

Summaries of 12 ADF-Funded Projects Visited by OTA¹

Farm Rehabilitation for the Agricultural Society of Dagnare

Organization: Dagnare Agricultural Society
 Site: Three sites in western Niger (Dagnare, Lamorde, and Ganky-Bassarou)
 Activities: Rehabilitate irrigated fields (pumps, pipes, canals, control gates, wells) and provide tools and technical assistance.
 Grant Size: \$88,817

The Setting.—The fields of the Dagnare Agricultural Society (a form of village-level cooperative known as a *mutuel* in French) are the first that will be rehabilitated under this project; they are located across the Niger River from Niger's capital, Niamey. The lands to be irrigated for the Lamorde Agricultural Society are located several kilometers upstream, on the outskirts of Niamey. Those of Ganky-Bassarou are located approximately 45 miles south.

The OTA team visited two of the three sites. The contrast between the membership of the two groups is striking. In Dagnare, the participants are relatively well-off civil servants (mostly retired) or other salaried workers; poor farmers predominate in Ganky, although a definitive profile is impossible since eventual participation in the project for the Ganky *Mutuel* is still undetermined. Dagnare members describe the participants in the Lamorde *Mutuel* as falling somewhere between the other two in terms of socio-economic profile.

The *mutuel* form of agricultural organization is encouraged by the Niger government as the most appropriate ownership/management formula to implement its strategy of small-scale production projects. The Dagnare *MutueZ* is one of the oldest *mutueh* in Niger. It began in 1965 with a government grant of land and credit to its original founders—a small group of 13 influential civil servants. The breakdown of its pump in the mid-1970s and a decline in political favor following the fall of former President Diiori disrupted the irrigation



Photo credit: OTA/George Scharffenberger

Leaders of the project at Dagnare.

scheme. Despite the fact that little production has taken place over the decade, the group remains well-organized, cohesive, and participatory due largely to dynamic leadership, the educational level of its members, and the improved prospects provided by ADF funding. The group has regained much of its lost influence and includes members of several of the capitol's most powerful families. Six of the fourteen members are women, most widows of original members. Several are active in group management and decisionmaking.

By contrast, the Ganky *MutueZ* is new and poorly organized, and has uncertain objectives. The village received brief fame 2 years ago when the Niger government held up the community's initiative in dry-season manioc production as a model for the rest of Niger. In fact, however, production and marketing was largely on an individual basis rather than through the *mutuel*.

Interviews with community members show that they have poor information about the proposed ADF-sponsored activity (especially women), a low level of participation in project design and a concentration of control in decisionmaking in one family (the family of the president of the Dagnare group). A *mutuel* does exist in Ganky but written records were inaccessible or non-existent and its officers were uncertain as to who was or was not

¹These 12 summaries provide an overview of the 12 ADF projects in Africa that were visited by OTA'S field assessment teams. Each contains details about the project, its setting, the sponsoring organization, and the findings of the OTA team.

a member or how membership was determined. Group leaders estimated the members at 300. Community members made little distinction between the local cooperative (a larger unit grouping several villages) and the village-level Ganky Mutuel. The question of access to the irrigation scheme was equally unclear.

Increased variability in the timing and quantity of rainfall across Niger has exaggerated the vulnerability of its rainfed cropping systems. For the individual farm household, this has translated into erratic and generally lower income and food supplies. Although Niger has performed better than many Sahelian nations facing similar conditions and its exports of uranium did provide some respite, the decline in agricultural production has meant increased fiscal and trade deficits. Tapping the irrigation potential of the Niger River is seen by both farmers and the government as one means of breaking this decline. As a host of problems have surfaced to dampen the high level of expectations associated with large irrigation schemes, Niger has begun to encourage small-scale irrigation as a viable alternative.

The Project.—The Dagnare project began as a proposal from the Dagnare group to finance the rehabilitation of their existing irrigation scheme—principally by providing new electric pumps and repairing canals, gates, and other facilities. The group attempted to get commercial credit since 1976 but was unsuccessful. A number of private voluntary organizations (PVOS) were also contacted but the proposal was rejected because of the group's relative wealth. Encouraged by the ADF Foundation Representative, Ganky and Lamorde were included in the proposal after ADF had rejected it twice because of inappropriate economic level of the Dagnare participants. A new organization was proposed which would link the three agricultural societies. Dagnare is to play a leading role and provide technical assistance and support to the other two areas.

The details of the Dagnare efforts are the best documented in the proposal but many aspects remain to be worked out by the Dagnare group with the help of ADF-funded technical assistance. Details of the other groups' plans have been left to a later date. A key element of the proposal is that each group will pay back 20 percent of its grant into a revolving fund that would be used to support future credit needs for the three groups or others,

As of the OTA visit, little had been accomplished. Although the Dagnare group had received funds after considerable delays (caused by problems with

the group's legal status and ADF's fund transfer mechanism), the funds remained untouched in the group's account for 2 months. The Dagnare president felt they had not received clear instructions from ADF that they could begin. The group had held planning meetings and made contacts with the equipment suppliers and technical services they would need to implement their scheme. In Ganky, four meetings on the ADF project had been held but the level of understanding and preparation for the project is low among the members of the community. One reason for the delay is that the family head on whose land the project is to be installed is ill. Related to this, the OTA team raised questions about the security of land rights for the project, since everyone in the community referred to the area as "the old man's land." The land is currently being farmed during the dry season by women who use it to grow vegetables. When asked, village leaders informed the team that only family heads (i.e., men) would be given plots in the new irrigation scheme. Women, they said, would be given other land to grow their vegetables.

Conclusion.—OTA'S assessment team was unanimous in its conclusion that the Dagnare project should not have been funded in its present form. Although the logic of ADF's argument in funding a relatively better off group of people who would use their higher level of education and organization to assist poorer farmer groups is persuasive, the team felt that such an outcome was unlikely in this case. The Dagnare group has not proven themselves to be effective farmers, they view the irrigation scheme only as a supplement to their income rather than a principal economic activity, the economic viability of their own scheme is questionable, and the group members expressed serious reservations about their role as advisors to other groups. Finally, the Dagnare members were largely unaware of and opposed to the idea of reimbursing 20 percent of the grant sum for loans to other groups. Since there is little likelihood that Dagnare will be an effective catalyst to help poorer farmers develop their productive potential, there is little justification for supporting them under ADF's mandate.

One alternative ADF could have used would have been to fund the other groups directly without going through Dagnare. Providing those groups with a technical assistance fund to pay for the services that the Dagnare group is supposed to provide could have been as effective and certainly less expensive if the main objective of the project were to help these poorer groups. This solution would have been

equally problematic, however, because the Ganky group clearly lacks organizational strengths, it has shown a low level of participation in program design, and questions exist about that scheme's technical and economic feasibility.

