Chapter 13

KORDOFAN AGROFORESTRY EXTENSION PROJECT
Northern Kordofan, Sudan

Project Implementing Agency:
CARE-Sudan

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I. INTRODUCTION

This case describes the experience of CARE in implementing the Kordofan Agroforestry Extension Project in the Kordofan Region of Sudan. The project was undertaken at the same time that CARB was operating the emergency food distribution system for most of Kordofan. The agroforestry program addressed the long-term effects of environmental degradation and desertification in the region, problems which underlay the drought and famine of 1983-85. The Kordofan Agroforestry Extension Project (KAEP) is of particular interest to the IRDP because it illustrates how an agency can devote major energies to meeting the urgent needs of people and, at the same time, attack some of the essential long-term development difficulties that contributed to the crisis.

The Kordofan Agroforestry Extension Project was funded by CARE Canada as a joint effort by CARE and the Forestry Department of the Sudan Ministry of Agriculture and Natural Resources. CARE's role was to provide technical assistance, special material inputs (cement, vehicles, etc.), and budgetary assistance, while the Forestry Department seconded members of its regular staff to work with the project. The Department's considerable network and years of experience were crucial elements in the project.
In addition to the KAEP and food distribution programs, CARE operated other projects in Kordofan including: supplementary feeding, water supply management, renewable resources conservation, household garden re-establishment, seed distribution, women's development, and child health. Thus CARE had developed a multi-sectoral approach in the region. This case history does not treat each of these sectors but focuses only on the agroforestry project.

II. DESCRIPTION OF PROJECT CONTEXT AND CONDITIONS

Sudan is the largest country of Africa and is home to twenty-five million people. The dominant ethnic group is Arabic speaking, although there are an estimated one hundred other language groups in the country. In many ways, Sudan is the meeting point of black Africa and the Arab Middle East. The long-standing conflict between populations of the North and other groups in the South has posed political and economic problems since independence in 1956.

Climatically the country is diverse, ranging from extensive desert in the north, to arid and semi-arid rangelands in central regions, to tropical forest in the far south. The economy is largely agricultural, and development efforts have concentrated in that sector.

Since independence from the British/Egyptian condominium in 1956, Sudan has had successive periods of democratic and military rule, culminating in the long military-dominated rule of President Jaafar al Nimeiri from 1969-85. Nimeiri was deposed in 1985 in a military coup d'état. However, the conflict with the South has continued since the restoration of civilian government. Sudan has also experienced economic pressure (and internal dissension) due to the presence of about one million refugees, coming from Chad to the west, Uganda to the south, and Ethiopia to the east. In addition, diplomatic relations between Sudan and Ethiopia have been strained as each country has been seen to support insurgencies against the other, with Ethiopia supporting the movement in Sudan's South, and Sudan providing sanctuary for Eritreans and Tigrayans. These conflicts claimed resources that Sudan might otherwise have had available for development efforts.

Background to the 1983-85 Drought

At the time of the 1983-85 drought, there were approximately seventeen million feddans (1 feddan = 1.04 acres or 0.42 hectares) under cultivation in Sudan. Of these, only four million feddans were irrigated. Therefore, a large portion of Sudanese agriculture was dependent on rainfall, and consequently has been subjected to the periodic droughts that
affect the Sahel. In both 1982 and 1983 the rains were poor in many areas of Sudan. In 1984 they failed altogether. The scant stored grain reserves had already been used to cope with earlier shortages; by late 1984 the situation was desperate. In addition to crop losses, much of the livestock died, destroying the means of livelihood for many nomadic people and those sedentary populations who also relied on animals.

Prior to 1984, the government did not have a functioning early warning system. Full recognition of the size and extent of the problem came very late. The migration of large numbers of people to urban areas signalled the crisis to the government. An appeal was issued to the international community for assistance, and by late 1984 relief efforts had been initiated by donors in Europe and North America.

