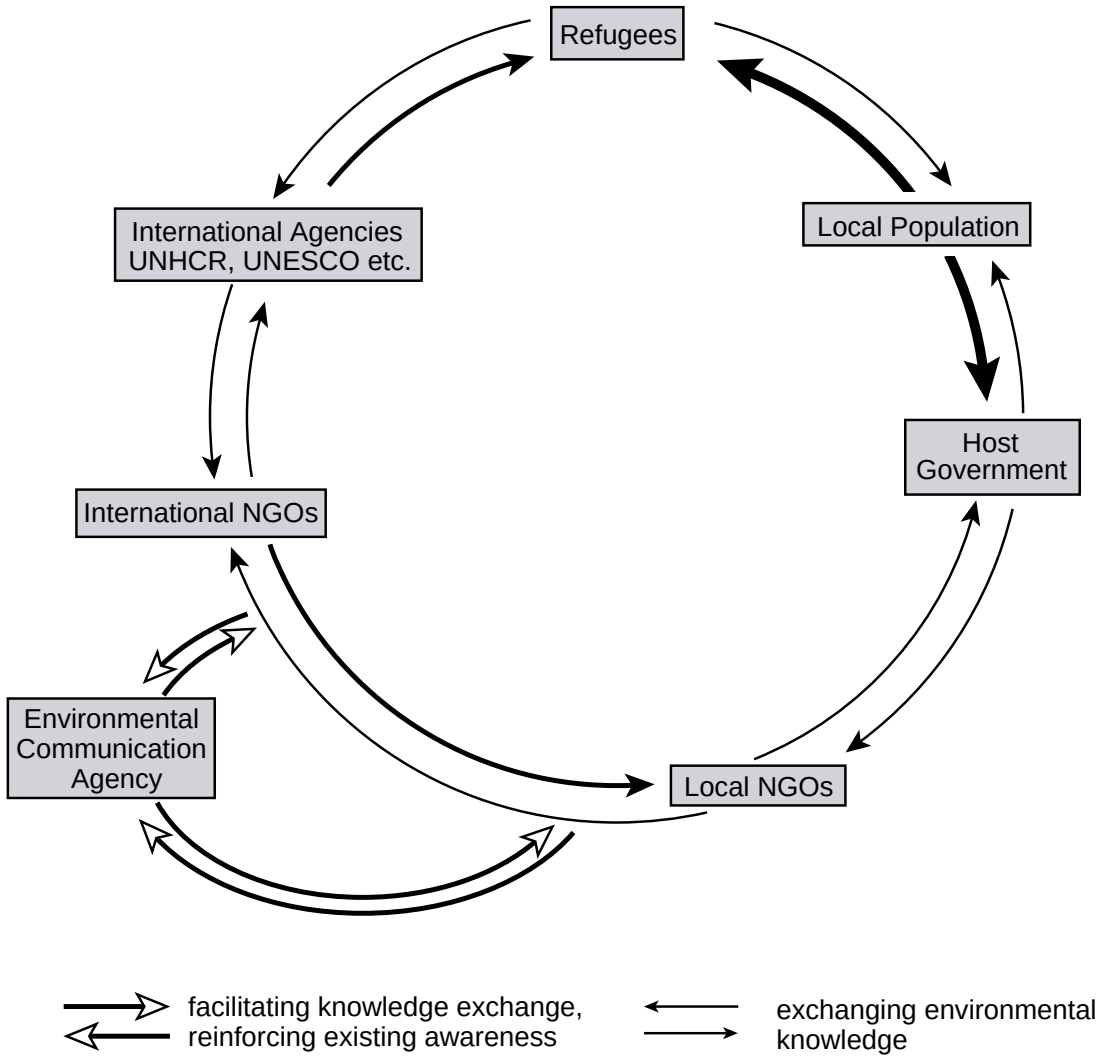
In Fig. 5 and Fig. 6 we have contrasted two idealized concepts of environmental (adult) education. They may be helpful in analyzing ongoing or planned environmental education projects: are we stuck in paternalistic concepts of 'we-know-it-all' and 'they-have-to be taught' or are we moving into the direction of acknowledging and using local and refugee knowledge? To differentiate the two concepts, we have chosen the terms environmental *education* vs. environmental *communication*.

5.4 School Approaches

Environmental education for schoolchildren and teachers is the most obvious acknowledgement of the fact that environmental mitigation in RHAs is a long term task requiring long term strategies. Environmental education in schools follows two principal lines: First, by inclusion of environmental issues into formal curricula of natural sciences, home science or agriculture and, secondly, by involving schoolchildren and teachers in out-of-class environmental activities. School approaches are one important way to reach the most active and dynamic – yet often most underutilised – population group: the youth.

Participatory Curriculum Development for Environmental Education

Students all over the world learn best what they can directly observe and apply in everyday life. Refugee children are no exception to this rule. As RHAs have specific problems and specific solutions for environmental mitigation, the develop-



- Environmental Communication Agency provides momentum for knowledge and awareness circulation.
- Environmental Communication Agency feeds in missing knowledge identified by the stakeholders.
- Environmental knowledge and awareness evolve from the prevailing situation and from the specific needs.
- Environmental communication reacts to needs of planning, implementing and evaluating of environmental mitigation efforts.
- Environmental information flows in a communication network of stakeholders (parity of indigenous and external expertise).
- Environmental curricula are replaced by action plans for participatory environmental appraisals.
- Environmental communication mitigates natural resource related conflicts.

Fig. 6: Non-Formal Environmental Communication: the Dynamic Approach

ment of a sound curriculum depends largely on the input of the target groups, teachers and agencies running EMPs in the camps. National environmental curricula have been developed for farmers and pastoralists who live under different socio-economic frame conditions as compared to refugees. These curricula are helpful during initial stages, but usually have to be modified before they can be adopted.

To be most effective, contents of formal environmental education should be in harmony with non-formal environmental education. Curricula, therefore, need to be flexible enough to pick up issues of the PEAP process and translate them into teaching contents. If environmental fora, for instance, dictate that area protection and household energy be of highest priority, then curricula should respond to these priorities. Botany classes

could concentrate on learning about tree species, their products for human consumption and their protection needs. Physical science classes could examine why different stove models use different amounts of firewood, why dry firewood burns better than wet firewood etc. Streamlining the contents of non-formal adult environmental education and formal environmental education can thus contribute a great deal to stimulating in-family discussion processes on environmental matters. Text Box 18 tells the experience of Kenya.

Curriculum Development for the UNHCR Refugee Environmental Education Pilot Programme (REEPP) in Kenya

The REEPP curriculum is a prime example of a systems approach in concept development. Being jointly launched by the UNHCR Environmental Unit in Geneva and the UNHCR Kenya Branch Office it was from the start anchored in international policy development *and* in the country context. Parallel implementation in the Dadaab camps and Kakuma camp ensured that adaptation to the cultural context of the target groups was balanced with the goal of wide applicability. Contributors to the curriculum development on the Nairobi level included:

- UNESCO, mainly for the development of booklets;
- SIDA, Regional Soil Conservation Unit, mainly for providing scientific and technical advice;
- the UNHCR Coordinator for REEPP.

At the camp level, the contributors included:

- UNHCR Social and Community Services Section in both camps;
- CARE Refugee Assistance Programme, refugee education department (Dadaab)
- GTZ RESCUE environmental mitigation programme (Dadaab);
- Rädda Barnen formal education programme (Kakuma);
- IRC environmental mitigation programme (Kakuma);
- refugee teachers by means of seminars and training courses.

The curriculum and the booklets were then thoroughly field-tested in several schools and exposed to evaluation workshops of implementing agencies. A third component of the REEPP school approach was the experimentation kit by which students and teachers can physically experience environmental phenomena like soil erosion, evaporation, seed germination etc. A guide to the kit explains in detail how to carry out the experiments and which environmental lessons are to be learnt.

Text Box 18: Curriculum Development for Environmental Education in Kenya

Participation of Schoolchildren and Teachers in Out-of-Class Environmental Activities

School compounds provide a unique learning ground for various environmental activities like erosion control, tree and hedge planting and gardening. School compounds are often fenced and under permanent supervision. Responsibilities for small plots of land within the compound or for individual trees can be assigned to individuals or groups among students. For environmental education it is, therefore, important to plan school compounds large enough to accommodate the activities of a large number and of several 'generations' of students.

- *Erosion Control:* During rains, gullies of all sizes usually develop in school compounds. As a first step to analyzing the problem, the gullies can be mapped and measured. Reasons for their different depths are discussed and documented. Thereafter, a variety of erosion control measures are tried out on different gullies including stone bunds, earth bunds, filling gullies with stones or branches, small gabions and a control area in which nothing is done. After the next rainy season, the gullies are re-measured an the success of the measures is compared. Similar experiments can be carried out in school gardens, using contour digging, terracing and mulching methods.
- *Shade Trees:* Under arid conditions, shade is one of the important impacts of tree planting, long before these trees can be utilised for timber or firewood. Particularly in schools with no permanent classrooms, students can appreciate the advantages of shade provided by trees without lengthy explanations. If school classes are allocated 'their place' in the school compound, which they can utilise either to hold classes or during breaks, planting and caring for shade trees will be done with much enthusiasm.
- *Effect of Roof Catchments:* School buildings have often the largest surface of corrugated iron or plastic sheets in a refugee camp. In dry areas, their run-off contributes effectively to tree growth and tree establishment. Students can experiment with different soil structures to catch the run-off water and compare tree survival rates and tree growth rates with those of trees not being fed by the roof water.
- *Tree Nurseries:* Raising tree seedlings in school compounds has been successfully tried in refugee camps of Kenya and refugee settlements in Northern Uganda. The follow-up requirements are usually quite high and the number of seedlings raised is often small and only meant for tree planting activities inside the compound. An

additional incentive could arise if the EMP encourages schools to produce more than needed for their own planting and sell the additional seedlings. Running a 'commercial' tree nursery offers a multitude of learning experiences. Collecting seeds in the vicinity, rather than buying them, can save money for the environmental clubs and provide learning experiences which can be used by individuals later. Besides the environmental and natural sciences learning contents, mathematics and book-keeping can be experienced in 'real life'. It is important that a roster of nursery attendants is set up to ensure regular watering during school holidays.

- *Vegetable Gardens:* Similar to tree nurseries, vegetable gardens can be run to generate cash by selling the produce to the school kitchen. If vegetation periods are planned well, vegetable gardens can be cleared before the start of the school holidays. Additional learning opportunities can arise if some plants are left to flower and produce seeds that can be re-used for the gardens. Both tree nurseries and vegetable gardens have to be run by groups, while tree planting can be done on an individual basis.
- *Composting:* The effects of applying compost in vegetable gardens offers yet another learning experience. Compost can also be mixed with soil to fill tree planting holes. In most refugee settings, however, it is difficult to acquire substantial amounts of raw material for composting. Feeding centres and agency kitchens could be approached to deliver their organic material to nearby schools.
- *Fences:* To protect tree planting activities, tree nurseries and vegetable gardens, the fencing-off of the compound is usually indispensable. Very often, this is done by barbed wire. A more sustainable and environment friendly way of fencing is by the use of thorny species like *Commiphora* or *Prosopis*. Incentives for live fences would be to allocate (part of) the fencing budget to the planting and watering team and to include live fences in the school competition.
- *Competitions:* Having individual students, groups of students, school classes and schools compete for prizes has been one of the most successful approaches to boost environmental school activities in the camps of Dadaab. Competition themes can be:
  - who has most successfully planted trees? (individuals, groups and schools can compete)
  - in which school compound has erosion most successfully been mitigated?
  - which school has the best protection by a live fence?
  - which gardening group produces vegetables most successfully in terms of quantity or income?
  - which school kitchen has the best overall management in terms of improved stoves, firewood drying facilities and cleanliness?

The School Approach Programme in Dadaab

When the GTZ RESCUE project started working with schools, it was mainly their fenced compounds that attracted the EMP's interest. Central tree nurseries were full of seedlings and protected areas were the bottleneck for an expansion in tree planting. Initially, trees were planted in the school compounds by project labour. Soon it was realized that the protection of trees could only be maintained by students if, first, they planted the trees themselves and, secondly, there was some kind of ownership and responsibility for each planted tree. To reinforce this, a competition scheme was started which rewarded the most successful tree planters with small prizes like exercise books and pencils.

The vast differences between schools in the tree planting exercise indicated that teachers had been not sufficiently involved. Consequently, seminars for teachers were carried out in collaboration with CARE. Short courses were held weekly on topical issues, complemented by one-week seminars during holidays to create awareness among teachers and to equip them with the required knowledge. Additionally, competitions between schools were started with the best schools being rewarded with teaching material and a trophy.

The School Approach Programme in Dadaab is in the meantime an established part of the EMP and has successfully merged with the pilot programme on (formal) environmental education.

Text Box 19: The School Approach Programme in Dadaab

5.5 Incentives for Environmental Work Programmes

Incentives for work programmes are understood as rewards for participants in activities which are environmentally necessary but would *not* be carried out without an incentive provided by the EMP. Ensuring the involvement of the refugees' and locals' workforce with incentives is not participation in the strict sense of the word. In a development context, the necessity of added incentives is almost always an indicator for the 'unsustainability' of the boosted activity.