The OTA team's prognosis for the future of the Dagnare project is not enthusiastic. The dynamism and know-how of the Dagnare core group will probably lead them to reach their own objectives in the short to medium term, but these objectives are much less grandiose and altruistic than those in the project documentation. Ganky's and Lamorde's fate are less certain and much more problematic.²

Dakoro Herders' Cooperative

Organization: Dakoro Herders' Cooperative
 Site: Bundu Eggo, Niger
 Activities: Reconstitute livestock herd, repair well, establish cooperative store, provide literacy training, and improve animal and human health.
 Grant Size: \$7,255 (planning grant); \$108,275

The Setting.—Bundu Eggo (literally Eggo's well) is a nomad camp consisting of a 74-family community founded by the ancestor of the current population who dug the well and gave it his name. The well is also used by other communities living in the surrounding valley. During the rainy season, Bundu Eggo is home to only a few members of the community who live in its four mud and thatch huts. During the dry season, depending on that year's grazing and watering strategies, other members of the community come to stay, building temporary structures from poles, hides, canvas, and cloth. The camp is 60 kilometers north of the local administrative town, Dakoro, which in turn is a 10-hour drive, mostly on good paved road, east of Niger's capital, Niamey. Bundu Eggo is connected with Dakoro by a dirt track in generally poor condition. Just outside Dakoro, rainfed cultivation ceases because rainfall is too scarce and uncertain. It is an area of wide undulating plains punctuated by widely dispersed sand dunes—the border zone between the true desert to the north and the arable savannah.

The vast majority of the participants involved in the Dakoro Herders' Cooperative project (50 of the 74 families) are from the Bundu Eggo camp and are nomadic herders of the Kasasawa group of woodabe—a sub-family of the Fulani ethnic group. The other

participants (10 from the Farfarou sub-family of the Fulani and 14 of the Touareg ethnic group) are from other camps in the same valley. All participants are men selected for participation by the traditional hierarchies of the individual groups. For the Kasasawa, need as well as willingness to maintain livestock were major factors in selection for participation, according to the project's leader. A disadvantaged minority in a very poor country, the nomadic herders who will participate in the project are easily among the poorest one-third of the total population.

The project idea originated with the Kasasawa who, in response to the loss of large proportions of their herds in the early 1980s, had formed "Kungal Fado Mango" or KFM—literally, "the organization born of large strides." KFM built on and strengthened traditional family and community bonds to seek common solutions to their threatened way of life. The other groups were added as beneficiaries of what came to be called the Dakoro Herders' Cooperative project at the insistence of the administrative authorities in Dakoro, who feared potential difficulties in favoring one ethnic group over the others. Although the other groups were accepted by the Kasasawa as beneficiaries of new livestock, the Kasasawa did not plan to include them in other components or in decisionmaking. No meetings uniting all participants or beneficiaries had taken place other than those organized by ADF or its contractors.

As stated above, the project is primarily in response to a major loss of livestock experienced in the drought years of 1983 and 1984. An ADF-funded technician calculated this drought killed nearly 40 percent of all livestock. Its other components address additional concerns which support a strategy of increased sedentarization. The negative experience of having to flee with their herds into Nigeria several years earlier had motivated several of the group's leaders to seek external support to lower their vulnerability during drought years and permit the Kasasawa to stay in their own grazing areas. The Bundu Eggo group has a longstanding relationship with an American photographer, Carol Beckwith, whose book and articles have provided them with special access to the outside world. It was Ms. Beckwith who introduced the group to the future ADF Foundation Representative, who was then in Niger working for a different organization. These contacts provided the avenue that led to ADF support.

The Project.—The Dakoro project represents two ADF grants. In late 1985, ADF approved a \$7,255 planning grant to provide technical assistance to

²ADF reports that subsequent to the OTA team visit, the Lamorde Agriculture Society has been dropped from the Dagnare project.

the cooperative to formulate a specific proposal. Financing delays, problems in finding appropriate technical assistance, and the logistical challenges of working with a distant nomadic group meant that a proposal was not completed until 1 year later. At that point, local government officials who had been bypassed in the project design process objected and threatened to block the project. At their insistence changes were made which substantially altered the shape of the project. In addition to the inclusion of the other ethnic groups mentioned above, the officials insisted that the dry season agriculture component be dropped, and that purchases of goats and sheep be substituted for cattle. A local government technical service agent was designated as the technical coordinator of the project and counterpart to the cooperative's leader. Project participants agreed to these changes when informed by ADF that they had little choice. Due to overestimates in the original planning grant budget, only half of that first grant was actually disbursed.

The second Grant Agreement for approximately \$85,000 to implement the new plan was signed just prior to the OTA team visit in September 1987. No funds from the second grant had been received. The project budget, developed by the Dakoro local government officials, contains five main components: \$35,000 for the purchase of sheep, goats, camels, and donkeys to replace approximately 10 percent of the herd lost in the recent drought; \$8,250 to build and stock a cooperative store that would provide basic necessities for the community; \$6,750 for a literacy program; \$8,550 for repairs to the community well; \$1000 for basic medicines for both livestock and people; and \$17,500 for the technical assistance to support the project (approximately one-half for local government technical service agents). Over \$26,000 (nearly 30 percent of the total grant amount) is earmarked for ADF's documentation of the project.

Interviews with the project participants indicated that the replacement of livestock was their highest priority and there was considerable disappointment that the cattle had been replaced by sheep and goats. Milk from cows is the main element in the Woodabe diet. The repair of Eggo's ancient well was their second priority. Few community members were aware of the project's other components and many expressed opposition to the idea of literacy training, which they saw as an imposition on their way of life. There was an equal degree of confusion and disagreement regarding the role of the local government technical agent in the project although some felt that the government presence would assure a fairer distribution of livestock. The

distribution plan, according to the cooperative leader, had only been discussed with those who would receive livestock and not with the entire group. Local experts interviewed by the OTA team felt that this type of indirect decisionmaking, involving considerable one-on-one interactions rather than large public meetings, was consistent with traditional norms.

Conclusion.—The OTA team found numerous flaws in the Dakoro project design but were unanimous in their high rating of the project as consistent with ADF's mandate. ADF is one of only a few organizations in Niger which support initiatives of semi-nomadic herders to modestly adapt their threatened lifestyles and systems of production. Herder groups such as the Kasasawa are clearly among the poorest of the poor throughout the Sahel and have been bypassed by most government and foreign donor development programs. ADF is notable in its attempts to maintain a modicum of control in the hands of the herders themselves, the compromise with local officials notwithstanding. It was readily apparent to the OTA team that the herders of Bundu Eggo feel deep appreciation and respect for ADF and its Representative.

The largest concern raised by the OTA team with respect to the Dakoro project was that of the role given local government authorities. The opposition engendered by ADF's lack of contact with local officials and ADF's determination to do something for the Bundu Eggo group left ADF in a poor bargaining position. It is ironic that the conflicts engendered by ADF's approach in Niger have led to more government control in several ADF projects than in those of PVOS which have been willing to "play the game" by involving officials in their programming activities from the beginning.