Northern Kordofan

The Kordofan Region of Sudan occupies a huge square in the center of the country, although it is usually considered part of the “West” (which also includes the Darfur Region). It is one of the largest of the regions of Sudan, with 381,000 square kilometers, stretching 750 km by 525 km. The 1983 census indicated that the region held 3.24 million people. Of these, 63 percent were settled farmers, 24 percent were nomadic or semi-nomadic herders, and 13 percent were urban dwellers. The capital of the region is El Obeid, located in the southern part of Northern Kordofan.

The region includes rich savannah in the far south, semi-arid clay plains in the center, arid bush further to the north, and, finally, true desert to the north and west. The agricultural activities in these climatic zones include livestock herding in the bush and desert regions, traditional and mechanized grain farming in the clay plains, and other farming and cattle raising in the far south.

Of particular interest to this case is the “gum belt” which is in Northern Kordofan, south of the desert. Here rains have averaged 300-600 mm per year, and farmers planted mostly millet and sorghum with some sesame and peanuts. Following traditional practice, these crops were grown for about five years, followed by fifteen to twenty years when Acacia senegal or Acacia seyal, the source of gum arabic, was planted. This traditional rotation system allowed regeneration of the soil (the acacia is a fairly good nitrogen fixer), provided a secure dry season crop, retained soil and provided fodder. Also, gum arabic was one of Sudan’s major export crops. In the years before the drought, due to factors that will be explained below, this rotation/fallow system had broken down, contributing to soil degradation and desertification.
Northern Kordofan was ecologically fragile and under increasing pressure from population growth, drought, changing agricultural practices, and demands for wood for charcoal.

Vulnerabilities of Northern Kordofan

**Physical/Material Vulnerabilities**

CARE's proposal for the Kordofan Agroforestry Extension Project summarized the agricultural vulnerabilities of the area:

- Kordofan is currently beset by a number of severe economic problems, the most obvious of which are drought and famine. The agricultural economy of the region is floundering and family incomes have fallen. In recent years, desertification has been occurring at an alarming rate. Some of the main indications of economic destabilization are as follows:
  1. Crop yields per unit area have declined dramatically over the past twenty years in the traditional rain-fed sector. Yields of sesame, millet and groundnuts have fallen by up to 80 percent and sorghum by 50-70 percent.
  2. Sedentary cultivation has expanded far to the north of the traditional agronomic dry limit (250 mm isohyet\(^2\)), thus severely reducing the nomadic rangelands.
  3. The gum arabic land rotation has all but disappeared in most areas of Northern Kordofan as farmers attempt to cultivate their land for up to eight to ten years, exhausting soil fertility and creating further dehabitation through wind erosion.
  4. Widespread deforestation has occurred as a result of expanding agriculture, decreasing forage supplies, increasing prices for charcoal, decreasing production of gum arabic, and an increasing urban demand for cooking fuel. Large tracts of natural *Acacia senegal* stands have died because of drought. Gum arabic production in 1984/85 for Kordofan was 25 percent of the 1983/84 figure and only 15 percent of the average annual production of the 1970s.
  5. Previously stable dunes have been rendered active through deforestation and overgrazing, in some cases threatening a number of communities practicing small-scale irrigated agriculture in wadis and depressions.
  6. Livestock numbers expanded to a pre-drought level of 75 percent above the rangeland's carrying capacity, severely depleting the grazing resource and preventing natural regeneration of shrubs and trees.

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1. This was one of the earliest cases written by IRDP and, as such, did not include a pre-project capacities analysis. The importance of the early assessment of capacities was a lesson learned through successive project visits. The impact of the project on capacities is discussed later in the case.

2. Isohyps are rainfall regions. For instance the 250 mm isohyet receives an average of 250 mm of rainfall per year.
7. Unfavorable pricing policies and marketing structures have reduced the real returns of gum arabic producers to levels of questionable economic viability. A farmer may earn up to 200 percent more from charcoal production than from gum arabic per unit land area in any one year, which acts as a disincentive to maintaining natural and planted stands of *Acacia senegal*.