Large refugee camps, however, are unsustainable by definition. Aiming at 'sustainable en-

vironmental mitigation' in such a setting is at best over-ambitious but usually misleading. This does not mean that every participation in environmental activities must be paid in kind or cash. In fact, these incentives should be kept at a minimum and used only in certain, limited interventions:

- if the speed and magnitude of environmental destruction requires immediate large-scale mitigation;
- if appropriate mitigation measures are alien to the culture of the refugee target groups and a 'starter-incentive' is required;
- if political pressure forces EMPs to show immediate and tangible results;
- to avoid the outbreak of violent conflicts due to the over-use of natural resources;
- if the funding periods of EMPs are too short to develop more sustainable strategies;
- if the environmental activity involves full-time work over longer periods of time;
- if the identified environmental mitigation activities are of no direct and immediate benefit to individuals and groups;
- if income generation for certain groups (e.g. unaccompanied minors) is of high importance.

Below are some of the work programmes that have been carried out in the past on an incentive basis:

- *Tree Marking:* In the Ngara and Karagwe camps and in settlements of Northern Uganda, large scale tree marking was one of the short term protection measures. The tree marking included every tree over a certain diameter within a radius of several kilometres around camps and settlements. This exercise would not have been possible without incentives in cash for the considerable labour force. Tree marking was combined with awareness campaigns and forest patrols.
- *Forest Patrols:* Enforcing regulations on forest protection will require presence in the protected areas. In Ngara, this has been implemented by CARE through a team of 340 forest guards. It would have been difficult to cultivate some kind of professional ethos without an incentive in cash. To increase the efficiency, mixed patrols of one local and one refugee should be considered for future forest patrol activities.
- *Afforestation:* Tree planting on a larger scale, in green belts or afforestation plots, is not possible without incentives in kind or cash. Neither refugees nor locals have immediate benefits from large scale tree planting schemes as they don't own the trees planted nor the area on which tree planting is carried out. Often, time pressure or political obstacles do not allow the establishment of ownership rights over trees or planted areas. The protection phase can offer at least some user rights. In Dadaab, user rights have been given to refugee and local families. These families mend the live fences and chase out roaming animals. In exchange, they can harvest and sell grass and engage in small scale farming inside the fenced areas.

Monetary income will be in most cases the strongest incentive and one of the most urgent needs for refugees and the poorer strata of the local population. But added incentives need not be given in cash. Agencies might want to make sure that the incentive itself has positive environmental impacts. Giving incentives on a group basis, e.g. to a whole block of a refugee camp has the advantage of social pressure helping to achieve targets in afforestation, stove building or erosion control. Rewarding a whole group for their achievements ensures that those who are unable to fully participate, can benefit from the programme as well. Below are a few examples for non-cash incentives:

- *Firewood Supplies* can be given as incentive for individual or group efforts in tree planting. A block within a refugee camp receives certain amounts of regular firewood supplies if an agreed acreage of wasteland is protected and planted with trees. The firewood can also be a reward for tree marking. If 50 trees per ha are marked and not felled, firewood
- *Agricultural Tools* can be handed out to a group of farmers if they accomplish a certain length of erosion control structures, e.g. one hoe for 50 m of earth bunds of half metre height.
- *Agricultural Seeds* can be used to reward farmers who have planted trees or hedges on their agricultural plots.
- *Improved Prefabricated Stoves* can be used as an individual reward to families who engage in tree planting on their home compounds or in their agricultural plots. Self-built stoves can, in turn, be a reason for receiving incentives. For instance, the firewood supplies to a block can be continued under the condition that 90% of the households have built and use improved mud-stoves.
- *Plastic Jerry Cans* were given out for afforestation activities in Dadaab. This incentive was enthusiastically welcomed as the 'normal' distribution of jerry cans had delayed for several

The digging of micro-catchments in arid lands afforestation requires

Firewood is often one of the few options to generate income

months. Women, especially those in charge of water collection, benefited from the incentive. More jerry cans, the women argued, would also enable them to water newly planted trees more regularly.

- *Additional Plastic Sheeting* can be issued to individual households or blocks, if drying facilities for firewood are erected.

How well each of the incentives work, is to a large extent determined by gender preferences. The response to a stove-for-work programme, for example, will come predominantly from women. Giving out agricultural tools will attract, in some cultures, more the male part of the population. Discussing the different options for incentives with the target groups will help the EMP to select incentives that attract both men and women.

5.6 Training as Incentive for Active Participation

To make a clear distinction between training and education, the former is understood as a process of learning by doing ('on-the-job-training'), mainly for adults and minors, less for children. For environmental (adult-) education, the concept of 'communication' and 'self-education' was argued for, as opposed to imparting knowledge. Training, however, is by definition the acquiring of *new* skills and the familiarisation with *new* technologies. The traditional trainer – trainee situation can therefore not be replaced. Elements of self-training come in when trainers are identified and employed from the refugees and the local population. Training is one of the important methods to engage the youth in environmental mitigation, while at the same time investing in their future.

The training itself can be a form of participation in environmental mitigation. For instance, women learn to build improved mud-stoves and install these during the training course (see chapter 6.1); refugees who are trained to manage a tree nursery raise seedlings for their home compounds or for sale (see chapter 6.3); refugees and locals who participate in environmental mapping generate plans for environmental protection while developing the maps (see chapter 6.4).

One of the most important incentives associated with training courses are the certificates issued to trainees. For refugees who have lost all official identification, a certificate bearing their name is of high value. In addition, these certificates improve the chances of finding employment, either in the camp, in the country of exile or after return to the home country.

Firewood Supplies for Afforestation: A Proposal for Goma Camps (Dec. 1995)

Experience in Kenya, Zimbabwe and Somalia shows that refugees are able and willing to participate in afforestation efforts, even if cultural and ecological frame conditions are far from being conducive (e.g. Somali nomads in semi-desert host areas). With soil and climate conditions in Goma being very favourable for tree establishment and most of the refugees being familiar with the concept of tree planting, a tree planting campaign, carried out by refugees, is not unrealistic.

The driving force for tree planting by refugees cannot be – like in other communal forestry projects – the expected (monetary) benefit from trees, supported by clear ownership rights.

Refugee tree planting efforts, however, can be boosted by agreements with the aid providers on rewards for their efforts. While it is undesirable and unaffordable to pay refugees additional wages, the continued or even increased supply of firewood can be agreed upon against refugee afforestation efforts.

In practice, this could work on a block to block basis. Depending on the density of dwellings, each block agrees on a certain number of trees to be planted as a condition for continued full firewood supply. Rather than seeing the cutting of supplies as a punishment, the full supplies (1kg/person/day as planned for 1996) should be seen as a reward for tree planting. It is therefore crucial, that this incentive scheme starts with the increasing firewood supplies of 1996.

Once the space within the residential camp areas is exhausted, plots in the direct vicinity of the camps can be allocated to blocks, provided the camp is not situated in the Virunga Park area (where tree planting is not allowed) and provided the Zairian government grants the permission. Care should be taken not to collide with formal or traditional ownership rights in these areas.

Each camp would require a tree nursery with an annual output of 100.000 to 200.000 seedlings. Every block should be staffed with an afforestation animator who receives regular training. It should not be difficult to recruit part of the personnel with previous experience in tree planting in Rwanda.

An unresolved – and politically sensitive – question is the ownership of these woodlots. Given the political instability in the region, public ownership would jeopardize the communal use of the planted trees in the future. A thorough discussion process between UNHCR, local authorities and the local population is required to develop a model of private ownership by local farmers in exchange for their engagement in planting and protection.

Text Box 20: Firewood Supplies for Afforestation – A Proposal for Goma Camps (Dec. 1995)

The 'Stoves for Work' Programme in Dadaab

With very limited funds RESCUE, a household energy and afforestation project in Somali refugee camps of Kenya faced a dilemma: the majority group of the refugees – Somali nomads – were unfamiliar with the planting of trees and unwilling to engage in tree planting without incentives. The project, on the other hand, did not have enough funds to pay a large labour force for tree planting to establish greenbelts. The option of planting trees around the refugee dwellings, with cash incentives was questioned as such trees would always be regarded as 'GTZ Trees' and be neglected soon after planting.

Lacking cash income, refugees could not, realistically, be expected to buy one of the four different models of prefabricated improved woodstoves that the RESCUE project intended to disseminate. Giving out stoves for free, however, has proven inefficient wherever it has been tried in previous stove programmes in Africa.

Only stove owners who had put in some effort to acquire an improved stove were found to be stove users as well.

Therefore, RESCUE had to attach some value to stoves to ensure that they would be taken care of and used regularly.

The solution was found in exchanging work in afforestation sites and in household compounds against 'payment' in stoves. Some degree of resistance followed the announcement of this strategy. RESCUE staff was even accused of 'eating' the funds earmarked for paying refugee labour in tree planting. After intensive discussions during this 'adjustment phase' by which refugees (and UNHCR!) got used to the stoves *not* being a free handout, the response went far beyond what the project could handle. Long waiting lists of those who were ready to work for stoves in afforestation sites indicated that the stoves were valued. A later evaluation gave additional evidence that hardly any stove, once obtained through work, was sold or not used.

Text Box 21: The 'Stoves for Work' Programme in Dadaab

5.7 Household Competitions

Household competitions are designed to increase the adoption rate of environmental innovations, to strengthen environmentally sound traditions and to stimulate neighbourhood discussions on environmental activities. They can form an entry point for extension and exchange of experiences between the implementers (members of the households) and advisors (extension staff).

The kind and value of prizes, to be won after a competition, has a strong influence on the way household competitions affect behavioural change. If the prizes are too valuable, innovations will be adopted mainly for receiving the reward. If prizes attract only a certain group, others will fail to participate and compete. This relates mainly to gender differences: while prizes which are useful for household activities attract more women to compete for, agricultural tools, for example, may form a stronger incentive for men.

Prizes themselves can have positive environmental impacts: a solar cooker, for example, can induce the winner to start trying this technology; a set of pots with lids, for instance, will lead to reduced firewood consumption.

Establishing criteria and procedures to select the winners of the household competition offers a wide range of opportunities for participation. In fact, this process can be more important to enhance participation in environmental activities

Household Competitions in Dadaab

When the idea of household competitions was first started in the Dadaab camps, the objective was very simple: increase the adoption rate of improved stoves and the rate of tree planting in the home compounds. A checklist was prepared by the extension staff including

- the number of improved stoves, installed and used and their maintenance;
- the extent of knowledge about improved cooking methods;
- the number of trees planted in the compound and the quality of tree protection;
- the cleanliness of the compound.

Thousands of households were visited by extension staff to select the winners in every block (100 families), in the sections (10 blocks) and in the whole camp. The prizes were also selected by the project: fireless cookers, solar cookers, pots with lids, plastic jerry cans and pangas.

It was the heavy workload of such a selection process that made the project involve refugees and locals themselves in the selection of winners.

At first, only a pre-selection was done by the refugees themselves, later the selection was fully carried out by the target group and the selected winners only randomly checked by extension staff. Now in the third year of this bi-annual exercise, the household competitions and the prize-giving ceremony in particular have turned into social events that attract large crowds in the Dadaab camps.

Text Box 22: Household Competitions in Dadaab

than the prizes. Selection criteria and selection procedures should, therefore, be worked out by the target groups themselves. The 'winner households' will, after the competition, be looked at as model households. The by-product of the competition is the establishment of a number of such model households. Through them, extension work can be greatly facilitated in the neighbourhood.

5.8 Linking Environmental Mitigation with Income Generation

Generating income by environmentally desirable activities is one of the most promising and sustainable driving forces for the participation of target groups. In particular women and unemployed youth can engage in a wide range of activities that do not require capital investment. There is a distinct difference between the provision of incentives for environmental activities (see section 5.5) and income generation through environmental mitigation. The latter can generate income in three ways: first, by sale of products which are harvested in an environmentally sensitive way; secondly, by the sale of products and services, that reduce environmental impact; thirdly, by reducing the expenditure for natural resources.

Often, a destructive production / harvesting mode can be turned into a protective production / harvesting mode while still increasing the income. A fictitious example may illustrate this:

> A women group pottery in a village neighbouring a large refugee camp buys large amounts of firewood for a traditional kiln to produce clay pots. The EMP, after a series of discussions, reaches the following agreement with the pottery group: The EMP provides building material and an experienced kiln-constructor to the group. The women group erects a shed for the improved kiln and provides labour for the kiln construction. The local council allocates 5 ha of wasteland on which the group establishes a woodlot. Technical advice, tools as well as seedlings of firewood species are donated by the project. The project trains the group in the production of improved clay stoves and places orders in an agreed quantity and quality. For every ten clay stoves, the group agrees to plant one seedling. A formerly wasteful production, needing expensive supplies of firewood from outside, has turned into a self-sufficient, profitable and environment-friendly production system.