Specifically, the OTA team had concerns that unless closely supervised by ADF's local Country Resource Facilitator, the purchase and distribution of livestock could result in an undue portion of the benefits accruing to merchants and officials rather than participants.³ The OTA team found the salary and benefits expected by government officials to do what is already their job as inappropriate.⁴ Other problematic aspects included: the technical

³ADF has subsequently reported that ADF's Country Resource Facilitator in Niger did indeed actively participate in the purchase and distribution of livestock and that the concerns expressed by the OTA team were not realized.

⁴ADF had a different understanding than the local officials in Dakoro regarding payments to the government technicians. ADF's understanding was that the technician would be removed from the government payroll during project implementation. Since the departure of the OTA team the government technician has been transferred and ADF reports that a private technician has been identified to fill that position.

feasibility of the proposed well repair (dangerous at best and likely to be impossible given the state of the existing well); the financial viability of the cooperative store, given limited management/commercial experience and the negative experiences of previous, much smaller stores run by the same individuals; and the disagreement regarding the need for literacy. A more gradual approach, with more training at its earlier stages would have had fewer financial and management risks. Experts consulted in Niger could not reach consensus regarding a final concern, the problem of the long-term environmental impact of the grazing systems being perpetuated by this project. Nor was there agreement on the significance of the change from cattle to sheep—a point felt by some to be immaterial since the Kasasawa were likely to sell a portion of the small ruminants received from ADF to buy cattle anyway.

These concerns notwithstanding the team felt that the most important component of the project, the purchase of livestock, would meet its objective. Once received, the herders were likely to manage them successfully according to traditional systems with or without the advice of the government technician. The other components are more problematic but also of less significance to the beneficiaries. The “bottom line” for the Dakoro project is whether or not the project will provide or at least move toward a long-term solution to the vulnerability of the herders’ current existence. It is too early to tell the outcome, but the fact that the project has given the community a temporary respite, experience in problem solving, and most of all, hope, is more than enough justification.

Equipment So Strengthen the Agricultural Activities of the Youth Association of Ross Bethio

Organization: Youth Association of Ross Bethio
Site: Ross Bethio, Senegal
Activities: Irrigated agriculture—rice, tomato and vegetable production.
Grant Size: \$158,639

The Setting.—Ross Bethio is located on the Senegal River in the north of the country, four hours drive on paved roads from the capital, Dakar. It is located in an area where rainfed agriculture has been particularly hard hit by the downward trend in rainfall and where irrigated agriculture has taken on growing importance. As a center for a state-owned agricultural development organization

(SAED), many Ross Bethio farmers have had access to irrigated lands for two generations. Although SAED’S strategies have often resulted in high debt for many farmers, access to irrigated land and the possibilities of salaried positions with sugar and tomato canning operations nearby and in the regional capital of St. Louis, translate into higher average income levels in Ross Bethio than many other areas of the country. All people have not, however, benefitted equally. Access to irrigation and to employment is restricted and is becoming more critical with population growth and general economic decline. Local herders have been particularly hard hit by recurrent drought and have had generally less access to irrigation or employment alternatives.

The Youth Association of Ross Bethio is among the more dynamic of many similar organizations of young adults throughout the country. The vast majority of its 265 members (100 men and 165 women) are between the ages of 15 and 35. About 35 percent (mostly men) have attended primary school and 20 participants have gone on to secondary school.

The problem of access to irrigated land is particularly acute for this age group. Although many of them come from families with access to irrigation, those plots are still in the hands of their elders or risk being divided into uneconomically small plots when passed on to this generation. For many people, the solution has been to seek local salaried employment or emigrate to the urban centers of St. Louis or Dakar—strategies that are proving to be increasingly unsuccessful. Meanwhile, the current development of water and salinity control along the Senegal River and the government’s land policies regarding the development of irrigation have raised fears that outsiders, either Senegalese or foreign, will be given rights to land around Ross Bethio.

The Youth Association of Ross Bethio was formed in 1974 in response to the challenges posed by drought. Its well-organized structure, active membership, group discipline, and capable leadership have led to a series of successful activities in small-scale irrigation, reforestation, livestock, and the improvement of community infrastructure (roads, mosque, village pharmacy, women’s center, etc.). Its activities have attracted attention and financial support from a number of external donors. The Association’s success with its first 40 hectare irrigation system (financed by the Dutch organization NOVIB) led them to seek funding for expansion. The ambitiousness of their plan caused them to be turned down by several donors before coming to ADF,

The Project.—The ADF-funded project has added over 100 hectares of irrigated land to the Association's fields, thus providing a major increase in the land available to its members. ADF's grant has paid for two irrigation pumps to draw water from a large irrigation canal; the clearing and preparation of the new irrigated fields, including the construction of canals and dikes; and a small pick-up truck to transport supplies, produce, and participants.

Rice production began in September 1987 despite major delays in the transmission of funds from ADF to the Association, low levels of water in the source canal, and a land dispute involving the local herders who had traditional grazing rights to the area developed under the project. The Association followed due process to gain title to the land and an eventual "amicable settlement" was reached, but the dispute required the intervention of armed police to remove the herders from the land—an operation partially financed by ADF-supplied funds according to an Association official. On the more positive side, the Association's determination to succeed is shown in their tremendous efforts to begin production, despite limited water in the source canal, by moving tons of mud by hand to dig channels to feed their irrigation system.

Production is impressively organized. Male members of the Association run the irrigation system, supply 200 hours of work per season in collective teams. Land access rights for men and women as well as the distribution of benefits to each are organized differently. Men are given individual fields averaging 3/4 hectare. Production is on an individual basis, although operations where timing is critical such as planting are performed by the collective work groups. Allocation is on a year-to-year basis and considers the number of mouths to feed and the level of effort contributed to collective work teams. The 165 women involved have been allocated only 20 hectares to be worked collectively in teams. Although production, cost, and total benefits are still uncertain, project staff estimate benefits on the order of \$90 for men and between \$50 and \$115 for women. Division of benefits on the women's fields will be made on the basis of the number of days worked and the amount of effort contributed. Cost and production estimates used by the Association to arrive at these figures were judged realistic by local experts, although the fuel costs of the pumps chosen by the group were not known since the model of pump is new to the area.

All inputs (diesel fuel, seed, fertilizer, etc.) are being provided by the Association through its own budget (bolstered by funds from the Dutch organiza-

tion NOVIB) and through credit arranged through Senegal's new National Agricultural Credit Bank. The Association is one of the first to receive production credit from the bank.