In addition, water, or the lack of it, was a matter of constant concern for Northern Kordofan. Water yards, with powered pumps, were constructed in the area. These have become gathering points for settlements which have led, in turn, to deforestation and overgrazing. An added problem has been maintenance of the pumping equipment. The government water department has been responsible for maintenance but often it has not had the resources to fulfill this responsibility. Many of the traditional catchment methods have deteriorated, due to poor maintenance and overuse. These problems have especially affected the nomads and their livestock who depend on a complex network of water sources. They have put further pressure on the mechanical borehole water yards, leading to conflicts with settled people.

Health is poor and health care scarce in Kordofan. Rural people are especially vulnerable to water-borne diseases and to the diseases of childhood that could be prevented through immunization programs. Health problems are compounded in times of drought when people become more susceptible to killing diseases.

Basic infrastructure is lacking in most of rural Kordofan. There are no permanent paved roads. In the rainy season many areas become completely inaccessible by vehicle, making marketing problematic. Most rural communities also lack electricity, storage facilities, or adequate school buildings. These factors are both symptoms and causes of the poverty of rural Sudan, leaving communities with limited capacity to cope with crises such as drought.

Pests have been a major problem for farmers, particularly in the period following droughts when many natural predators have died or migrated. Unfortunately, the pest population always springs back more quickly than that of the control animals. Locusts, grasshoppers and rodents have caused major crop losses over the years.

**Social/Organizational Vulnerabilities**

Villagers in rural Kordofan have remained isolated from each other and from any central authority. There have been no regular means for communicating and, as noted, roads have often been impassable. Reports about conditions and needs in outlying areas, therefore, often have not

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reached the towns. While in "normal" times this has not posed a problem, in times of crisis isolation of this kind can mean that government or private agency assistance is slow in coming.

In terms of local leadership and government administration, rural Sudan has seen several changes since independence. Prior to the Nimeiri years, local government operated through what was called "Native Administration," a hierarchical system of traditional leaders. At the top of this system, for each tribe, there was a nazir who worked with several umdas, each of whom was responsible for several villages. There was a sheikh in each village. Conflicts between tribes over grazing or water rights were handled by the nazirs of the tribes in question. The Nimeiri regime abolished this system, replacing it with officers appointed by the central government and with a local party-based organization (the Sudan Socialist Union). As a result, many conflicts had to be contained by military or police action, and mobilization of people often failed. This system also proved, in the event, to be ineffective for organizing the delivery of relief goods to the local level.

After the coup d'etat of 1985 which removed the Nimeiri regime, the Native Administration system was reinstated. However, after 15 years of disuse, it has taken time to return to its former effectiveness, and resources for government programs have often been sorely lacking.

Partly as a result of these changes in rural administration, many villages in Kordofan have lacked an effective means for discussing village problems, generating solutions and implementing development.

As a consequence, villages have generally not been able to demand services from various government bodies. In some cases a powerful sheikh has exercised personal leadership and political clout to press for water yards, schools, etc. Because the Sudanese government departments lack resources to meet all the needs at the village level, those villages which tend to be closer to the towns, get what is available.

We have already noted that there is increased conflict between nomadic and sedentary groups in Kordofan. Sedentary agriculture has expanded into areas formerly reserved as rangelands for nomads. There have been increasing disputes over available water. The regulation of land use among farmers and nomads has been a major planning and implementation challenge for the government. The unresolved land and water conflicts increase organizational, as well as physical, vulnerability for the region.

Motivational/Attitudinal Vulnerabilities

Lack of resources and isolation have weakened initiative for generating ideas and solving problems in Kordofan. People in Northern Kordofan have learned to wait for government or some other agency to come to solve their problems. On the other hand, field workers have found
that people are not hopeless, but are quite responsive. Once some initiative has been taken and skepticism has been overcome, village people have shown that they are interested and innovative. As we shall see below, after the CARE-supported project began to show some success, new ideas and plans began to spring up among villagers.