Both locals and refugees can be involved in income generation through environmental mitigation. The EMP should, however, bear in mind that refugees and locals engage in income generation under different conditions and in different ways:

- Opportunity costs for refugee labour are often lower than those for local labour as refugees' basic requirements are covered by relief supplies. Refugees may, therefore, engage in enterprises that yield very little income and are not sustainable without the provision of food rations.
- Refugees require quick returns as their status is less secure than that of locals. Longer term investments, e.g. in tree planting, or activities requiring long term credits are less likely to be pursued by refugees.
- For sustainability, income generating activities by locals should only partly rely on the refugee market.

Chart 13 (page 63) summarizes the main fields of intervention and the implementation details by which participation in environmental mitigation can generate income.

5.9 Linking Environmental Mitigation with other Needs

Benefits from environmental mitigation activities that do not include cash income, agency provided incentives or training, often rank low in the opinion of aid providers. They can, however, have strong positive impacts on the life quality and welfare of refugees and locals. For example, the beautification of refugee compounds and refugee houses may seem unimportant to those who deal with provision of essential goods. But witnessing the effort refugees from Southern Sudan spend on decorating their houses and establishing flower gardens in their settlements in Uganda convinces the observer that rebuilding a quasi-normal life in exile involves more than just the basic requirements.

In Dadaab, security concerns of refugees led to a unique 'environmental' programme which is described in Text Box 23 (page 66). Where security of refugees and locals is threatened by conflicts over natural resources, environmental working groups can provide a forum for reconciliation and conflict prevention. Environmental protection will be dominant on the agenda and thus, through security needs, trigger environmentally positive activities.

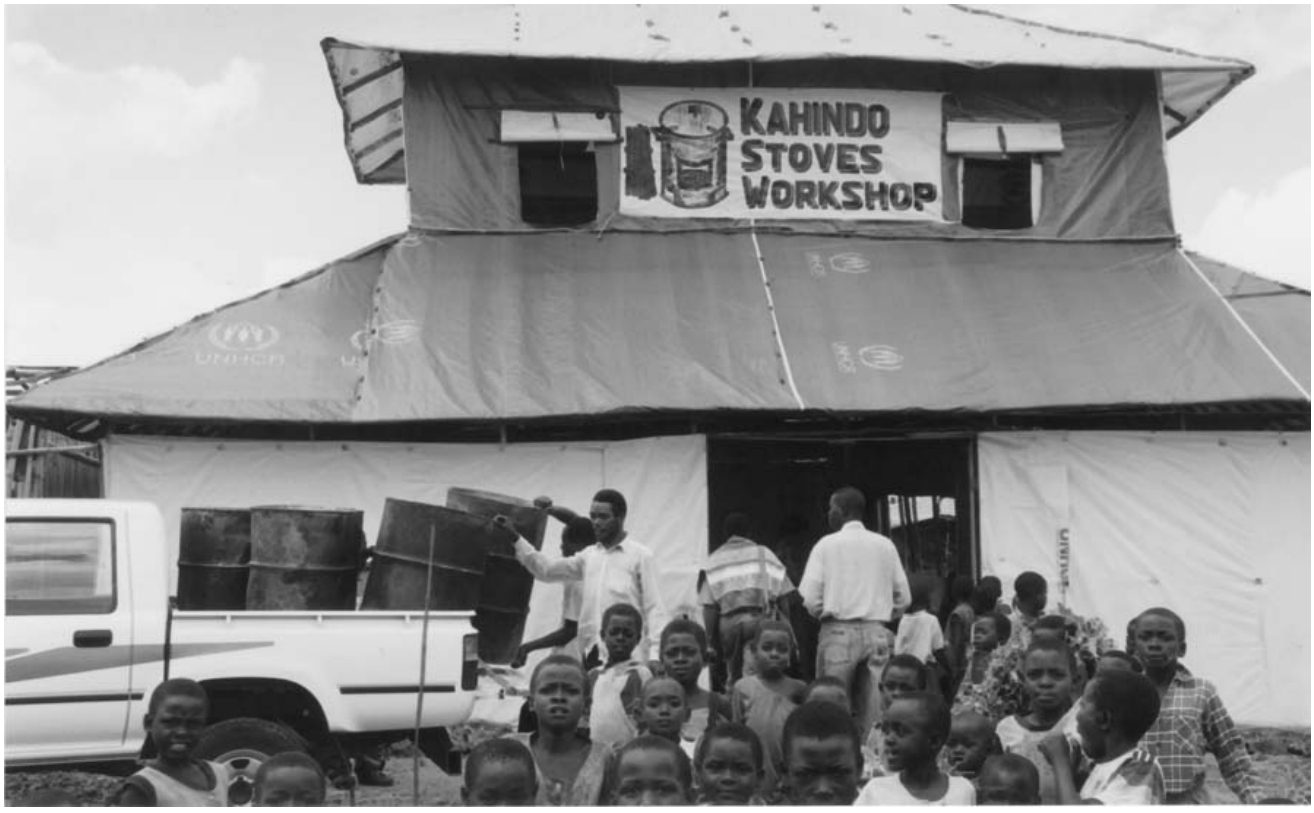
Intervention Area	Environmentally Friendly Means to Generate Income	Participants
improving agricultural yields	establishing contour bunds for water retention and to control erosion; establishing windbreaks by trees and hedges; protection against animals with live fences; integration of fruit trees; mulching and compost production; collection and application of animal waste	local and refugee farmers, youth clubs, women groups
fruit production	establishment of small orchards and planting of single fruit trees; marketing of [wild] fruits	locals [refugees, youth groups]
stove production	mud-stove installation in households by private entrepreneurs; stove production (clay stoves and metal stoves) by groups in production centres	former extension and production staff; refugee and local craftsmen
production of fireless cookers	products are marketed directly in the RHA or in nearby cities or bought by project for dissemination	women, basket makers
pole production	planting of fast growing, coppicing trees in home compounds and along fields; poles can be sold after 1–2 years	locals, refugees
pole treatment	poles are chemically treated to resist termites by trained individuals or group against a fee	locals, refugees
fodder and thatch production	fenced afforestation sites are left to refugee or local families to harvest and sell grass and twigs under the condition that sites are protected from animals	locals, refugees neighbouring afforestation sites
seedling production	small scale private nurseries sell seedlings to local farmers or to the EMP; EMP provides technical advice and initial supply of inputs (seeds, polybags, tools)	locals and refugee groups
charcoal production	issuing charcoal burning permits with the condition of establishing woodlots; installation of improved kilns; support and control of marketing; selection of less endangered tree species; relocation of charcoal production to less vulnerable sites	charcoal burners, forestry department
firewood transport	loan scheme for handcarts and donkey carts; credit for firewood drying halls for groups of firewood sellers; objective: increasing collection radius	refugees, locals
food processing	commercial milling of grain with handmills	refugees, locals
commercial communal cooking	loan schemes to install commercial communal cooking at larger scale than existing restaurants; subsidies for purchase of foodstuffs; credit for purchase of equipment	restaurant owners
upgrading commercial catering	installation of improved stoves, ovens and firewood storage in restaurants, bars, bakeries and milk shops	restaurant, bakery, milk-shop owners
house construction	after training in environmentally sound house construction, trainees build or upgrade refugee houses; subsidies by EMP can be binding material, nails, pole treatment chemicals	minors, youth groups

Chart 13: Income Generation through Environmental Mitigation

Milk vendors increase their income through boiling milk on efficient stoves

A village pottery near Goma produces improved stoves for the local and refugee market

Improving the efficiency of kilns reduces firewood consumption and increases income



The production of improved stoves provides labour in Kahindo / Goma

Live Fences for Security in Dadaab

One of the most serious problems for Somali refugees in the three Dadaab camps of Kenya was – and still is to some extent – insecurity caused by bandits. Families were attacked not only in the bush while collecting firewood, but also inside the camp blocks at night. While this was not an environmental problem as such, it was dealt with through 'environmental means'. UNHCR had initially planned to fence the blocks with barbed wire but then, following a proposal from a GTZ forester, decided to experiment with planting thorny live fences of Commiphora ssp. The trials were successful and UNHCR carried out a large scale live fencing programme. At present, the Dadaab refugees are protected by over 140 km of 'thorn walls', approx. one metre wide and 1.70–2.20 metres high. Some 60% of the Commiphora cuttings have taken root and continue to produce fodder for goats at the end of the dry season.

Initially, refugees refused to plant the hedges without monetary incentives. UNHCR remained firm in their offer to deliver cuttings to the blocks (by donkey cart) but insisted that refugees do the planting in a community effort. When the first blocks decided to engage in hedge planting and the security situation improved dramatically in the protected blocks, all the other blocks handed in their applications for the supply of cuttings. The local population of Dadaab enthusiastically took up the idea and fenced a great number of public and private plots.

But soon there was a growing dissatisfaction among local residents over the careless cutting of Commiphora and the dwindling income generating opportunities for locals. In a committee of locals, refugees, government and agencies a solution was found: all harvesting of cuttings was to be done by locals (thus assuming responsibility for careful, sustainable harvesting), while the transport was solely undertaken by refugee donkey cart owners.

Comprehensive guidelines for the harvesting of Commiphora branches were worked out by the GTZ forester and adopted in the EWG and in the GoK Divisional Environment Committee.

Text Box 23: Live Fences for Security in Dadaab

Among the benefits accrued from trees other than income generation, shade ranked high on the list under the arid conditions of Dadaab, and Kakuma. This was also demonstrated by the fact that hardly any existing tree within the refugee compounds was cut down. Local villagers from Kakuma town stated the improvement of the climate through abundant Prosopis, a thorny, evergreen legume tree. The dust storms, they say, had greatly reduced since Prosopis covers the ground and provides windbreak.

5.10 GIS and Aerial Photography

Geographical Information Systems (GIS) is a collective term for computer-aided spatial information management. It allows the gathering of spatial and non-spatial information and creates links with other types of tools which can be used for data collection, such as satellite images, aerial photography and Global Positioning Systems (GPS). By combining appropriate parameters within the system, so far unclear interrelations between different types of factors and parameters can be highlighted and used to understand and solve complex problems. For example, factors such as distances from a road, elevation components, proximity of sensitive natural resources etc. can be combined with GIS to provide the physical planner with useful information on a map that concern potential areas for refugee camp planning.

GIS, with the help of GPS, satellite images and aerial photos and videos have gained increasing recognition as a rather inexpensive tool for many applications within humanitarian operations such as logistical and physical planning, repatriation and, of course, the monitoring of environmental change around refugee camps.

At present, the use of GIS is still quite new in many refugee situations. Nevertheless, the amount of experience gathered within the context of PRA by the Biodiversity Support Programme and by agencies like USAID, WWF, WRI IUCN and others is considerable. It has been widely accepted that GIS and related tools and, of course, the final product, *the map*, have extensive potential, especially for communication between institutional stakeholders, such as:

- environmental management and monitoring;
- settlement planning, involving UNHCR and host governments;
- documentation of multi-agency operations;
- fund-raising involving donors, planners and implementers.

There is also considerable potential to use GIS as a link between the participatory generation of information at grassroots level and the institutional management of information. Local mapping through the involvement of local communities and the use of GIS falls in five categories:

- recognition of user patterns and ownership rights of land;
- demarcation of traditional territories;

Shade is the most important benefit from trees in refugees' home compounds

Since live fences protect camps in Dadaab, security has improved considerably

- protection of demarcated lands;
- management of common lands and resources;
- gathering and visualising traditional land and resource-use knowledge.

The development of maps which merge grassroots information and GIS-generated information can hel to fulfil the following objectives:

- Conservation and reinforcement of local and traditional knowledge;
- amplification of community capabilities to manage and protect ecosystems;
- Raising and mobilisation of awareness of environmental issues among target groups;
- Increasing of local capacities to communicate and plan with external agencies;
- Enabling local and global groups to play reciprocal roles in global programmes for biodiversity conservation.

Within this context, GIS can provide simple maps, understandable by refugees and local populations, which can support participatory environmental mapping exercises. If the information, gathered by target groups is inserted in these maps in an appropriate way, the maps produced can improve the comprehension of the main environmental issues. GIS, if used with a critical mind, can uncover information gaps that can be closed with the participation of locals and refugees.

If GIS remains in the hands of experts, it can not only improve grassroots involvement in mapping, but also reinforce to-down planning approaches. The potential limitations in using GIS for participatory planning include the following:

- Specialised equipment is necessary, involving investment costs (GPS, powerful computers, colour printers, software, satellite images etc.);
- initially, eternal expertise is required;
- the use of GIS requires additional training activities (agency staff, government officials, target group members) to enable them to work with GIS generated maps;
- if GIS-generated maps are not supported and verified by grassroots level information, they can be insufficient for local planning.