Although women expressed the hope of having access to more land in the future, they favored the collective formula for working their land and did not complain about the disparity of access and benefits between men and women. In fact, for many this was their first access to irrigated lands of their own,

Conclusion.—The Youth Association of Ross Bethio fits well into the ADF mandate. While perhaps not among the poorest of Senegal's poor, the group's identification of access to irrigation as a major determinant of future well-being is correct and farsighted. The project already has begun to achieve one of its principal goals—the return of village youth from the urban centers. Apart from the regrettable incident of forcing the herders off the land to make way for the irrigation project and the unresolved long-term impacts of irrigation on land and water resources, the project gives evidence of attaining the kind of sustainable results and expansion of opportunity called for in ADF's mandate.

The Association's operations are based on a high degree of centralized decisionmaking and discipline, but it is an effective and probably unavoidable management method given the high degree of coordination and timing inherent in a 100+ hectare irrigation scheme. Participants expressed high levels of confidence in the group's leaders and there was evidence that leadership was responsive to and held accountable by the members.

Organization issues are likely to become acute in the short to medium term, especially the on-going allocation of land within the irrigated area. Will the leadership's method for allocation according to need and effort continue to go unchallenged? How will new members be accommodated? What will happen as the "youths" grow older? The Association's proposed solution (further expansion of the irrigated area) may be unrealistic because few outside organizations are willing to commit the level of funding provided by ADF. Also, several experts believe that at 150 hectares the scale of operations is already beyond the maximum point of efficient production,

A further challenge will be to maintain access to short-term credit to finance the high costs of inputs. The credit from the National Agricultural Bank this year cannot be assumed to be on-going and, according to Association officials, was far less than needed. The unproven cost and maintenance rec-

ord of the Association's choice of pumps is an additional cause for concern. The OTA team's feeling is, however, that the group's performance in the past, the resourcefulness and dynamism of its leadership, and the dedication of its members will find solutions to these problems. The prognosis for the long-term future is clouded only by the economic and ecological uncertainties facing irrigated rice and tomato production along the Senegal River.

Union Kaoural

Organization: Kaoural Federation of Cooperatives
 Site: Twenty-five village associations in the Kolda region of Senegal
 Activities: Collective orchards and gardens; dairy cattle feeding centers and village pharmacies.
 Grant Size: \$103,832

The Setting.—The Union Kaoural is an association of village youth groups based in the village of Media Koundie (30 kilometers to the east of Kolda). The Kolda Region, although connected by good roads to the rest of Senegal, is among the country's most isolated and disadvantaged areas in terms of social and productive infrastructure. This is partly explained by the distance to Dakar (8 hours by road), and partly due to the fact that, for political and economic reasons, it had been relatively neglected by government development programs. Outside attention to agricultural development in the zone has also been lacking despite the fact that the region is less constrained by rainfall patterns, depleted soils, and population densities than much of arable land in Senegal. It is a zone where a sedentary branch of the Fulani ethnic group is traditionally dominant.

The Union Kaoural is estimated by its leaders to include over 3,000 members in 79 village groups. Observations and interviews by OTA team members indicate that a considerably lower number are actually active in the group's activities. Approximately 45 percent of the members are women, and 75 percent are between the ages of 15 and 30. In the Medina Koundie village group, fewer than 10 percent have gone to school. All but a few village groups are predominantly Fulani. Members broadly reflect the income level of their communities but the leadership comes from relatively more affluent and powerful families.

Low income and underemployment, particularly during the dry season, are major facts of life in the Kolda region, even more than in other areas of Senegal. The lack of alternative employment and government assistance to farmers through extension

services and input support has left people with few options beyond moving to other regional capitals or Dakar.

Village-level youth associations are traditional in Senegal. In recent years, many of these groups have been energized anew and have formed regional and national level associations. The Association of Young Farmers of the Casamance (AJAC in French) has been one of the more dynamic regional associations. It in turn has encouraged the formation of sub-regional unions of village groups such as the Union Kaoural, which began in 1982. The Union Kaoural is highly structured with a Board of Directors and a constituent assembly with representatives of its member groups. The reality, however, is less participatory or cohesive with a high degree of centralized control resting in a few individuals and considerable instability of membership.

Thirty-nine village groups were in the Union when ADF negotiated its grant. Since then, 63 new groups have joined but 27 have withdrawn (the majority leaving with some rancor and despite the fact that they were slated to receive benefits from the ADF project). Two additional segments of the Union are in the process of being spun off more amicably. The village-level associations visited by the OTA team expressed confidence in the Union leadership (OTA did not visit any groups that had withdrawn) and showed evidence of being participatory and enthusiastic about the proposed activities. The dedication and hard work of several of the Union's leaders was evident. The Union has received operational and project funding from a range of NGO donors, mostly through the aegis of AJAC.

The Project.—The Union Kaoural project being funded by ADF is designed to provide collective opportunities for income generation. The project is a scaled down version of the original proposal presented to ADF. The Union's first priority (a cereal bank) was dropped from the proposal at the suggestion of an ADF consultant and a second component, village pharmacies, was reduced by one-half. The remaining project includes four principal activities that have been allocated among the 25 villages chosen by the Union's leadership to benefit from the program.

ADF funding will provide materials for 10 collective orchards, 10 collective gardens, 2 dairy cattle feeding centers, and 5 village pharmacies. Both dairy centers (15 percent of the project budget) are being built in Medina Koundie—one for an association of herders who are not members of the Union. The other components are identical "cookie-cutter" activities where the Union provides mate-

rial inputs and the local village association provides labor. All purchasing of materials and their distribution is being handled by the Union, including the contracting and payment of salaries for the well diggers and masons. The Union has used ADF funds to provide bookkeeping training to the treasurers of the local groups. Its leaders also talked of providing some technical assistance and further training in vegetable gardening and fruit tree production directly or in conjunction with AJAC.

As of the OTA visit, wells and basins had been completed and tools and fencing delivered to 8 of the 10 villages that are slated to receive gardens. Wells had been started in two others. The buildings for the two dairy centers also were complete, but in the opinion of the OTA team one of the buildings and both of the wells shown were built prior to ADF funding. Purchase of the cattle was partially completed. The team was told that materials for the orchards were ordered and would be soon delivered.

Overall, the project is behind schedule. Part of the delay was reported to come from slowness in communications and especially in the transfer of funds from ADF to the Union. Opposition from local government officials, particularly over the village pharmacies, was another problem which, although not altogether resolved, gave indications of being addressed. A further problem has been the tight control exercised by the Union's manager (animateur in French). His illness and lack of a deputy at one point in the negotiations caused significant delay. Poor planning was a final problem. Adequate allowance was not made for the costs of transporting the materials from the purchase point to Medina Koundie and then out to the remote village members.

Financial records on the use of ADF funds were non-existent or "not available." Those records that did exist, combined with interviews with project staff and participants, as well as observation, all indicate the possibility that substantially less materials and money were being used in construction and equipment than was planned for in the project proposal.