III. PROJECT HISTORY AND DEVELOPMENT

Program Initiation

CARE has been involved in Kordofan since 1982, working on water resource management and energy conservation (especially fuel-efficient stoves). In late 1984, CARE was chosen to distribute food to famine-stricken people, first in Northern Kordofan and later in Southern Kordofan as well. An initial 41,000 MT of sorghum (and an eventual total of 250,000 MT) were donated through USAID. CARE also operated a supplementary feeding program in the region for pregnant and lactating women and children under age five. They also distributed seed for the re-establishment of grain crops and household gardens.

Despite this intensive emergency program with its typical preoccupation with logistical problems and the reality of human death and desperation, CARE began to think about the long-term environmental trends in the region—the origins and effects of the drought and the other dynamics of environmental degradation and desertification. In August 1985, at the height of the drought relief program, CARE staff in Sudan drew up a long-term development strategy for CARE's work in Kordofan, and a detailed plan for work in forestry. Staff, who included several foresters or geographers, saw forestry as crucial for halting desertification and restoring the viability of agricultural activities in Northern Kordofan. The new forestry program began activities in November, 1985.

Project Design

The Kordofan Agroforestry Extension Project (KAEP) was designed to build the agroforestry skills of local people. It also combatted the destruction of natural and planted stands of Acacia senegal which had been ravaged by drought and its secondary effects such as the cutting and selling of trees for income. The program aimed to re-establish rural income from gum arabic in Northern Kordofan. The project helped establish community nurseries controlled and operated by local villagers. It also created and supported a network of forestry extension workers to provide technical assistance at the village level in key areas of the region. CARE worked closely with the government Forestry Department and supported the
increase in institutional capacity of that key government agency. Apart from two expatriate technical workers, the staff of KAEP were all seconded from the Forestry Department and were to remain with the Department when CARE's involvement ended. Project planning documents which describe the goals of KAEP are described below.

**Project Goals**

**Final Goal**

The final goal of the Kordofan Agroforestry Extension Project is to increase the sustainable agricultural productivity and income-generating capacity of 50,000 rural inhabitants in at least sixty villages in the Kordofan region through the planting and long-term maintenance of 1.8 million trees.

**Intermediate Goals**

1. Sustainable, self-financing operation of 60 village nurseries by 1990 (i.e., total annual revenue exceeds total annual costs).
2. A self-help tree-planting effort, whereby villagers purchase, plant, and tend seedlings produced by village and demonstration nurseries:
   - 100,000 seedlings planted in FY '86
   - 200,000 seedlings planted in FY '87
   - 350,000 seedlings planted in FY '88
   - 500,000 seedlings planted in FY '89
   - 650,000 seedlings planted in FY '90
3. Establishment of an effective, region-wide agroforestry extension system, as part of regional operations of the Forestry Department, reaching all sectors of the rural population, and increasing their awareness of the benefits of specific agroforestry techniques.  

Not mentioned explicitly, but an integral part of the project, was a program of agroforestry and environmental awareness and practical skills training for young people through the school system.

**Project Development**

**Village Nurseries**

In its first year, KAEP established six village nurseries, five of them in Um Ruwaba district to the east of El Obeid and one operated by a local secondary school outside of El Obeid town next to KAEP’s own demonstration nursery. The five Um Ruwaba nurseries were chosen because they each had a reliable source of water from a water yard that had

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previously been rehabilitated by the CARE water program. The nurseries used runoff water from the water yards. CARE provided materials and technical assistance for building a sunken tank to collect the runoff water. The Forestry Department provided seeds and plastic bags for seedlings. The villages provided labor for building the tank and seed beds and materials for fencing and shade.