6. Participation in Technical Areas of Environmental Mitigation

In this chapter, the sourcebook focuses on specific technical areas of environmental mitigation and the opportunities to apply participatory approaches. The chapter is also a summary of previous concepts and methods. For this reason, the chapter has a large number of cross-references to previous chapters. The technical areas mentioned are:

- *Household Energy: how different stove models hamper or enhance participation; dissemination approaches of improved stoves and cooking techniques; involvement of target groups to design communal cooking approaches; harnessing refugee, local and regional knowledge for household energy interventions; pre-fabricated stoves as incentives.*
- *Firewood Supply: refugee participation in designing a firewood distribution system, local participation in firewood production and preparation; firewood as incentives for participation in work programmes.*
- *Afforestation: participatory planning of afforestation and firewood production; incentives for participation in afforestation projects.*
- *Area Protection: participatory mapping of areas to be protected; participatory design and implementation of protection measures.*

6.1 Household Energy

Household energy interventions are not yet a standard part of the relief package for refugee populations. In most of the camps of the Goma complex, stove dissemination and other household energy interventions started weeks after camp establishment. In Dadaab it took two years from the opening of the camps for household energy interventions to commence. In Kakuma, five years after camp establishment, nothing with real impact has been done to reduce firewood consumption.

Household energy programmes are often understood as 'stove dissemination projects'. This assumes that, first, there is a fuel *shortage* and, second, it can be solved by improved stoves.
While this is true in many cases, the whole complex of household energy should be appraised as a part of the PEAP process (see section 5.1):

- how did we cook in our home countries, how do we cook in exile?
- how did and do we provide for light and heating?
- which are the main problems regarding cooking, lighting and heating at home and in the camp?
- which fuel did / do we use and which one would be the preferred fuel?
- how can we get better access to the preferred fuel?
- is there a fuel shortage? For whom? Why?
- if fuel is short in supply, what are the options to save fuel?
- who among us knows best about household energy?
- how can we make this knowledge useful for the whole community?
- what outside expertise do we need to solve our household energy problems?

Among the proposed interventions in the household energy sector, a number of main themes may evolve:

- improving the type of stove used or 'new' stoves;
- improved cooking methods on the household level;
- trying out cooking methods that are communal or group-based;
- processing of foodstuffs or supply of foodstuffs that require less energy for cooking;
- improved fuel supply systems (see section 6.2).

Participation in Stove Design and Stove Selection

The participation of target groups in designing household energy interventions in general and in selecting the stove types in particular varies widely. In Kahindo, Goma, still under emergency conditions, initiatives of refugees to improve their fireplaces were taken up and refined. The EMP supported the quick spread of innovations created by refugees through a large team of extension workers. In Dadaab, Kenya, the implementing agency pre-selected a range of improved stoves from which refugees had the choice. In Adjumani, Uganda, a new stove technology was tested on the refugees: the Peko Pee grass burner. Text Boxes 24, 25 and 26 (pages 70–71) set out the different approaches to involve target groups to a larger or lesser extent in the design or selection of stove models.

Protected Fireplaces in Kahindo Camp / Goma

When GTZ started a household energy programme in the Kahindo Camp of Goma, the aim was to introduce firewood saving stoves which should be constructed from readily available material, which could be maintained without the intervention of an agency (funds were available for only four months) and which would ensure a fast adoption among the refugee population.

Two factors negatively affected the consumption of firewood: wind and wet wood.

The first step was therefore to build a stone wall as wind protection around the traditional fireplace. In a second step, refugees were encouraged to raise the stone wall around the fireplace to allow the piling of firewood over the fire for drying. A third step was the construction of a little roof from waste material or banana leaves to shelter the fireplace and firewood from rain.

After three months 20.000 of the approx. 25.000 refugee households had constructed improved fireplaces, about half of them with firewood drying shelters. No material or other incentive were given. The agency input was only to assist model households in improving their fireplace and to organise on-site courses to encourage other refugees to adopt the example. The overall firewood consumption in Kahindo camp dropped by 29%, largely due to the active participation of every household. In this case participation was increased by the simplicity of the technology rather than by elaborate participatory structures. On the refugees' own initiative, additional improvements were observed and included in the extension work. Among others those were a mud-lining of the inner stove walls and the joining of several fireplaces under one roof for more drying space and a more efficient use of fires.

Text Box 24: Protected Fireplaces in Kahindo Camp / Goma

Participation in Improving Cooking Methods

Introducing improved cooking methods to save fuel has been singled out as the most cost-effective household energy intervention. Simple methods to save energy include:

- covering pots with a lid;
- shielding fireplace and pot against wind;
- feeding the fire with small amounts of firewood once the boiling point is reached;
- extinguishing the fire once the cooking is done;
- using only dry and split firewood;
- adjusting the size of the fire according to the size of the pot;
- cutting food to be cooked into small pieces;
- soaking beans and grain in water overnight.

Participation is required for the two principle steps that ensure the adoption of these and other methods. First, it is important to collect as many fuel-saving methods as possible which are already practised by the different ethnic groups among refugees and locals. Secondly, target group members themselves must be in the forefront of dissemination, if a snowball effect is to be achieved. While the former can be done during the 'household energy seminars' mentioned in section 5.1, the latter requires incentive schemes,

Five Stove Models for Dadaab

When RESCUE began its household energy programme, the team faced a dilemma. On one hand, quick results in stove dissemination had to be realized to reduce the firewood consumption of over 100.000 refugees. On the other hand, the experts knew from experience in 'conventional' stove dissemination, that stove models need to be designed and tested under local conditions. Yet there was no time for such a thorough approach. An acceptable solution to this dilemma was to adopt three pre-fabricated stove models which had proven successful in other parts of Kenya. Only limited time was allocated for 'testing by disseminating' to select the best suited stove type and, if necessary, modify the design according to the proposals of the users.

After one year, rather than reducing the stove types to one or two models, two more stoves entered the arena: a low-cost solar stove and a simple mud stove, the design of which was discovered in the camps and only improved slightly. After three years of implementation, all five stove models are still 'in the catalogue' and continue to be requested by refugees and locals.

It became obvious that users not only have different preferences and needs from household to household, but even within the household, two or even three different stove models may be utilised for different types of cooking.

About 95% of the households are now cooking entirely on improved stoves.

Most of them have at least two models, the stationary self-built mud-stove and one of the pre-fabricated, portable stoves. The EMP was successful for three reasons:

- It built on regional or national experience in stove design;
- it gave users a choice between different pre-fabricated stove models;
- it adopted stove models and stove innovations designed by the target groups.

Text Box 25: Five Stove Models for Dadaab

clear TORs and allocation of areas of responsibility for field staff.

Participation in the Development of Communal Cooking Systems

While improved stoves and cooking methods address both refugees and locals, communal cooking is a typical refugee-centred approach, mainly intended to be introduced in large camps. Experience with communal cooking has demonstrated that up to 80% of energy savings are possible, if cooking is done for larger numbers of persons communally and with efficient equipment. From an energy point of view, this sounds impressing, nevertheless UNHCR does not normally encourage communal cooking systems. There are numerous obstacles that hamper the acceptance of communal cooking:

- food rations are often the only marketable commodity of refugees. A switch from rations to communal cooking deprives refugees of the option to sell part of their rations;
- giving up individual cooking means the loss of freedom to decide what to eat and when to eat;
- age groups and ethnic groups among refugees have different needs and preferences;
- the fear of being poisoned or of being given unwanted medication (the rumour that agencies mix 'anti-baby-medicine' in the food is a killer for communal cooking);
- the fear of refugees that, once they have agreed to communal cooking, they can't go back to individual cooking.

A few simple interventions can enhance the participation in decision-making regarding communal cooking. It is important to note that, although individual household energy interventions focus largely on women, decisions on communal cooking must also be discussed with men and with refugee leaders. The following steps may lead to generally accepted decisions in favour of communal cooking:

- Meetings with refugee leaders and refugee women (leaders) to explain the rationale behind communal cooking. It is important to assure them that communal cooking has the sole objective of saving fuel and relieving refugees from the burden of firewood collection.
- Giving refugees room to express fears and reservations about communal cooking. Negative feelings of refugees should be taken very seriously – they are an important base for planning. Discussions should not be used to try and persuade refugees, but to modify initial proposals and technical concepts.
- Developing, with refugees, a whole range of scenarios for communal cooking. For instance: should communal cooking involve small groups of neighbouring households or larger groups, e.g. on a block basis? Should full meals be provided or only elements of the cooking be done communally like the (pre-)cooking of maize and beans?
- Selecting, with the refugees, persons in charge of communal cooking who are respected and trusted by the community.
- Once a consensus is reached, a pilot scheme of communal cooking on a small scale can commence.
- Designing of participatory monitoring mechanisms to ensure that vulnerable members of the refugee community do not suffer from the shift to communal cooking.

The 'Peko Pee' Grass Burner in Adjumani Camps

The Peko Pee is a metal stove, designed for the highly efficient combustion of grass and other low grade fuels. It had never before been introduced to a rural population but the technical performance was so convincing that a donor decided to fund large scale dissemination in the Adjumani camps of Northern Uganda. Two years after its launching, however, dissemination rates remain below 10% and the impact on fuelwood consumption is insignificant. A preliminary analysis of the Peko Pee approach reveals the following shortcomings:

- The project was, from the beginning, designed to disseminate a pre-selected technology;
- firewood shortage, as a main driving force to adopt innovative cooking technologies, is severe only in some pockets of the RHA;
- no low-cost alternatives to the Peko Pee were offered to refugees.

As a result of the analysis, mud-stoves are now widely disseminated and readily accepted in refugee settlements of Northern Uganda.

Text Box 26: The 'Peko Pee' Grass Burner in Adjumani Camps

Participation in Food Processing and Milling

One of the most effective methods to save energy, is the milling of grain and beans. Milling can be done by the food-providing agency in central mills at the port of entry or in the RHA. The participatory system at the capital level is responsi-

ble to evaluate options. If WFP is not willing or not able to mill hard grain centrally, the host government, together with UNHCR should lobby for funds and identify milling facilities. A cost-benefit analysis of milling vs. increased firewood supplies has never been carried out, but the result of such an analysis would almost certainly favour the milling option.

In large camps such as Benaco, dozens of private commercial maize and wheat mills were operated by the refugees *without* the support of agencies. EMPs should consider interventions geared at making these commercial facilities more affordable to a larger cross-section of refugees. Options to either subsidize milling or to provide logistical support should be discussed together millers and customers. To ensure sustainability, commercial mills should be the preferred option in most cases. In Kakuma, some refugees operate handmills as an income generating activity with success.

For home consumption, rural communities have always processed grain by means of grinders and pounders. Where this option is preferred by the community, the implements used must be carefully examined and the following questions should be considered: is the raw material to fabricate grinders or pounders available in the RHA? At what costs? Are alternatives to traditional material acceptable and affordable (eg concrete pounders)? What are their costs and benefits compared to commercial (hand-)milling? In the end, the decision on the preferred option of milling will be chiefly based on economic considerations. To gain insight to the costs of milling for the refugee community and the aid providers, however, the input of beneficiaries, both millers and customers, is of high importance.

From the above case studies and experiences in refugee and development situations, a number of lessons for participatory technology development emerge:

1. Prioritise technical interventions according to the participatory appraisal and ranking of needs and problems.
2. Involve regional expertise to develop technical interventions.
3. Examine innovations and modifications made by refugees and locals.
4. Facilitate exchange of know-how at different levels (refugees – locals; fieldworkers – target groups, local expertise – regional expertise etc).
5. Expose proposed technical innovations and interventions to a discussion process within target groups. Do not try to argue against reservations but use them to improve, modify or drop innovations.
6. Analyse costs and benefits of technical innovations and interventions based on information from all stakeholders.
7. Encourage target groups to test promising innovations and openly discuss their experiences for further improvement or rejection of innovations.