Conclusion.—The individual village-level organizations and their members seem to fit the ADF mandate, but OTA team's visit raised questions regarding significant aspects of the project's design. The Union Kaoural appears to be going through a period of instability where the exigencies of a project of this magnitude give evidence of having a negative influence. The centralization of its de facto structure, internal management and organizational deficiencies, the lack of basic financial records, and the

logistical difficulties in implementing a project in 25 villages spread across an area of hundreds of kilometers with only one good road and one small vehicle raise tremendous questions as to ultimate outcomes. The fact that some progress can be seen is to their credit.

The lack of effective individual input into project planning and implementation is equally disturbing. Each component was designed by the core group in Medina Koundie, which also decided which village should get what activity. Each is being implemented according to an identical plan with the Union controlling all the funds, hiring all the skilled labor, and supervising all the work. Not only is this method likely to cause difficulties given the difference between the membership, environments, and organizations of the individual village groups but it also precludes the development opportunity that could have been provided by giving the local groups a greater role in project design and implementation. Although village participants seemed generally knowledgeable about the project, they were unaware of its financial aspects and several were unclear about what was expected from them. There were several instances where the village groups failed to take important action while they awaited instructions from the Union.

The lack of basic feasibility studies raises additional questions. No evidence exists to show that thought had been given either at the village or Union level to eventually marketing what will be produced. Poor transportation infrastructure and the lack of local markets could cause disappointing returns. Records from the vegetable production activities of the Medina Koundie village group showed net losses for the past two years despite their location on a paved road and in closer proximity to the larger market town of Kolda than many of the other participating villages. The distribution of any proceeds generated is a further unresolved and potentially thorny issue. Most groups talked of all proceeds remaining in the group for investment in community infrastructure or to be used for social obligations of the members (a common practice in small income generating activities of village youth groups, but more problematic with larger projects). This form of distribution might be inconsistent with the objective of increasing income possibilities and stemming rural to urban migration. The proposed plan of the Union's leaders to "tax" village groups 40 percent of their profits to establish a revolving fund that could be used to do similar projects in other member villages was not known by many groups and not popular with those that were informed. Two added cautions: the success of village pharmacies

and cattle feeding centers has been extremely low elsewhere in Senegal.

Given these uncertainties, the future prognosis is less than bright for the type of profitable collective group enterprises envisioned in the project proposal. A number of the groups however, showed determination and creativity. The high quality of the wells being built, and the benefits of good fencing and quality tools will undoubtedly benefit at least some of the participants. The opportunity to undertake the individual micro-projects (the heavy handed control of the Union notwithstanding) is also likely to benefit many of the individual village groups, giving them experience in management, new production techniques, marketing, and organization. A more thoughtful, realistic, and gradual approach to assisting the Union Kaoural would have enhanced these benefits.

Integrated Food Development Program

Organization: Diocese of Morogoro, Development Department
 Site: Morogoro, Tanzania
 Activities: Tractor hire; credit for inputs for maize production.
 Grant Size: \$248,378

The Setting.—The Anglican Diocese of Morogoro encompasses nearly 400 villages in 3 districts in central Tanzania, a region including productive areas with sufficient rainfall for farming and drier areas severely impacted by drought. The area where the ADF project was first implemented in 1986 and 1987 lies at the edge of the vast rolling plains of the Maasai Steppe. The town of Gairo is halfway between Morogoro and the new capital Dodoma. Most of the people farm plots averaging several acres and graze small herds of cattle on communal lands.

A charismatic minister, Reverend Chitemo, is a main force behind local development efforts. He became bishop when the new Anglican diocese was formed shortly after Independence in 1964. Anglicans are the predominant Christian religion in the area. The Development Committee of the diocese has sponsored a variety of agricultural projects since 1970 to improve the nutrition and standard of living of the Uluglu people. Rabbit, poultry, citrus tree, and beekeeping projects are on-going. More recently, the diocese began a dairy and goat project. Missionaries working in the diocese obtained support for these activities from English and Australian religious funders such as Christian Aid.

Early failures taught the Bishop important lessons—the need for technical expertise and training, and especially, the active participation of the people in development efforts. As a result, a participatory church structure was developed to encourage a two-way information flow between the diocese and the local villages. Each congregation, which include several villages, elects a contact committee; three leaders of several congregation committees form a parish committee; representatives of several parishes form a deanery-level committee; the several deanery committees feed into the diocesan Planning and Development Committee. Farmers, women's groups, youth groups, and pastors from each parish are involved in planning and carrying out projects.

The Project.—The project the Development Committee submitted to ADF, which it met through the Christian Council of Tanzania (a coalition of protestant churches), is its most ambitious yet. It aims to introduce modern farm inputs—mainly improved seeds, fertilizer, and pesticide—and tractor hire services together with extension advice and credit to farmers to increase production of their major crop, maize. The Development Committee initially planned to purchase, store, and market the maize produced. The goal is to increase productivity per acre and acreage under cultivation.

ADF funds would buy 3 tractors to plow group farms for congregations (3 acres each), women's groups (2 acres), youth groups (1 acre), and individual farms (1 acre each). The first year, each tractor was to plow 10 to 20 acres per day, for a total of 1,080 to 1,800 acres; a specific package of seed, fertilizers, and insecticides was to be applied by registered farmers who would get one acre plowed at a charge of about \$10. Maize yields were projected to increase from an average of 1.5 bags per acre to 10 bags. ADF funds would build storage depots and buy a truck. Shortly after awarding the grant ADF sent a representative of another ADF-funded project, Paul Maina, director of Farming Systems Kenya, to review plans and make recommendations to the Development Committee. Since the Food and Agriculture Organization (FAO) was sending several hundred Fiat tractors to the Morogoro region, the diocese decided to purchase Fiat tractors, to take advantage of the supplies of spare parts in garages set up to service the FAO tractors.

The project was late getting started: a director and agronomist were not recruited until February 1987; only one tractor arrived and that in the middle of the planting season; the fertilizer also arrived late. Thus, only 156 acres were plowed, an average of

3.5 per day due to breakdowns and the fact that the sites were scattered. Some farmers had more than one acre plowed; some who were not registered in the program hired the tractor or purchased inputs. Not all farmers accepted the whole package, given their aversion to the risk of adopting radically new farming practices. Maize yields of project participants averaged 5 bags per acre, which were higher than past yields but lower than planned, mainly because of lower than usual rainfall in the area. Household incomes thus increased \$14 (less than the \$44 planned), roughly equivalent to a 10 percent increase.

The OTA team arrived before the second planting season and found participants enthusiastic about the results and many more wanting to participate than could. The management had learned valuable lessons: more careful planning and record keeping; better training of the contact committees who selected participants; better effort to recruit women farmers (nearly one-third of the individual farmers registered for the second year), some of whom would obtain inputs on credit; farmers would sell maize through regular marketing channels rather than to the diocese committee and repay their loans to the committee; if the two tractors did not arrive on time, project managers would consider renting them. They would plow at least one "block farm" on uncultivated land, which they told the OTA team would not disturb the persons who grazed their cattle herds since there was plenty of open land. (Most Maasai, among the herders using the area proposed for the block farm, are not Anglican.)