As the first step for setting up the village nurseries, KAEP staff initiated a village meeting in each prospective nursery site to present a proposal for the project and to hear the reactions of local people. If the response of villagers was positive, the village elected a nursery committee, usually including the local sheikh and other important people. This committee was to mobilize people to work on the nursery, select a paid nurseryman and determine policies for the sale of seedlings and vegetables produced in the nursery. They would also help determine the needs for seedlings in terms of both quantity and variety. These committees included both men and women, although the participation of women in the program was lower than that of men. In some villages, women set up their own committee and suggested new activities and additional tree varieties to support their traditional work roles. An example was their suggestion to grow henna plants used for making dyes.

The main species planted included *Acacia senegal* for gum arabic, *Acacia mellifera* for live fencing, and other varieties for fruit or household shade. After the poor germination of Forestry Department seeds the first year, villagers were trained to collect seeds from healthy specimens in their local areas.

The costs of operating the nurseries were lower than expected. In most cases, the villages have been able to pay the nurseryman out of proceeds from the sale of seedlings and vegetables. In the dry season, when tree seedlings were not being grown, the nursery areas were used to grow vegetables, and income from their sale was split with the nurseryman. Thus, for the first time, the villages had funds that were completely in their control and held in common. Villagers have generated ideas for use of the funds and for expansion of the vegetable gardens/tree nurseries. Village people became more excited and committed to the effort once there was real income (however small) from the project.

Although the nurseries were successful in growing seedlings, the quantities produced were below targets because of difficulties getting started and low germination of Forestry Department seeds. In addition, a large percentage of the planted seedlings were destroyed by gerbils which pulled them up and ate the leaves. Remarkably, despite these setbacks, the village committees remained enthusiastic about the coming years and continued to change and expand the program.
After the first rainy season, CARE commissioned a village survey, using non-KAEP people drawn from other CARE projects, and staff from the Forestry Department and the government Statistics Department. They talked with village people at each of the nursery sites. They reported wide acceptance and enthusiasm for the project. The survey also showed that people wanted increased numbers of seedlings, despite the losses from rodents the first year. In a few cases, people thought the nursery belonged to CARE (or to the CARE staff person who had come to help build the tank and set up the nursery). Those misconceptions were addressed through village meetings and close work with the village nursery committees.

In 1987, the ongoing support of the Um Ruwaba village nurseries and regular contact with the field extensionist assigned to this area was turned over to Save the Children (USA) which worked in the district while CARE/KAEP moved on to setting up nurseries in En Nahud district to the west.

*Agroforestry Extensionists*

The emphasis of the extension program was to establish a sustainable corps of foresters trained to work at the village level to support and mobilize people to work with trees, to re-establish gum gardens and to plant fuelwood lots. CARE was determined not to become involved in paying for efforts or materials that could not be sustained by the Forestry Department (FD) after CARE’s role was finished. All of the staff of KAEP were seconded from and paid by the FD, with the exception of two expatriates who were counterparts to FD staff in management roles and worked as project coordinator and extension coordinator. Thus, CARE focussed on building the capacity of the existing government structure, rather than establishing a parallel and competing organization.

A key element of this aspect of the program was the training of field workers in extension skills. All FD staff knew a good deal about trees and their care, but few knew how to work with village people to pass those skills along. CARE/KAEP set up a training program that will be utilized by several other forestry programs in the region (UNDP, UNICEF, etc.). The FD people chosen as field extensionists were forest overseers, FD workers who were secondary school graduates and who worked in their home areas. These overseers seldom advanced in the department since they lacked the required paper qualifications and could not find opportunities to take the few available courses. By working with people who were committed to their local area and unlikely to move away through advancement, CARE was able to support the development of a fairly stable cadre of extensionists. Part of the training of the field extensionists involved teaching them how to work with women. KAEP hired a woman with experience in village organizing to help male extensionists understand how to reach women with their extension program.
The KAEP program placed extensionists in the countryside with responsibility for working with a designated set of villages where nurseries had been established. In the past, FD workers did not have direct contact with rural people, except to enforce laws regarding tree cutting (when possible). To encourage work at the village level, the field extensionists were given an incentive allowance, a donkey or camel for transport, and a house to live in. In each district in the region, an assistant conservation forester supervised five field extensionists. Eventually, the program hoped to place an extensionist in each rural council (of which there are forty-seven in the nine districts of Kordofan region).