6.2 Fuel Supply

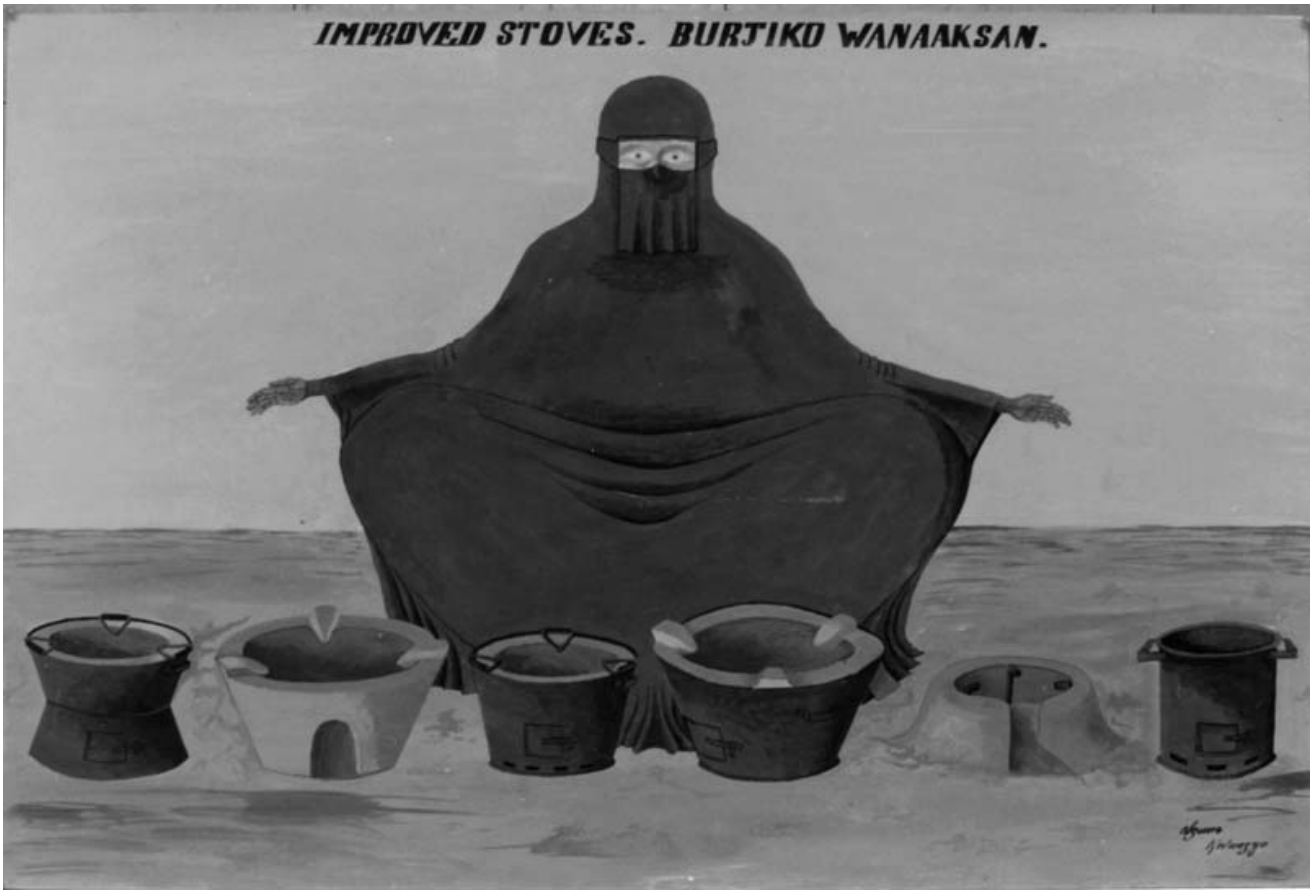
Organised supply of fuel to refugees has the greatest potential to counter environmental destruction caused by the harvesting of green firewood. To exploit this potential, recent research has listed some conditions for successfully organised fuel supply:

1. The fuel supply must be coupled with effective restrictions on harvesting. If this is not done, firewood supplies will have no impact on the harvesting rate but will only increase the income of refugees.
2. To be effective, fuel supplies must cover the total fuel needs of refugees. Therefore, precise fuel consumption data, not consumption 'guesstimates' are necessary.
3. The fuel supplied must be culturally acceptable, its combustion technology known and appropriate stoves should be available. In the African context, the favoured fuel choice is firewood.
4. The fuel supply must be reliable and funding secured over longer periods of time.
5. The distribution system must be fair and transparent.
6. If fuelwood is supplied, it's harvesting should be carefully organised in order to minimise adverse environmental impacts on harvesting areas
7. Careful consideration should be paid to local fuel markets in order not to disrupt those.

All the above conditions can only be fulfilled, if the beneficiaries are fully involved in the design of the fuel supply system. Approaches to use fuel supplies as incentives for work programmes have been described in section 5.5. A proposal 'work for firewood' is given in Text Box 20.

In Mugunga / Goma, fuel was supplied to blocks under the condition that improved mud-stoves are erected by the refugees. While this yielded an impressive *dissemination rate* of improved stoves, it is questionable if such 'forced participation' (there was hardly an alternative to supplied fuels) leads to an equally impressive *user rate* of stoves.

Windshield, firewood drying facility and improved metal stove in Kahindo, Goma



Advertising for a range of improved stoves in Dadaab

Increasing Collection Radius by Motorised Support – Proposal to UNHCR (Nov. 1996)

With abundant firewood resource in the wider RHA of the Dadaab camps, the most cost-effective way to reduce deforestation around the camps is widening the collection radius from the current 5-7 km to approx. 15 km. Transporting firewood collectors to the collection sites (and probably back) can have this effect. At a later stage, with dwindling funds for such motorised support, an increasing part of the lorry costs may have to be met by the users. This could be introduced more easily if the lorry passengers are used to contributing to the costs. A small fee of Ksh 5 per passenger, for example, should be thought of to start with.

'Taxi Service' One Way

The biggest cost factor for motorised support are the lorries to be hired. The one-way-option reduces the times for loading and boarding the lorries. Refugees board the lorry in the morning, they are taken out to the designated collection area (10-15 km) and return home on foot. If the taxi service starts at 6 am and one trip (including boarding and driving) takes one hour, approximately seven trips per lorry per day can be made.

At the point of departure of the lorries, simple wooden structures need to be erected to facilitate the queuing of refugees. There is a danger that men may take advantage of the improved security situation and the lorry service to collect fuelwood for sale. Some kind of quota system should be thought of, e.g. not more than 30% men on a lorry.

'Taxi Service' Both Ways

In this scenario, refugees would be allowed to board the returning lorries with their

bundle of firewood. The disadvantage would be longer boarding times and thus less trips per lorry (an estimated four trips to take refugees out and back). This would be partly compensated by the larger bundles per person which ultimately would lead to refugees making less frequently use of the taxi service.

A variation of the 'taxi service both ways' would be to pay the lorry owner only one way but encourage refugees and lorry owners to negotiate fees for transporting the firewood back to the camps.

With commercial rates agreed for the transport back, the taxi service would be one step closer to sustainability.

Text Box 27: Motorised Support to Fuelwood Collectors in Dadaab

As part of the clean-up programme in Benaco and other camps in Kagera / Tanzania, remaining refugees from Burundi were compensated for their work with firewood.

Apart from fuel supplies organised and distributed by agencies, refugees and locals develop their own supply systems. It can be carried as headloads, brought in with wheelbarrows, handcarts and donkey carts or delivered and sold by private truck owners. Supporting these autonomous supply systems is usually cheaper and more sustainable, provided the harvesting mode is acceptable and the refugee population not too large. Participation is necessary to understand the supply systems, identify bottlenecks and establish the environmental impact.

Participatory Environmental Mapping in Maji Settlement

During initial PEAP sessions in Adjumani, it was agreed that environmental protection measures for the Maji settlement area should be planned *before* the refugees arrive from the transit camps. A forester from the RESCUE project was invited to create the foundation for future protection measures by carrying out a mapping exercise with locals, refugees and agency staff to determine the environmental status of the area to be settled. The objectives of the mapping exercise were:

- to delineate trends and extent of vegetation cover;
- to define and map areas requiring different degrees of protection;
- to recommend participatory strategies for management, utilization and rehabilitation of vegetation and soil resources;
- to train stakeholders in monitoring environmental change by vegetation mapping.

In a brainstorming session with participants, it was first decided which factors to include in the mapping exercise. Several scientific field methods were explained to the participants, advantages and disadvantages discussed. The group finally agreed on the *transsect method,* using simple tools to measure vegetation cover, ground cover and canopy cover.

The findings for each observation plot were filled in data sheets and the plots then grouped into five categories from 'highly degraded' to 'good condition'. On a map, the observation points from various categories can be joined to arrive at five categories of areas needing different degrees of protection or rehabilitation.

Through a continued PEAP process in the Adjumani camps, the findings of the mapping exercise can be turned into protection activities. The trained mapping team will be able to monitor environmental change in a simple but objective manner to provide the PEAP process with updated information.

Text Box 28: Participatory Environmental Mapping in Northern Uganda

Options to increase the efficiency and to mitigate the environmental impact of prevailing supply systems should, therefore, be developed jointly with refugees, locals and local (forest) authorities. Text Box 27 (page 74) summarizes a proposal how to support the fuel supply system in the camps of Dadaab.

6.3 Afforestation

Under 'afforestation', we have summarized three distinct activities:

1. the large scale afforestation of degraded or deforested sites;
2. the tree planting by farmers on and along their fields and
3. the planting of trees in the home compounds.

Large scale afforestation requires functioning stakeholder participation on the camp and sub-office level, involving target groups, agencies and government forest authorities. The latter two are typical for 'popular' or target group participation: decisions regarding home compound or on-farm tree planting are made by individual households themselves with support from EMPs.

All approaches have been dealt with in chapter 5. Participation in large scale afforestation requires joint planning (section 5.1) and for implementation certain incentives (section 5.5). Participation in individual tree planting can be promoted by awareness creation and exchange of tree-related knowledge (section 5.1 and 5.3), by household competitions (section 5.7) and by opportunities to generate income with tree products (section 5.8). Other benefits of trees that promote participation are described in section 5.9.

6.4 Area Protection

Protecting areas which are threatened by unsustainable mining of natural resources, is an areaof environmental mitigation that needs negotiations, agreement and joint action. The fact that only concerted efforts by all stakeholders can protect threatened or vulnerable areas has not been acknowledged for most RHAs. The PEAP process in Northern Uganda (see Text Box 16 and section 6.1) and the employment of local Resource Utilization Supervisors (RUS) in Dadaab are only in their initial stages and cannot be evaluated yet regarding their efficiency. This section, therefore, remains largely theoretical. Experience with agency driven attempts to protect areas in the past suggests that participatory area protection should be organized in the following sequence of steps:

1. Joint stakeholder assessment of degradation by walk-abouts, cross section walks and vegetation mapping.
2. Joint categorization of areas with respect to vulnerability, need for rehabilitation, value for local and refugee livelihoods and legal status. Mapping of area categories (see Text Box 28, page 74).
3. Jointly formulated description of permitted and prohibited activities in the individual area categories (see chart 12).
4. Jointly developed enforcement strategies and allocation of responsibilities for action.

7. Future Directions for Decision Makers

This concluding chapter makes recommendations about how different institutions and stakeholders can make participatory systems work better. Host governments will need to find a balance between security considerations, encouraging refugees to repatriate and involving them in environmental mitigation for the better of the RHAs. Their role in providing legal frameworks and overall monitoring must be strengthened. UNHCR should concentrate on its role as a coordinator and facilitator of participation. The need to include the local population to the extent possible may go beyond UNHCR's mandate but can be achieved through cooperation with development institutions. Implementing agencies should refine their participatory approaches in proposal development, implementation and evaluation. Donors should increasingly fund EMPs with holistic and long-term concepts and a national rather than a camp-based focus. Finally, recommendations for refugee and local leaders stress on their responsibility for their environment and recommend increased cooperation among each other and with institutional stakeholders.

7.1 Recommendations for Host Governments

Grievances of refugee hosting governments about environmental destruction brought about by refugees are being taken increasingly seriously by the international relief community. Environmental concerns may lead to a general unwillingness to host refugees at all. Environmental degradation by refugees, however, can often be more damaging when refugees are less accepted as partners in mitigation. Some host governments have failed to take a lead role in attempts to offset the environmental impacts of refugees. The following recommendations are intended to encourage host governments to become more effective engines of policy-making, planning, implementation and monitoring. Proposed elements of a constructive refugees & environment policy are:

- *Refugee Settlement Pattern:* Reassess in an unbiased fashion the costs and benefits of different refugee settlement patterns. These can range from dispersed settlement in designated areas to organised agricultural settlements, to small village-like camps to large concentrated camps.
- *Camp / Settlement Locations:* List potential sites for future refugee camps and settlements based on an ecological, security and logistical considerations.
- *Refugee Hosting Area:* Define the area in which the environment is affected by refugees. This can be within administrative borders like district, division or independent from such borders.
- *Camp / Settlement Sizes:* Set an upper limit of population per camp / settlement for various agro-ecological zones and minimum distances between camps / settlements.
- *Camp / Settlement Lay-Out:* Strike a balance between the overall space requirement for a camp / settlement and the ecological optimum for residential plot sizes for an average refugee family.
- *Area Protection:* Define protection measures and user rights of protected areas in the vicinity of the camp / settlement. Define protected greenbelts within and around the camps / settlements and advise on ways to define and protect those greenbelts with participation of local authorities, local population, refugees and agencies.
- *Refugee Farming:* Lay out areas in which farming for refugees is allowed and establish procedures of land allocation. Develop conditions for agricultural land use such as agroforestry, contour bunding, hedges etc.
- *Participatory Structures:* Create commissions in the capital, the regional or district headquarters and joint bodies in RHAs to ensure the participation of local population and local authorities at all stages of the (environmental) project cycle.
- *Inter-Ministerial Links:* Second an environmentalist from the 'environment ministry' to the 'refugee ministry'. This would provide UNHCR and implementing agencies with a competent discussion partner in the 'refugee ministry'. Install focal points for 'Environment & Refugees' in relevant ministries to improve information flow between ministries.
- *Monitoring & Evaluation:* Insist on a reporting system which keeps all levels of the government informed. Commit implementing agen-

cies to regular independent evaluation of their projects, involving relevant experts from the host government and national academic institutions.