Conclusion.—The OTA team was especially impressed with the mechanism for two way communication and input from participants as well as the increased yields of the first year participants. Although most beneficiaries were Anglicans, they were a representative group of the area and included poor people. In general, the team felt the project had been overambitious in its proposal, but the new managers were making corrections based on the first year. OTA concerns about participation were the lack of clarity on how to register and careful supervision of plowing. The interlocking committee structure would help replicate the project within the diocese, extending its impact. In some instances, neighbors already imitated farming practices that participants learned from the project extension agents.

The church's long experience with development projects should help ensure sustainability after the Bishop retires in late 1987. The team's main con-

cerns related to sustainability were economic and environmental. Careful financial planning about how to continue the project has not been done. For example, a market analysis would determine whether the plan to purchase and market farmers' produce is realistic or would lead to major losses for the Committee. Estimating the costs of maintaining, and eventually replacing, the tractors would help determine if the current rate charged to plow each acre, somewhat less than the market rate, is feasible.

Nor has the Development Committee clearly identified potential negative environmental impacts, although the project managers' plan to plant citrus trees on the block farms to improve the people's diet could also help prevent erosion. OTA members asked if they considered ox plows for some areas, and expressed concern about monocropping (which could eventually reduce soil fertility, decrease production of pulses which provide protein, and increase risk if the price of maize was to decline). Some danger exists of losing sight of the value of the integrated food program envisioned by the Bishop and overlooking the other agricultural projects in the enthusiasm for maize and tractors.

Conservation Education Project

Organization: Kikatiti Village Malihai Club
 Site: Kikatiti and Arusha, Tanzania
 Activities: Water supply and reforestation
 Grant Size: \$66,168

The Setting.—Kikatiti, situated at the base of the mountains between Mount Meru and Mount Kilimanjaro about 22 kilometers from Arusha, has a growing population estimated at 1,300 families. Because of its higher elevation and rainfall, the area near Arusha was favored by the white settlers and remains an area of high agricultural potential in Tanzania. Most of the Chaga people in the community are small farmers, with about 2 to 5 acres of land, and in conformity with government regulations to reduce pressure of cattle herds on the land, admit to raising one cow per acre. Water is a pressing problem. Women wait in long lines at the well. Sometimes they must draw water for household use from the nearby spring-fed pond used by cattle, with negative consequences for health of their far-dies. The women also walk long distances in search of fuelwood.

In nearby Arusha, a group of environmentalists established the Malihai ("living wealth") Club of

Tanzania to educate Tanzanians, especially through boys clubs in secondary schools, to appreciate the wildlife in Tanzania's national parks and help preserve them. Originally within the National Parks (headquartered in Arusha), the Malihai Club of Tanzania was established in 1983 and obtained funding from the African Wildlife Foundation and World Wildlife Fund/IUCN. The staff still is on the payroll of the Ministry of Lands and Natural Resources. Awareness of the need to deal with the development problems of people living adjacent to the parks, to prevent their poaching of wildlife, wood, and water from the parks, led to the concept of helping communities in "buffer zones" near the parks. Malihai Arusha picked Kikatiti as their first village project for several reasons, including that they thought it was an area where wood was being poached from Arusha National Park. And a former principal, whose school had sponsored a Malihai Club, moved to Kikatiti and came to the national organization of Malihai for assistance.

Malihai Arusha showed audiovisual materials about the need to preserve the parks and plant trees during town meetings. In 1985, Kikatiti set up their own club, consisting of all members of the village and headed by the elected leaders of the village, to be in charge of environmental issues. While women could be dues-paying members, they were excluded from management committees,

The Project.—The director of the Malihai Club of Tanzania first wrote ADF seeking funding for the national organization. Later, after ADF explained that Malihai's proposed work with villages was more appropriate for funding, he submitted a proposal for an improved water supply and reforestation project in Kikatiti. The water project had several components: a borehole previously dug with AID funds, 4 kilometers away, would be linked to the village, with separate waterpoints for domestic use and for livestock. The people would dig the trenches; ADF funds would provide pipe, electric pump, technical assistance, a motorcycle, and repair and spare parts for a van for Malihai Arusha. The forestry component was a small part of the grant. Since the Tanzanian Forest Department provides seedlings, ADF funds would help build a village nursery.

ADF awarded the grant to Kikatiti Malihai Club with a condition that they develop a maintenance plan. But following a review by ADF's auditors, Coopers and Lybrand Tanzania, which showed village books were 13 months in arrears, ADF decided to disburse funds to Malihai Arusha. (While technically ADF funds were in a joint account, actual control of these funds was given to the national

organization.) Since the district government water engineer would not provide services without pay, Malihai Arusha eventually contracted a private firm for an engineer, who added a 20,000 gallon water storage tank to the plans. Thus, much of the control of the project rested in Malihai Arusha, even though ADF continued to address its communication to the Kikatiti Chairman. For example, Malihai Arusha prepares all quarterly reports. The new ADF Country Resource Facilitator lives nearby and has visited the project often, but his role is limited to technical matters; he was instructed not to get involved in problems related to project management.

The delays in project start-up were in part due to problems in obtaining engineering services and the needed equipment (pipes, pump) from Nairobi, Kenya, since the supplies were not available in Tanzania. The main problem, however, was the long time it took for the Kikatiti Club to obtain tax exempt status needed to import materials tax free. At the time of the OTA visit, the trenches had been dug by most of the men in the village on several Saturdays of collective action, and the pipes had just arrived from Nairobi. The pump had not yet arrived, and the storage tank and water points were not built. Still, public support for the water system was high.

However, less support was evident for the forestry component. The nursery near the pond was in poor condition, the fence broken by cattle, with few small trees. Community leaders agreed the nursery was not working as planned; but might do better when the water supply was completed. (\$4,000 in ADF funds are for a future nursery, perhaps on the same site.) OTA team members noted that planting trees around the pond, while it could help protect the pond, would not affect the watershed. Kikatiti leaders said most seedlings were planted on individual plots and denied that women obtained fuelwood from the national park since it was some distance away.

Kikatiti leaders had no idea how much it would cost to maintain the water system (e.g., pay the monthly electric bill, hire someone to oversee the system, and set up a fund for eventual replacement of the pump) and noted that during a town meeting members had not accepted the monthly fee (about \$1.00) proposed by the committee and substituted a \$1.25 annual fee per household. Nor did they plan to charge fees from users from outside the village. OTA team members were unable to meet with the Kikatiti treasurer. Despite repeated requests, OTA team members were also not able to speak to women in Kikatiti.