The duties of the field extensionists, as described in CARE/KAEP program documents, were as follows:

- He/she travels by donkey, camel or horse and conducts continuous extension to all (men, women, children, settled and nomad) at village gatherings, in individual houses, in schools, and through committees and other groups regarding the following:
  - a) agroforestry awareness;
  - b) ideas for agroforestry initiatives in the rural areas;
  - c) techniques required to initiate and sustain agroforestry initiatives; and
  - d) follow-up information and assistance to all conducting agroforestry activities.

In 1986, the establishment of this network had just begun. The first training session for field extensionists was scheduled for February 1987. In the course of its work with the Forestry Department, CARE was also to provide funds for the construction of an office building to house the central office for the Agroforestry Extension unit in the FD compound in El Obeid. Housing the unit with the rest of the FD was intended to help integrate its activities with the ongoing activities of the department.

**Education and Awareness**

The education portion of KAEP was part of the extension effort, but it concentrated on schools and used teachers as agents, rather than the FD field extensionists. The school curriculum for Sudan includes units on "practical science" for rural areas. However, few teachers have been trained to teach such units and curriculum materials and/or budget supports have rarely been available. KAEP worked with the School Gardens and Nutrition Program under the Ministry of Education to promote the practical science curriculum and garden plots in school yards where actual horticulture and agroforestry skills were learned. The schools got fruit and shade trees for their compounds and grew vegetables to improve the

nutrition of children. KAEP had two staff people devoted entirely to working with schools and teachers, one of whom, a woman, had been a teacher of practical science and was in a good position to assist other teachers with practical suggestions.

Another aspect of the program was the production of educational materials for use in schools, such as a comic-book-style environmental magazine for children, modelled after successful examples developed elsewhere in Africa. Film strips and posters were also planned. KAEP also produced T-shirts printed with a tree and slogan which were widely distributed and quite popular.

IV. CAPACITIES AND VULNERABILITIES
ANALYSIS OF KAEP

The main thrust of the KAEP/CARE program was organizing village-based activities, disseminating skills for agroforestry, training field extensionists, and raising awareness regarding environmental issues. The orientation of the program was not on the provision of large amounts of material goods or funds, but on mobilizing and training human resources for working on the serious ecological and economic issues of the region. The immediate physical payoff from this approach would be relatively modest, but was expected to blossom as the project matured.

Physical/Material Capacities and Vulnerabilities

If successful, one of the main effects of the KAEP would be to slow the pace of desertification and soil degradation in Northern Kordofan, through re-establishment of gum arabic production and fallow rotation for rain-fed grain crops. By promoting local village action, the program was to mobilize large numbers of people in this campaign, with potential for a great physical impact on the environment. Previous efforts based solely on understaffed and under-budgeted government agencies could not hope to generate the kind of mass human effort necessary for combatting the serious ecological challenges of the region.

The project concentrated on developing a sustainable model for village agroforestry activities that could be perpetuated with no ongoing outside inputs, apart from the technical assistance and moral support from the FD field extensionist. By 1986, the nurseries in the five Um Ruwaba villages had already proved to be self-sustaining in financial terms, meeting some of the demand for seedlings, paying for the services of a nurseryman, and even providing a small surplus which the village nursery committees applied to improvements in the nursery or other village projects.

An expected physical benefit of the program was an increase in income from gum arabic for rural farmers. The combination of pressures
from fuelwood demands, population increases, and the poor pricing and marketing incentives for gum arabic had devastated the industry in Sudan. With new pricing policies in place, plus these new efforts at the village level, there was hope that gum arabic production could again become a stable and significant source of income for rural communities. The diversification in income sources for farmers would also help make them less vulnerable to the consequences of drought.