7.2 Recommendations for UNHCR

UNHCR is in the unique position of being the central actor in the development of a comprehensive participatory system. First, it has the mandate to coordinate relief efforts and advise the host government. Second, it has vast in-house knowledge and its experience stretches over decades of relief work in a significant number of refugee hosting countries. Third, it has taken up the challenge of addressing environmental degradation in RHAs as the facilitator and coordinator of mitigation activities. The following are suggestions about how UNHCR could enhance participatory systems:

- *Policy Development:* At the national level, initiate together with the host government and implementing agencies a process of national policy development for the refugees & environment complex. At the international level, regional workshops on 'refugee policies of host governments' could be a way to facilitate a learning process for improving and streamlining national policies. Independent academic institutions could be well suited partners in organising and carrying out such workshops.
- *Donor Coordination:* Take a more active role in advising donors to invest funds in comprehensive and participatory environmental mitigation. Involving donors in the participatory system at the national level will lead to national solutions. At the international level, standards for funding EMPs should be worked out, including developmental and participatory elements.
- *Coordination of Environmental Mitigation:* Make the position of a UNHCR Environmental Coordinator a standard position in larger refugee operations. Appoint a UNHCR focal point environment in smaller operations. Equip this position with clear TORs, the mandate to operate at all levels of the participatory system. Provide operational funds to pilot environmental activities, to carry out research and to enhance communication.

  Appoint an environmental lead agency in every sub-office or camp. Work out TORs for the lead agency, including the coordination functions, the additional role in overall monitoring, the contribution to policy development and the relations to other (environmental) agencies.
- *Training and Know-How Exchange:* Work out training curricula for UNHCR staff in different positions to sensitize them on environmental issues. Equip UNHCR Environmental Coordinators with lessons learnt from past experiences in environmental coordination and mitigation. Organise regular exchange of know-how between neighbouring countries or neighbouring RHAs. Develop training modules for staff of implementing agencies and facilitate training.
- *Incentives for Environmental Activities:* Screen non-essential handouts in order to convert them into incentives for environmental activities. Discuss options of refugees working for part of their supplies, acknowledging that their workforce is essential for implementing environmental protection and rehabilitation.

7.3 Recommendations for Implementing Agencies

- *Involvement in the Participatory System:* Emphasize the facilitation of target group participation but actively seek involvement in the participatory system at all levels of the host country. Assist UNHCR and the host government to create participatory structures where they do not yet exist.
- *Budgeting for Participation:* Include in project budgets the costs for coordination and participation. These costs include management time, transport, additional positions for field staff and incentives for refugees and locals.
- *Employment Policies and Staff Training:* Select management and senior technical staff who have several years of development experience and are familiar with participatory and developmental approaches. Train staff to improve participatory and developmental skills. Link with other refugees & environment programmes to share experiences and to carry out joint training.
- *Flexible Planning*: Do not base planning of interventions on preconceived perceptions but develop priorities and approaches together with other stakeholders. Allow changes of plans and procedures to reflect on changing frame conditions. Include contingency planning to be able to react fast to additional influxes, erupting hostilities, forced repatriation and other unforeseeable events.
- *Fusing Livelihood Needs with Environmental Concerns:* Carry out a participatory assessment of the most pressing needs together with an assessment of the most urgent environmental concerns. Select environmental interventions that are

most promising to offset socio-economic needs, e.g. in the field of income generation, improving agricultural yields or livestock production, improving health conditions and providing security. To bridge the gap between relief and development, actively seek the cooperation with development agencies.

- *Participation of Women:* Encourage the representation of women in all bodies of environmental decision making. Select meeting times, meeting venues and language in a way that allows women to participate Through employing women, harness women's informal knowledge about household energy issues, house construction or agriculture.

7.4 Recommendations for Donors

In the past, too many short-lived projects with a narrow technical focus and little developmental perspective have been funded by a multitude of donors. This has lead to donor and agency competition, duplication of efforts and, generally, to project results that are not sustainable. Even though UNHCR has the main responsibility of coordinating efforts and avoiding the above mentioned pitfalls, donors can contribute to more sensible approaches.

Donors should, first of all, insist on a definition of the 'refugee affected area' regarding environmental interventions. In the past, this area has often been too small (only the camps and immediate vicinity) such as in Dadaab, Kakuma and settlements in Northern Uganda or too large like the whole of Kagera region. While the 'refugee affected area approach' should be integrated into regional development programmes, refugees should be still addressed as a major target group.

Proposals for environmental projects in RHAs must contain plans and budgets for participatory structures and approaches. It must be clearly explained how the project is embedded in ongoing environmental mitigation and existing development efforts.

Funds for a multi-level participatory system (from capital to district to sub-office to camp) can be provided for in a separate (coordinating) project and then, preferably, be implemented directly by UNHCR. Another option is the co-funding of this participatory structure by all environmental actors in the region, including UNHCR, implementing agencies, host government. This option would require that a certain percentage of all projects' budgets are allocated for coordination and participation. This would have the advantage that all agencies are committed to the participatory system and expect tangible benefits for their expenses. Cost factors for a participatory system include, among others:

- An overall environmental coordinator (nationwide), seconded to the refugee ministry, to UNHCR or to the lead agency environment.
- Assistants to the coordinator for individual refugee hosting areas or camps.
- Logistical support for the above coordinators (office space, transport, etc.).
- Costs for regular meetings like meeting venue, allowances for government staff, transport for refugee and local participants.
- Communication costs, including printed material, minutes, newsletters etc.
- Travel costs for participation in regional and international meetings.

Donors should increasingly see themselves as part of the participatory system. At the national level, donor representatives should periodically attend environmental coordination meetings. For large multi-donor operations like Goma or Kagera, donor-agency–UNHCR–Host Government meetings are necessary to streamline funding and to define priorities. At the international level, a donor conference is overdue to set standards for funding EMPs in refugee situations.

Larger environmental projects in refugee hosting areas such as the CARE and GTZ projects in Tanzania or Kenya should be asked to add the following results to their plan of operation:

- National, regional and local coordination and participation system successfully and sustainably installed.
- Host government and UNHCR supported in coordinating and monitoring of environmental projects in RHAs.

One interesting option for donors is to fund a 'hybrid project' which combines two distinct project types:

- the 'Dadaab-approach': environmental lead agency with long term commitment to and experience in implementation and
- the 'Uganda-approach': funds for coordination and nationwide approaches to environmental mitigation such as training of government officials, development of policies, master plans and legal tools.

Such a project would have, as team leader, an Environmental Coordinator in the capital and a strong field presence in one of the RHAs. It would be a competent partner for both UNHCR and the host government, combining national policy competence with local environmental expertise.

7.5 Recommendations for Refugees, Local Communities and their Leaderships

Recommendations for refugees and locals in this sourcebook have an 'indirect' character. Hardly ever will they or their leaders read the document itself. Instead, field workers of environmental and coordinating agencies are called upon to recommend the following activities and conduct to refugees and locals and their leaderships:

- *General Attitude to the Refugee Situation:* Assist agencies and the host government in their search for durable and sustainable solutions. Do not expect that necessary, yet unsustainable, solutions like refugee camps can always be overcome in the short term. Acknowledge that the presence of refugee has negative *and* positive effects for the host population. Realise that a refugee situation means disruptions and adaptations for all communities, but that these changes can be managed and their negative impacts mitigated if the communities and their leaders cooperate.
- *General Attitude to the Host Environment:* For refugees: respect that natural resources of the RHA are primarily the property of the local communities. Realise that all communities living in the RHA may have to depend on the natural resource base for their livelihoods for prolonged periods of time. Acknowledge that human interaction with the environment can have negative *and* positive impacts.
- *Interaction between Refugees and Local Communities:* Acknowledge the fact that both refugees and locals will have to share natural resources for an unknown period of time, necessitating the joint development of a code of conduct and certain regulations. Assist in the formation of communication structures which will enable both communities to develop such regulations.
- *Interaction with Aid Providers:* Assist aid providers with necessary information and advice to enable them to appropriately assess the situation. Realise that their activities are limited by physical resources and information gaps. Insist, while planning and implementing environmental mitigation activities, on the inclusion of all communities residing in the RHA. Strive for regular and structured interaction with aid and development agencies, researchers and host government officials.
- *Expertise and Traditional Knowledge:* Identify, among your community, relevant environmental knowledge and expertise. Inform environmental agencies about it and devise ways, by which this knowledge can be put to work. Organise the exchange of agency expertise, refugee knowledge and local knowledge informally and by means of structured courses. Seek assistance from environmental agencies for such courses. Acknowledge the fact that both communities can improve their environmental knowledge by the above described exchange.
- *Environmental Action:* Understand physical environmental activity as a form of payment from refugees to the local population to compensate for the use of natural resources. Understand environmental activities, triggered by the presence of refugees, as a chance to rehabilitate and conserve an environment that was degraded even before the refugees arrived. Strive to integrate the objectives of improved agricultural output and sustainable resource management with the assistance of environmental agencies and through the cooperation of refugees and locals.

8. Annotated Bibliography

Anderson, M. B. (1994): People-Oriented Planning at Work – Using POP to Improve UNHCR Programming, UNHCR, Geneva (35 pages and appendices)

This UNHCR handbook provides a detailed and pragmatic framework with a wealth of examples to guide information gathering in the field. It can enable field workers to better decision making under time pressure. Issues of environmental mitigation are not dealt with explicitly, although related issues like water / sanitation, cooking and shelter construction are part of the handbook. Chapter 4, 'Using POP for Refugee Participation' (pp 29-30) gives brief hints for setting up participatory structures.

The underlying assumption of the handbook is, that if enough quality information is gathered and processed appropriately (together with 'common sense'), the right decisions are made 'automatically'.

With POP, the decision making powers remain fully in the hands of the aid providers, including the decision concerning *which information* is important for effective aid provision. The handbook and POP as a methodology thus remain in the initial stages of a participatory process.

Black, R. and Sessay, M. (1995): Refugees and Environmental Change – the Case of the Senegal River Valley, King's College, London (39 pages)

Black, R., Sessay, M., and Milimouno, F. J. (1996): Refugees and Environmental Change – the Case of the Forest Region in Guinea, University of Sussex, Brighton (41 pages)

Both reports examine environmental change and corresponding mitigation efforts in two RHAs of West Africa. In both research areas, refugees are self-settled and dispersed among the local population. Refugees do receive assistance from UNHCR and other agencies, but are not concentrated in camps or agricultural settlements.

The strength of the two reports is the rigorous scientific method applied to determine environmental change attributable to refugees. In Senegal, this environmental degradation was relatively low, but it was more severe in Guinea. In both cases, however, the refugees' impact has not gone beyond that of the local population. Both reports document clearly that (self-settled) refugees are *not* 'exceptional resource degraders'.

Relating to 'participatory systems', the reports provide evidence for the relative ease with which refugees are incorporated in indigenous natural resource management. With few exceptions, they seem to comply with traditional rules and regulations that govern environmental protection and natural resource use. Conflicts between locals and refugees and other security issues were apparently well contained in the research areas.

The two case studies should give reason for aid providers and host governments to re-think the concept of refugee concentration, for both security as well as for environmental reasons.

German, D., Gohl, E. and Schwarz, B. 1996): Participatory Impact Monitoring, GTZ–GATE, Eschborn (170 pages)

The folder contains 4 booklets: 1. Group-Based Impact Monitoring, 2. NGO-Based Impact Monitoring, 3. Application Examples and 4. The Concept of Impact Monitoring.

Participatory Impact Monitoring (PIM) is a relatively new field of participatory methods to improve project performance. While in appraisal and planning vast progress has been made during the last decade, participatory monitoring and evaluation methods are still in their infancy. The basic objectives of PIM are therefore to

- orient projects along the socio-cultural impact [even if those have not been intended from the beginning];
- promote autonomous activities of the people;
- improve the flexibility of and interaction between the development or relief organization and the self-help group.

The folder provides a range of practical examples from Asia and Latin America about how PIM can be carried out under field conditions. However, there is no reference to relief or refugee situations or to situations of extreme poverty.

Hoerz, T. (1995): Refugees and Host Environments, GTZ, Eschborn (121 pages)

This literature review was written on behalf of GTZ at the Refugee Studies Programme, Oxford. It surveys a range of refugee & environment issues based on published and unpublished documents. Recent conferences and publications have added since considerably to the body of literature. However, the review can still be helpful

for researchers, serving as an indepth introduction to issues of refugees & environment.

Kimani, M. J. (1995): Meeting Energy Requirements in Refugee Situations – The Challenge of Linking Relief Interventions to Development Concepts, GTZ, Goma (108 pages)

The GTZ publication examines the household energy strategies and implementation problems in Dadaab / Kenya and Goma / Zaire. The author worked for three years as the coordinator of these household energy projects. The strength of this book is thus the practical and realistic descriptions of the decision making processes, problems and pitfalls of household energy projects in a refugee situation. Numerous drawings of simple technical solutions supplement the text. Nearly half of the book contains appendices which can be exceptionally useful for practitioners. They include training curricula for households and institutional kitchens, project proposals and checklists for public meetings.

Throughout the book, the author underscores his conviction that '... when planning, refugees need always to be taken as any other poor rural community located anywhere in Africa, albeit with more limited means'.

Jacobsen, K. (1994): The Impact of Refugees on the Environment: A Review of the Evidence, RPG, Washington (49 pages)

This Refugee Policy Group publication was the first attempt to summarize the refugee –environment nexus in a brief and accessible form. As such it is still an excellent introduction to the topic. Many of the issues discussed are of relevance to the contents of the sourcebook. In particular Part III 'Managing Local Resources: the Roles of Refugees, Locals and Assistance Agencies' preempts the idea of participatory systems.