Conclusion.—Kikatiti was recognized as a local government when it registered under the Tanzania government-sponsored *ujamaa* program. Since the community had successfully completed a number of on-going projects (e.g., grain mill, cattle dip, and store) and would have to maintain the water supply, OTA team concluded that (1) a planned disengagement of Malihai Arusha from management and financial control of the project would have helped; (2) the water should not be connected until Kikatiti develops an economically feasible plan to sustain the system. Despite the lack of financial planning, the fact that the community successfully managed other projects and that water was such a critical need led the OTA team to conclude that the water project would probably be sustained by the people. It was unlikely that the district water officials would provide much support. However, the nursery did not seem to have strong support, even though many recognized the need for more trees. Involvement of women in the committees could have helped.

Within the district, few communities have built their own water supply. Since the government of Tanzania does not have the resources to provide water to many rural communities, self-help water projects definitely meet a need. However, replicability of this system is limited because few villages have access to the relatively large amount of outside funds needed for construction, or reliable sources of electricity. Better relations with the district water officials might help others reduce costs of technical assistance and maintain the system.

The Malihai Club of Tanzania's plan to help people who live in buffer areas near the national parks meet their needs is innovative. But to work more effectively with other village development projects, they need to improve their community development skills, learn to work in concert with local leaders, and establish a relationship of trust with them.

Njoguini, Giteroo, and Kabati Self-Help Water Project

Organization: NGK Self-Help Water Project Committee

Site: Njoguini, Gitero and Kabati, Kenya

Activities: Water supply for domestic use and irrigated plots.

Grant Size: \$250,000

The Setting.—The village of Njoguini is located below the forest in the foothills of Mount Kenya, snowcapped year round. The villages of Gitero and Kabati are down in the dry plains which were once vast wheat farms held by British settlers. Follow-

ing independence in 1963, this area of the highlands was part of the Million Acre Resettlement scheme intended to compensate white settlers and redistribute their land to African farmers. But public funds and donor contributions fell short and so private land buying companies were formed to combine individuals' savings, purchase large farms, and subdivide them among the new owners. Gitero was the first of the three communities to begin resettlement in the late 1970s. By the early 1980s, 250 families had settled on the 350 plots in 3 new communities. Shares were for 1 acre in Njoguini, 2 in Kabati, 3 in Gitero; but half the families obtained 3 to 5 acres and a few up to 20. Most of the new settlers were Kikuyu, but about half in Njoguini were Meru.

The Gitero Self-Help Committee was formed in 1982 to obtain water needed by the new residents. Before he left, the white settler who had owned the large estate sold the windmill that had been the principal source of power for the old borehole, the only water source. The community raised funds to repair the well and diesel pump. A Peace Corps Volunteer assigned to the adjoining district's water office put the committee in touch with the U.S. Ambassadors Self-Help Fund, which provided \$10,000 to replace the windmill in 1983. But the drought of 1984 was devastating. Crops failed, three-fourths of the communities' cattle died, and the people were forced to depend on food aid for survival.

The Project.—To better ensure water supplies, the people decided to pipe water from a river fed by glaciers on Mount Kenya so that each household could have enough water for domestic use, for their livestock, and to irrigate 1 acre of land. The management committee expanded to include seven elected representatives of each of the three communities, Njoguini, Gitero and Kabati (NGK). The lo-



Photo credit* ADF/Michael Maren

NGK's first water tank nearing completion in 1986.

cal chief and community development assistant were added as the government's representatives. Each committee coordinated fundraising and work for its village and elected representatives to the central committee. The central committee approached the Provincial Water Engineer who began to conduct a survey and design a gravity-fed water system and asked the Peace Corp volunteer to prepare a proposal to ADF and be the project manager. ADF's representative suggested that the labor be contributed by the residents, rather than paid by the grant. The residents began to clear the course and dug 3 kilometers of trenches by the end of 1984.

In spring 1985, ADF awarded \$149,000 for the project's first phase and later another \$98,000 for the second two phases. The objectives were to dig a 13 kilometer trench for the main trunk line down the mountain and 18 kilometers of distribution lines; to build two 50,000-gallon storage tanks and an intake. The design allowed each household to have an individual tap and for 200 acres to be irrigated. ADF funds paid the salaries of the manager and a counterpart who would be trained to manage the system, pipes, and materials for the storage tanks.

Each community worked one day a week and all three worked on Saturdays, when large meetings were held; committee records show each person worked an average of 115 days. The community raised money for the intake high in the rainforest (which had to be protected from roving elephants) through harambee fundraisers and a \$31 subscription fee. Large boulders were cracked by warming them with fire and then throwing cold water over them. They received permission for the pipeline to cross the Kenyan Vice President's very large farm and for the second storage tank to be located on it. District water officials who designed the system supervised its construction.

By the time of the OTA visit, the main distribution lines, intake, and two storage tanks were complete, and many residents had completed water installation (but not hooked up household water taps) to their farms at their own expense. The trained counterpart was supervising the system. About 100 to 130 acres were being irrigated. It was unknown if the approximately 100 absentee landowners could afford the hookup fee (\$425) to pay for the 115 days of labor and the additional costs of bringing the line to their farms. While the system was designed for 200 irrigated acres, some people were irrigating 2 or 3 acres, and there are 350 farms. Local extension agents had provided training in irrigated production prior to arrival of the water, and lush vegetable gardens were in evidence on the irrigated plots.

Women were growing cabbage, pepper, carrots, and tomatoes in the dry season. Cattle were producing more milk.

There were benefits in addition to increased income from the sale of vegetables. Women no longer spend long hours carrying water, and they complain of fewer backaches; children have improved hygiene, diets, and time to attend school. In addition, land values doubled as a result of the water supply: rising from \$625 to \$1250 an acre in Gitero (current land values in Kabati were cited as \$750 to \$950 an acre; in Ngoguini, \$1818 an acre).

Bouyed by success, the central management committee plans to build a storage shed to market vegetables in nearby cities, form a dairy cooperative with a milk processing plant, and bring electricity to the area.

Conclusion.—The OTA team was impressed both with the participation of the people and the results of their effort. The tri-village management structure, providing a voice for people of different ethnic groups and geographic areas, could be replicated in other areas. Other factors fostering participation were the fact that it is a new settlement without entrenched social or political factions, a clearly defined area, the leaders are perceived to be honest, and the chief had community development training.

The team had some concerns about sustainability of the project, although the track record of the group indicates they will probably meet future challenges. The proposed maintenance charge bears no relation to the costs of repair, replacement, and payment of supervisors of the system. A careful analysis of these costs has not yet been done. Nor has a market analysis been done of the impact of the increased vegetable production that could result in lower prices. Not much consideration has been given to mitigating negative environmental impacts of irrigation on soil fertility, such as waterlogging and erosion. Nor has a soil analysis been done to determine which areas are more suitable for irrigation. Terracing and agroforestry could be considered.