The village nursery program created the additional by-product of vegetable growing. This provided additional income for some individuals and for the village fund plus additional nutritious food. In coming years, fruit trees produced in the nursery should also provide food and income for villagers.

Social/Organizational Capacities and Vulnerabilities

The impact of the KAEP program in the social/organizational realm was in two areas: 1) the development of a network of field extensionists under the Forestry Department; and 2) development of village-level organizations to take responsibility for agroforestry initiatives.

The KAEP program had a strong commitment to institution-building in the Forestry Department. The program aimed to develop a group of forestry officials to work directly with people in rural communities on issues relevant to their economic well-being and the long-term ecological viability of the area. This differed from past patterns of FD work. By training staff in the skills for working at the village level and by providing them with the means (transport, housing) and incentives for doing the work, the FD was establishing a system for penetrating rural culture and affecting the way local people interacted with their environment. The Forestry Department could become more closely integrated into rural life, rather than being a remote government agency. As an agency, they gained allies in the effort to combat desertification and promote reforestation—an impossible task for them alone. In general, the scheme had low costs with high potential returns.

At the village level, KAEP promoted new social units in the form of the village nursery committees. Although KAEP only provided minimal material inputs to set these committees in motion (tools, cement, technical information, seeds, bags), in the villages that established nurseries, the committees became an effective force. In most cases, the main village leaders, including the sheikh and other members of village councils, were involved. The mechanisms of the nursery program demonstrated what could be done. The committees will continue to generate small amounts of money for village projects, adding to their sense that they can get things done.
While the longer-term impact of the village committee structure is unknown, some committees began to generate ideas beyond the limits of the nursery program. CARE staff found on several occasions that when they called village meetings to talk about the establishment of village nurseries, people were eager to talk about other issues that were on their minds. Villagers commented that they had rarely come together to discuss problems. In several cases where CARE helped set up a village committee to deal with the tree nursery, the village took up other efforts that would affect village life or development. In addition, meetings about the nursery became forums for discussion of other village issues.

The KAEP program also provided a mechanism for gaining interagency cooperation among government departments, linking forestry with water management and with schools. The program could begin to break down the isolation of the villages and increase their contact with government departments that could assist them. At the same time, they were engaged in an effort that they could sustain on their own without dependence on outside help.

The KAEP program may not directly affect the conflicts among tribal groups within villages or between sedentary farmers and nomadic groups. It did plan some initiatives with nomads which could affect their relationships to trees, ground cover and fodder, and to the agricultural communities they move through annually.

Attitudinal/Motivational Capacities and Vulnerabilities

The main effect of the KAEP program was naturally on the people in the villages which had village nurseries. KAEP staff remarked on the transformation of village nursery committees once they saw actual income from the sale of seedlings. The cash in hand had a profound effect on their sense of what was possible with a little help and encouragement, and with organized effort on the part of people working together for common benefit. While the experience in each village was different (due to different leadership, different local conditions, different understandings of the project, different levels of involvement by women), each of the six villages was consistently enthusiastic about its nursery and its potential to benefit the community. This was significantly different from villages where there was a sense of waiting for someone else to intervene to help them. In the short term, KAEP seemed to have broken through a sense of inertia.

KAEP staff noted that villagers expressed a commitment to continuing the nursery project, despite widespread loss of seedlings to rodents in the first year. Another significant indicator of new capacity was the willingness of villagers to undertake activities that would not bear fruit for several years. They were willing to take risks, and to act for long-term future results.
A Note About Training and Education

As already noted, the main focus of the KAEP effort was in organizing people, passing along crucial skills and information, and raising awareness of critical environmental issues. Each element of the project concentrated on spreading knowledge and practical methods for addressing vulnerabilities through working with the Forestry Department, training field extensionists, establishing village nurseries and committees, training teachers, providing curriculum materials on the environment, and supporting school gardens.