The conclusions address policy makers rather than field workers. They include, first, the need for a closer look when talking about refugees' impact on the host environment – often refugees are only partly responsible for such impacts. Secondly, the need to address environmental degradation *together* with refugees' well-being. Thirdly, the importance of the way refugees are settled. By creating large camps, Jacobsen argues, the impacts of refugees are destined to be environmentally destructive.

Neefjes, K. and Ros, D. et al (1996): A Participatory Review of the Ikafe Refugee Programme, Oxfam, Oxford (95 pages)

The documentation of the participatory evaluation of the Oxfam refugee programme in Northern Uganda is one of the rare examples of thorough participatory impact monitoring. The review was, from the beginning, based on the awareness that '... Oxfam is one stakeholder amongst many involved in Ikafe. [...] it's operational activities are significantly influenced by the activities and aims of other main actors ...'.

The document is probably best described by the step-by-step methodology which was applied during the field research:

1. Collection of secondary data and study of existing information on the region / project.
2. Revisiting PRA tools and training of the team members in PRA.
3. Formulation of general questions and the learning process during the review.
4. Analysing different aims and objectives of the stakeholders.
5. Organising meetings with stakeholders, representatives and key informants.
6. Facilitation of focused dialogues in communities.
7. Documentation of impacts as perceived by different groups.
8. Development and discussion of future scenarios and potential aims.
9. Formulation of key constraints and strategies to overcome those constraints.
10. Formulation of proxy indicators for success of these alternative strategies.

The PRA methods used during the review include Venn diagrams, problem ranking matrixes, visualization of impacts in their causal relations, ranking of well-being, flow charts of 'governing structures' and others. The work described in this document is thus a prime example how to use PRA methods in a refugee situation.

Talbot, C. (1995): Refugee Environmental Education – a Concept Paper, UNHCR, Geneva (27 pages)

This paper marks the start of involvement of UNHCR in environmental education. Environmental education for refugees has gained considerable momentum since in camps and settlements of East Africa. Even though being a very brief document, numerous other fields of EM are touched, among them participation. Besides being an outline of the UNHCR strategy for environmental education, it may well serve as a quick introduction for the refugee & environment complex.

UNHCR (1996a): Environmental Guidelines, Geneva (68 pages)

The UNHCR Environmental Guidelines are a big step forward for environmental mitigation in RHAs. It is the first binding policy paper of UNHCR on environmental issues and should be 'known by heart' by staff of UNHCR and implementing agencies. Of particular interest for participatory systems is the commitment of the guidelines to integration, coordination and participation. These elements are prominently mentioned in the 'Principles of UNHCR's Environmental Activities' and in the 'Operational Guidelines'. The appendices contain proposals for TORs of an 'Environmental Specialist', for an 'Environmental Coordinator' and for a 'Local Environmental Task Force'. These TORs can be of great help as input into the development of participatory systems.

UNHCR (1996b): Refugees and the Environment in Africa, Proceedings of a Workshop in Dar-es-Salaam, Geneva (226 pages)

The workshop on 'Refugees and Environment in Africa' was the third international meeting on this topic in recent years. It followed the expert consultation in Brussels, Sept. 1995, organised by ECHO and the international symposium in Geneva, April 1996, organised by UNHCR, IOM and RPG (see below). Most of the participants in the workshop were field staff of UNHCR and implementing agencies. The proceedings, therefore, contain a wealth of practical information, concepts and examples of successful environmental mitigation from 16 countries. The main emphasis of the workshop was put on three areas:

1. Developing sustainable household energy supply strategies in RHAs;
2. Integrated and cost-effective environmental planning in RHAs;
3. Enhancing participation in the management of camp environments.

The UNHCR Environmental Guidelines and this workshop proceedings complement each other and form an exhaustive reading package for the 'beginner' in practical planning or implementation.

UNHCR (1996c): Partnership: A Programme Management Handbook for UNHCR's Partners, Geneva (270 pages)

This comprehensive handbook is designed to support UNHCR's implementing partners in managing their projects better and in closer cooperation with UNHCR. It is a result of the PARinAC (Partnership in Action) process which included intensive consultation between UNHCR and its partners. For participation in environmental mitigation, this handbook is of relevance as it is an important tool to improve coordination between institutions, an essential element of participatory systems. It provides an extensive description of the mandate and role of UNHCR, which will help agencies that have thus far not worked with UNHCR to understand working modalities better. However, the handbook provides only little practical advice. Coordination, for example, covers half a page and does not list specific tools to enhance coordination such as focal points, specific working groups or UNHCR technical coordinators like the EC.

Refugee participation is mentioned under 'planning' but emphasizes the need to involve refugees in all stages of programming and implementation. The underlying concept of refugee participation is similar to the one of POP (see Anderson 1994): they should be consulted to the extent possible, decisions remain with the aid providers.

UNHCR, IOM and RPG (1996): Environmentally-Induced Population Displacements and Environmental Impacts Resulting from Mass Migrations, Proceedings of an International Symposium, Geneva (128 pages)

This symposium brought together a large number of planners, practitioners and academics working on the field of environment & migration. Besides the objective of information exchange (the proceedings contain extracts of 25 contributions), the symposium had the ambitious goal to develop a set of principles to guide policy making and to link environmentally induced migration with environmental degradation caused by mass migrations. Due to the vast area the symposium attempted to cover, the proceedings as a whole remain on a rather high level of abstraction.

World Bank (1996): Participation Sourcebook, Washington (259 pages)

Although the Participation Sourcebook does not contain case studies or practical experiences in refugee assistance, it is a valuable reader to learn about 'the basics' of participation and participatory systems: Identifying and involving stakeholders, participatory planning and decision making, enabling the poor to participate and existing methods and tools. For practical project planning, the sourcebook provides a list of current workshop-based and community-based planning tools, among them ZOPP and PRA. Emphasis is put on

gender aspects of participation, reflected in case studies and working papers. Environmental mitigation, albeit not in refugee situations, is also prominent in case studies and working papers.

Appendix

Background Information – Comparative Description of the Refugee Situations in Kenya, Tanzania, Uganda and Congo DR

The appendix describes the physical and political conditions which provide or exclude options for meaningful participation in sustainable resource management. The appendix serves as a reference for those who are not familiar with the RHAs covered by the research for this sourcebook. Figures provided in this overview may be inconsistent with figures in other reports as they have changed over time and were often based on estimates.

1. Basic Information

Kenya

Kakuma Camp: Situated in the north-western Turkana District with approx. 35.000 refugees. Over 85% of its refugee population has fled civil war and famine in Southern Sudan while other nationalities include Ethiopians, Somalis, Ugandans and Zairians. Kakuma has existed since 1992. The local Turkana population in Kakuma town and surrounding villages numbers approx. 12.000 people. The dominant form of livelihood is pastoralism and – to a very limited extent – seasonal farming.

The climate is arid with an annual precipitation of below 350 mm. The agricultural potential is limited to seasonal millet and sorghum cropping. Vegetable gardens fed by tapstand waste-water within the camps is the only agricultural activity for refugees, they are not allowed to engage in agricultural activities outside the camp. Some 20-25% of the required firewood is supplied by LWF from outside the District, the rest is purchased by refugees from locals. Firewood gathering by refugees outside the camp is prohibited by the local population and the local administration.

Dadaab Complex with the camps of Ifo, Hagadera and Dagahaley: Situated in Eastern Kenya, Garissa District, the camps host a roughly equal share of the approx. 120.000 refugees, over 90% of whom come from Somalia. Other main groups have fled from Southern Sudan and Ethiopia. The local Somali population shares language, religion and culture with the majority of refugees. The three camps were established between 1991 and 1993. The population of Dadaab Market has risen from 5.000 to some 10.000 since the arrival of refugees. Several thousand local Somalis, victims of a devastating drought in 1992, are assumed to live in the camps. The dominant economic activity in the area is pastoralism.

The climate is arid with rainfalls ranging between 250 and 400 mm. The seasonal farming to grow sorghum and millet has only recently started with the support of agencies to refugees. Firewood is the main source of energy. It is transported by refugees as headloads and with donkey carts from a radius of up to 10 km. It is either used for household purposes or for sale.

Tanzania

The description of the Kagera camps in Tanzania dates only to 1996. Since the forced repatriation of Rwandese refugees, the camps have ceased to exist except for settlements of refugees from Burundi.

Ngara Sub-Office: The Ngara District of Kagera Region lies in the north-western corner of Tanzania, 'behind' Lake Victoria. The complex comprised five camps: Benaco, Musuhura, Lumasi, Lukole and Kitali with an overall refugee population of up to 457.000. Benaco Camp alone, with up to 260.000 refugees, was at the time Tanzania's second largest 'city'. The vast majority were Hutu refugees who fled their country after the genocide in 1994. A small group of refugees from Burundi lives here since the late eighties. The local population, scattered in small villages among the camps, numbers only an estimated 12.000.

The agricultural potential is fair with rainfall ranging between 800 and 1.200 mm and soils of good quality. Though officially prohibited by the GoT, refugees expanded their agricultural land continuously, up to an estimated acreage of over 20.000 ha. The local population's main source of income is agriculture, partly on a shifting cultivation basis, and livestock keeping.

Firewood supplies to refugees by various agencies were erratic and insufficient. Over time, only some15% of the needs of refugees were supplied.

Karagwe Sub-Office: Karagwe District lies in the northern corner of Kagera Region and hosted only Rwandese refugees. Five camps constituted the Karagwe complex: Kyabilisa I and II, Ka-

genyi I and II and Murongo at the Ugandan border. Together, they hosted a refugee population of up to 160.000. With a smaller refugee population than Ngara and a slightly larger local population living in villages near the camps, closer relations between refugees and locals were possible.

The agricultural potential and activities, though similar to Ngara, are slightly more intensive due to a higher local population density. A special feature of Karagwe was a peat harvesting project that was able to supply up to 15% of the refugees' energy needs and to provide labour for 1.800 workers.

Uganda

Arua Sub-Office: This refugee complex is situated in Arua District in North-Western Uganda. It consists of three main settlement areas: Rhino Camp, Ikafe and Mvepi. Each of the settlement areas has dozens of small agricultural settlements with populations ranging from several hundred to a few thousand individuals. The local population figure in the RHAs has been quite low prior to the arrival of refugees. Main factors have been the lack of water sources and other infrastructure as well as the lingering effects of the civil war during the late 1980s. According to the census of late 1995, 97.000 refugees, mainly from Southern Sudan are settled in Arua.

The agricultural potential is moderate with annual rainfalls ranging from 800–1.000 mm. Soils are of poor to medium quality. Land allocation to refugees is around 1.4 ha per family which is sufficient for subsistence production, provided soils are not too poor. Most of the settlement areas still have considerable tree cover. Acute firewood shortage, however, can be observed in some pockets.

Pakelle Sub-Office: Pakelle Sub-Office lies in East Moyo District, to the east of Arua District. It administers some 30 agricultural settlements of refugees from Southern Sudan. The refugee population figure is well above 100.000. Regarding agriculture and natural resources, the Pakelle RHA is similar to Arua.

Zaire (Congo DR)

Goma Sub-Office: Goma is a rather large town in the North Kivu Region of Eastern Zaire It existed between 1994, after the genocide in Rwanda, until the advance of the Banyamulenge rebels from the south in November 1996. Up to 700.000 refugees from Rwanda were settled in five large camps: Kahindo and Katale in the north, Kibumba next to the Virunga National Park and Mugunga and Lac Vert close to Lake Kivu in the south of the RHA. In particular the Kibumba Camp was from the beginning the most problematic camp. Water had to be supplied to the 200.000 inhabitants by tankers, a costly and unsustainable undertaking. The proximity to the Virunga Park led to extensive degradation of this unique ecosystem. Agencies attempted (for short periods successfully) to provide all the required firewood by truck.

The agricultural potential of the Goma area is legendary. Sufficient rainfall of over 1.500 mm per year and young volcanic soils provide the prerequisite to grow almost anything. Refugees were able to work in the numerous local farms, albeit for low wages. Engaging themselves in agricultural production was hampered by restrictions from the different military units of Zaire. Environmental mitigation activities started earlier and were more intense in Goma, especially in Kibumba, than in most other RHAs. International awareness about threats to the Virunga National Park, with one of the rare Gorilla populations, led to an unprecedented release of funds earmarked for environmental mitigation.

2. Camp Sizes and Camp Set-Ups

Camp size, that is, the number of refugees in one camp, is one factor that determines the pressure on the immediate environment of the camp. It also affects the way refugees deal with the local population, the way information spreads, the way refugees organize themselves or are organized by agencies. Somewhat simplified, camps could be classified as follows:

- agricultural, dispersed settlements in Northern Uganda (Rhino Camp, Ikafe, Moyo Refugee Settlement) and small camps of Bukavu (Zaire) with several hundred up to a few thousand refugees.
- medium sized camps (10–50.000 refugees) in Kenya (Dadaab camps and Kakuma), Koboko transit camp in Uganda, some of the smaller camps in Karagwe and in Bukavu.
- large camps (above 50.000) in Ngara, Goma and Bukavu.