V. LESSONS AND DILEMMAS FOR FUTURE PROJECT DESIGN

The CARE/KAEP project raises several issues that are useful to consider in terms of future programs in similar settings.

Education and Training Focus vs. Material Goods

KAEP focussed much of its effort on training specific groups of people (extensionists, teachers, village nursery workers) and on education in communities about environmental issues. The project provided remarkably few material inputs, recognizing that where the essential elements of a forestry campaign were present (seed, soil, water), the main constraints were knowledge and the mobilization of human energies. Many programs, particularly those in emergency settings (conditions under which KAEP began), assume that material needs are the most important. Under that assumption, there is a danger of providing too many goods, and thereby overwhelming potential community initiative. KAEP provided just enough material and personal support to make the program attractive, while clearly expecting full engagement and contributions from the communities. Thus, the organization of people and transmission of skills were as important as the actual trees planted and gum arabic production. In fact, the two are interrelated and CARE’s programming approach relied on this.

Work on a Long-Term Issue in an Emergency Context

The Kordofan region had not recovered from the 1983-85 drought and famine when CARE proposed KAEP in mid-1985. Yet the effects of the reforestation program would not be felt in material terms for several years in terms of tree and gum production. By the time the program started, in November 1985, farmers were just seeing the results of their first good harvest in three years, but food distribution continued through most of 1986 while famine conditions persisted in some areas. Despite these conditions, farmers proved to be risk takers, and, with a little encouragement and
modest success, initiators and innovators. The common assumption that drought/famine victims will not act for the long term or that they do not have community resources for doing so was proved false, at least in this case.

Focus on Institution Building

NGOs are often faced with the choice of setting up new organizations or working with existing institutions, however imperfect. In this case, KAEP chose to build the Forestry Department's capacity rather than establish a network of village forestry efforts outside of the FD's involvement. In this situation, the prospect for sustained follow-up to village-level efforts was greatly enhanced by working with and through the FD.

Sustainable Program Model

CARE consciously chose a strategy that was sustainable. The village nurseries could be financially viable. The Field Extensionist Program relied on existing FD staff. The other material inputs from CARE were very modest. When poverty and suffering are severe, agencies often feel they should provide significant material and technical resources to gain solutions. Such goods, funds, or technical assistance are usually welcomed by local people. But reliance on significant amounts of external inputs may, in fact, cause the ultimate failure of a program. The NGO must find the proper balance between giving enough and giving too much.

One concern is how the KAEP program will be evaluated. In the early stages, quantitative measures of numbers of seedlings produced and planted, and numbers of nurseries established, were low. More important were the strength of village level organizations, the understanding and commitment on the part of field extensionists, and the effective dispersal of knowledge in the community. However, these factors are difficult to measure, and therefore, to evaluate. They are the foundation on which later, measurable production must be based. Setting evaluation criteria that capture both measurable and non-measurable gains is difficult, but necessary, if programs such as KAEP are to be accurately assessed.

Dilemmas Regarding Participation

CARE/KAEP brought a pre-packaged program idea to the villages. They did not come in with an open agenda asking what people wanted, prepared to negotiate a different program with each village. This approach had the strength of being specific and practical. Villagers were not required, on fairly brief acquaintance, to negotiate a long-term relationship with the project for an ambiguous set of objectives. Nor were they asked to assess
their own needs. The short-term success of the nursery initiative did, however, provide an opening for further and more open-ended program exploration. Once the nursery operation was running well, and village people sensed their own ability to accomplish something, they were in a stronger position to identify needs and generate possible solutions than they would have been before the nursery effort. In effect, they developed the ability to be an equal party to program negotiations.

The issue this raises is how to encourage participation in project design and implementation that fits the context, engaging local people at a point where they see the gains from being involved and move into positions to shape and control project activities. In a situation where needs are apparent to everybody, needs assessment by participants wastes time and is redundant. Beginning with the creation of local organization through which capacities are recognized and increased makes more sense.

REFERENCES: CARE Documents

"Extension Component," (annex to above documents).

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