Another important factor besides the camp or settlement size, affecting the degree of participation, is access to land for farming, both within the camp / settlement and outside the residential areas. In the agricultural settlements of Uganda, for example, families receive residential plots sufficient for a house and a kitchen garden within the settlements and some agricultural land

nearby, officially large enough for self sufficiency farming. In some camps of Goma, on the other extreme, refugee camps were so densely populated that there was often not enough space for an improved stove between the dwellings. If such a camp is sealed off by the army, there is hardly an opportunity left for refugees to meaningfully engage in any kind of environmental activity. Both in Kakuma and Dadaab the same correlation between environmental activity and plot size can be observed: the bigger the home compound, the more existing trees are protected and the more new trees are planted.

Relations Between Local Population and Refugees

The way in which refugees and locals communicate and collaborate largely depends on camp sizes and the way settlements are spread out in the RHA. Even though sharing a common language and culture can help (as in the case of Dadaab), it is quite obvious that large camps hinder mutual correlation while smaller, dispersed settlements facilitate the local – refugee interaction. The highest degree of interaction was found in the areas of refugee settlement in Northern Uganda, while in the large camps of Ngara and Goma hardly any refugee – local contacts existed. Already in Karagwe, with slightly smaller camps than in Ngara, a better informal and formal communication existed between refugees and locals, such as the weekly leaders' meetings. In Goma, the employment of many refugees on local farms led to some contacts, which were at times cut off by the restrictive policies of the government on refugee movement. In general, communication and collaboration is the more difficult,

- the bigger single camps are,
- the bigger the refugee population is compared to the local population and
- the less refugees are allowed or encouraged to interact with locals in agriculture and trade.

Information Flow and Decision Making

News travel fast within large camps and between camps if they are close to each other. In the numerous dispersed settlements of Northern Uganda this seems to be a major problem: many of the refugee or local villages are situated several hours of bicycle ride away from the centres of decision-making which are usually the agency compounds. Several villages are therefore left out of the communication and decision making processes. The opposite applies for the local population in Dadaab and Kakuma where the majority of the local Somali and Turkana population is concentrated in one village each. There, locals have been able to formulate rules regarding natural resource use which are enforced quite efficiently.

Leadership structure is an important factor for decision making in camps. In camps in Tanzania and Zaire the leadership structure was largely composed of Hutu militants. These had no interest in sustainable resource use or cordial relations with the local population. Their goals were political and military, geared towards a return to Rwanda as soon as possible. Little support can be expected from such leaders, but they may form – if not involved in decision making – a serious hindrance to participatory planning and action.

However, while camp sizes and structures do impact information flows and participatory decision making, the dominant factors seem to be the way aid agencies encourage transparency and the way the leadership of refugees and locals allows free information flow and participatory decision making.

3. Host Government Attitude and Settlement Policies

The general attitude of the host government towards a prolonged stay of refugees determines largely the degree to which UNHCR and agencies can implement sustainable resource management and install participatory systems. None of the countries under research has a consistent refugee & environment legislation or a binding policy (with the exception of Uganda, where the Environmental Master Plan for RHAs was finalized recently). Attitudes and policies are dependent on current politics, such as the need for scapegoats in times of crisis.

Looking at refugees as a short term 'disturbance' does not allow to involve them in environmental mitigation. This is nowhere more obvious than in Ngara. Refugees cultivated over 20.000 ha around the camps. As this was officially illegal, agencies had no entry point to propagate sustainable farming methods. The Tanzanian Government, on the other hand, had no capacities to enforce the ban on farming. A ban excluding refugees beyond a four-kilometre-radius around each camp was declared, yet enforcement was never possible.

A prime example of realistic *and* humane settlement policies can be found in Uganda where refugees are invited to settle permanently

and are given user rights over agricultural land. On this foundation it is comparatively easy to involve refugees, locals and government officials in a participatory system alongside with aid providers.

In Kenya, the government's attitude is one of reluctant tolerance towards the refugees ('as long as they don't make trouble they can stay'). The primary concern is related to security threats, especially when referring to Somali refugees. These are believed to trade in arms and thus to destabilise North Eastern Province and some parts of bigger cities. A clear tendency is the wish to concentrate refugees in fewer, larger camps in thinly populated areas, against all ecological considerations. Fortunately, awareness about environmental concerns of RHAs continue to increase among GoK officials at all levels.

No clear-cut attitude could be discerned in the case of Zaire other than making the best use of refugees as pawns in political negotiations. The unpredictability of the government made it virtually impossible to develop long-term approaches in environmental mitigation. Furthermore, the declared objective of UNHCR was the return of the refugees to Rwanda at the soonest possible time. Besides information and persuasion, this was to be achieved by making refugee life as difficult as possible within the 'humanitarian minimum'. Obviously, this does not facilitate the participation of the population.

4. Agro-Ecological Situation

For rural populations, natural resource management is strongly linked to agricultural and livestock production. Refugee participation in protecting natural resources is much easier when these resources are regarded as production factors. For example, maintaining the biodiversity of Virunga Park near the Goma refugee camps is of no direct benefit to refugees and even the local population may have only limited interest in it. Only low levels of interest in participation for protection can therefore be expected. Where refugees have legally gained access to land as in Northern Uganda and where the agro-ecological situation is favourable for rainfed agriculture, refugees can have a keen interest to maintain soil fertility and prevent erosion.

Where the ecological situation favours agriculture, local farmers will usually make use of the relatively cheap refugee labour to expand their agricultural production. This trend is reinforced by the cheap transport capacity from the RHA to the centres through returning relief lorries. Working relations between refugees and local farmers can provide a sound base for increased communication and better understanding of each other's situation.

Under the arid conditions of Dadaab and Kakuma, environmental protection is of less *immediate* benefits for refugees and locals. Depletion of woody resources and degradation of range is a process only visible over years. The feeling of responsibility for an intact environment is less pronounced as the land is communally owned. Because farming is restricted to small gardens, working relations exist to a lesser extent.

5. Security Situation

In all the refugee hosting areas visited, various security problems hamper the environmental mitigation efforts. Armed attacks of the rebel armies in Northern Uganda prevent fieldworkers staying in the RHAs over prolonged periods of time and agencies are sometimes forced to suspend activities. Banditry in Garissa District restricted movements of agency staff in the Dadaab complex. No movement between and within the camps is possible there without armed police escort. Operations in Kakuma came to a standstill during riots and fights between ethnic groups. Agency activities in Zaire faced security threats from the various army groups and from civil strife, even before the advance of the rebels under Kabila. During the writing of this sourcebook, the whole relief system broke down and the camps no longer exist. A similar development was observed in Tanzania, when the forced repatriation in 1996 closed all camps of Rwandan refugees.

It is obvious that meaningful participation requires movement of participants and a security situation conducive to building up trust and regular communication. Where day-to-day activities follow a security- rather than a goal-oriented work schedule, agencies remain inefficient in performing their tasks.

When dealing with low-key conflicts like ethnic violence in Kakuma or banditry in Dadaab, the wish of the communities to solve the conflicts can be a strong incentive for joint meetings and the setting up of bodies for negotiation and mediation. This is, however not the case in high profile armed conflicts like the rebel / bandit movement in Northern Uganda or the armed uprising of the Banyamulenge and the army terrorism in Zaire. Participatory structures can only help to mitigate conflicts if those are on a low scale, but remain helpless if the conflict has reached higher levels of civil warfare.

Abbreviations

ADRA	Adventist Relief and Development Agency (Goma, Zaire / Congo DR)
BMZ	Bundesministerium für Entwicklung und Wirtschaftliche Zusammenarbeit (Germany)
BO	Branch Office (UNHCR)
DR	Directorate of Refugees (Uganda)
ECHO	European Community Humanitarian Organisation (Brussels)
EM	Environmental Mitigation
EMP	Environmental Mitigation Project
ESD	Energy Saving Device (like improved stoves, haybox cookers etc.)
ESM	Energy Saving Methods
ETF	Environment Task Force (in Kagera, Tanzania and Northern Uganda)
EUB	Équipe d'Urgence de la Biodiversité (Goma, Zaire / Congo DR)
EWG	Environment Working Group (in Dadaab, Kenya)
GATE	German Appropriate Technology Exchange (GTZ)
GIS	Geographical Information System
GoK	Government of Kenya
GoT	Government of Tanzania
GoU	Government of Uganda
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HEP	International Household Energy Programme (GTZ)
IOM	International Organisation for Migration (Geneva)
IRC	International Rescue Committee (Nairobi and Kakuma, Kenya)
ISAT	Information Service on Appropriate Technologies (GTZ)
IUCN	International Union for the Conservation of Nature
IZCN	Institut Zairois pour la Conservation de la Nature (Zaire / Congo DR)
LRA	Lord's Resistance Army (Uganda)
LWF	Lutheran World Federation (Kakuma, Kenya)
MoHA	Ministry of Home Affairs (Kenya, Tanzania)
MoLG	Ministry of Local Government (Uganda)
MoENR	Ministry of Environment and Natural Resources (Kenya)
MNR	Ministry of Natural Resources (Uganda)
NGO	Non Governmental Organisation
NEMA	National Environment Management Authority (Uganda)
OSCEA	Office of the Senior Coordinator on Environmental Affairs (UNHCR)
PEAP	Participatory Environmental Appraisal and Planning (Uganda)
PIM	Participatory Impact Monitoring
RESCUE	Rational Energy Supply, Conservation, Utilisation and Education (UNHCR / GTZ project, Kenya)
RHA	Refugee Hosting Area
RPG	Refugee Policy Group (Washington D.C.)
SIDA	Swedish International Development Agency
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Education, Scientific and Cultural Organisation
UNHCR	United Nations High Commissioner for Refugees
WFP	World Food Programme

Glossary

While using this handbook, the terms below should be understood in the context of 'refugees / environment / participation'. The brief explanations are not *stringent definitions as the terms are used differently in other contexts. The chapters indicated in brackets provide more detailed information.*

Actors are those who actively contribute – in a positive or negative manner – to environmental change in the refugee hosting area. They form the target group for environmental mitigation projects. Not all actors are participants in formalised structures to mitigate environmental damage. [chapter 3.1]

Benefits see *Driving Forces*

Carrying Capacity of a refugee hosting environment (RHE) is defined as the size of population per area unit which can live in this area and utilise its natural resources *in a sustainable way.* The carrying capacity depends on the productivity of the ecosystem, on the efficiency of natural resource use patterns and on the level of sustained outside supplies. [chapter 1.1]

Driving Forces are the sum of factors including benefits and incentives that lead to increased participation of stakeholders in environmental management. Negative driving forces may push stakeholders into unsustainable natural resource use. [chapter 4.1, 4.3 and 6]

Environmental Fora see *Participatory Structures*

Environmental Mitigation is understood as the pro-active *and* re-active measures to protect and rehabilitate the environment of RHAs. [chapter 1]

Environmental Protection are pro-active measures to avoid reversible and irreversible environmental degradation of the RHAs. [chapter 1]

Environmental Rehabilitation are re-active measures to 'repair' environmental damage to the RHA. [chapter 1]

Geographical Information System are computer aided systems to use spatial data for visualisation, planning and monitoring. [chapter 6.10]

Implementing Agencies are working under the UNHCR umbrella in a RHA. They are not necessarily funded by, but are accountable to UNHCR. The term is often used synonymously used with 'relief agencies' or 'aid providers'. [chapter 3.1 and throughout the text]

Incentives are added material benefits given by the aid providers to induce positive environmental practices. We have chosen this rather narrow definition as it follows the UNHCR terminology used in refugee assistance. [chapter 6.5]

Participatory Structures are formalised meetings or committees for decision making regarding environmental issues of RHAs. They include positions within governments and agencies which focus on enhancing participatory processes. [chapter 3, 4 and 5]

Participatory System is the network of participatory structures in a refugee hosting country, involving all important *stakeholders*, and all important levels of decision-making to manage the RHE. [chapter 2.2, 3.2 and 4.2]

Popular Participation is a term used by the World Bank to differentiate the participation of target groups from the wider approach of stakeholder participation (see below). It is equivalent with our use of the term 'participation'. [chapter 2.1, 2.2 and 3.1]

Principal Actors are the main groups of actors in environmental mitigation / destruction in a RHA. They are usually grouped in Refugees, Local Population, Host Government, International Organisations, Implementing Agencies, Local Organisations and Donors

Refugee Hosting Areas (RHAs) are areas in which the presence of refugees can be felt sociologically, economically and through environmental change. They may stretch far beyond the areas of physical refugee presence. It is used as a synonym for 'refugee hosting environment'. [throughout the text]

Stakeholder is an individual with direct interest in sound environmental management or an institution with a mandate to support environmental mitigation in a RHA. Stakeholders are *potential participants* in this process. [chapter 3.1]

Stakeholder Participation is a term used by the World Bank in acknowledgement of the fact that popular participation leaves out other important stakeholders like the government, interest groups and organisations. [chapter 2.2]

Target Groups see *Actors*