The management committee also needs to plan for competing claims on the system in the future. Residents across the road have complained to local officials they do not have access to water for irrigation; others have complained of the diversion of their potential water source. Also, households currently irrigating will be reluctant to cut back their irrigated acreage once new households come on line.

According to research by government water officials, only 1 in 15 self-help water projects in Kenya

is completed. But few have direct access to the outside resources that NGK received from ADF. While a gravity-fed system is relatively simple, there are limited sites available for gravity systems in Kenya. Areas for new settlement of entities with the ability to control access to the water and manage its use are equally scarce. Still, water and agriculture officials have looked with interest at NGK, recognizing the contribution of the residents was one-third the cost of the project. At least one other community in the district has begun its own water project.

Kenya Small Enterprise and Credit Training Project

Organization: Partnership for Productivity (PfP)/Kenya
 Site: Nairobi and Kakamega, Kenya
 Activities: Provide women's groups with training and credit for small-scale enterprises and agricultural inputs,
 Grant Size: \$228,800

The Setting.—Partnership for Productivity (PfP)/Kenya is a private voluntary organization which was started by some American Friends (Quakers) in the Western Province of Kenya in 1969. Since 1975, it has been autonomous with a Kenyan Board of Directors and staff, many of whom are Quakers. Yet PfP/Kenya continued to receive training and other support from the U.S.-based PfP through 1986. Its purpose is "to promote both socioeconomic development and human potential development in rural Kenya by focusing on income-generating" projects.

Most activities have been centered in three western provinces, densely populated areas with high rainfall and high potential for rainfed agriculture. Cash crops such as sugar, tea, and coffee are replacing production of food crops, especially near Lake Victoria.

PfP's early efforts were to provide management assistance to individual small-scale business operators. In 1974, PfP began a rural extension service to help small entrepreneurs with legal assistance, training in business management and financial planning, as well as some specialized assistance in agriculture and energy conserving technologies. Credit was provided to complement the training and technical assistance. By 1980, PfP decided to work with groups so it could reach more people.

In 1981, PfP initiated a successful pilot project, funded by AID's Women in Development program

and the Ford Foundation, to help rural women become more self-sufficient. Since credit and commercial institutions in Kenya require land title deeds, traditionally in the name of the husband, as collateral for loans, rural women are unable to obtain credit. PfP provided women with business management training and access to credit. During the pilot project 18 women's groups received loans, with a loan recovery rate of 90 percent, and 54 groups received farm inputs on credit. PfP demonstrated that it had developed a methodology that helped improve the incomes of rural women.

The Project.—ADF awarded a 2-year grant to PfP/Kenya in 1985, which was later increased to \$229,000, to provide: 1) training in credit and business management to 30 women's groups in three districts and 2) credit to these groups for income-generating projects and agricultural inputs. Initial ADF grant funds were to provide for staff salaries, including eight new extension agents, and the credit fund. Since PfP's Board of Directors consists of 8 men and its 5 field supervisors are men, it recruited women extension agents for this program (by 1987, 8 of 20 extension agents were women). The ADF grant was amended to allow the purchase of four motorcycles so the agents can visit the women's groups more frequently.

At the time of the OTA visit near the end of the ADF grant period, about 4,000 women were active in credit groups in western Kenya. PfP had provided training and credit to 92 groups, more than three times the number projected. Three officers from each of the groups had attended special business training workshops sponsored by PfP. The local groups vary in size from 20 to 45 members and include landless women, heads of households, and non-literate persons. Although group leaders appear to be more affluent than members, the team did not see this as a problem. Each group has a constitution and is registered with the Ministry of Social Services. Building on traditional savings clubs and the harambee tradition, the groups demonstrated cohesion and the ability to handle complex financial transactions and loan repayments. Most of the women understand simple cash flow analysis and non-literate women have mastered a red-bag/green-bag system of money management, in which their working capital is kept in red bags and the surplus in green bags. The records of the 15 groups visited by OTA team members were clear, up to date and open to all.

PfP capitalized 50 revolving loan funds with \$625 each. Since the individual loan size allocated is \$62, only 10 women in each group could get loans at first.

Each group was expected to show savings of 15 percent (about \$100) before PfP capitalized the fund. With repayments, monthly savings contributions, and group fundraising, new loans are made as funds are available. Each group sets its own interest rate, some charging as much as 120 percent interest, so the loan fund will appreciate more quickly. PfP charges the market rate, increasing its charge on the initial loan to the groups to 14 percent. An internal evaluation by PfP in 1986 indicated that recipients of these loans have increased their income by 30 percent.

The OTA team was particularly interested in the loans for agricultural inputs made to 62 groups which received the inputs on credit. Interviews confirmed the finding of the internal evaluation that these loans led to an increase in productivity.

- pre-loan: average yield per acre was 3 to 5 bags of maize (\$45).

- post-loan: average yield per acre was 18 bags of maize (\$205).

OTA team members were impressed with the extension advice that combined conservation techniques, such as multicropping, rotation, planting trees, using oxen and contour plowing, with improved inputs.

OTA found that most of ADF's \$80,000 in the credit fund had been disbursed and repaid principal and interest had begun to be given out as new credit. If the past track record is any indication, a three-fold multiplier can be expected. However, loan repayment of the local groups to PfP is currently low, especially when compared to past PfP programs. Some 63 percent of the groups were late payers, though only 3 of every 10 members were late. The primary reason for the lateness, according to PfP staff, was that the government national maize buying board had not paid farmers for their last season's crops 6 months after the harvest.

Conclusion.—Informed sources confirmed that few, if any, other organizations currently operating in Kenya provide rural credit as well as PfP. OTA team members concluded that project outcomes could be enhanced in two ways. First, PfP could develop a more coherent strategy for taking its advanced members into higher income-generating activities, either in the formal or informal sector. Second, PfP needs a donor who can assist it over an extended period of time in developing ways to be more self-supporting. Currently PfP is in desperate need of outside financing; 94 percent of its budget comes from outside donors and those who funded PfP (e.g., PACT, IBM, Ford, FAO) did not continue their grants ending in 1986-87,

Since early 1987, budget reductions had forced ADF to lay off half of its staff, some of whom had been with the organization for years. The only new funder at the time of OTA's visit was Kenya's Rural Enterprise program which channeled AID funds to PfP for an agricultural service center designed to provide income to PfP.⁵

The mechanism by which women can get loans without collateral depends on their participation in a group. This model, developed in Latin America and tested elsewhere, has proven replicable. This is its first use in East Africa, and it is likely to work elsewhere in Kenya. But whether the funds, and local groups, can maintain themselves without PfP oversight is not known.

Poultry-Market Gardon Project

Organization: Boiteko Agricultural Management Association

Site: Serowe, Botswana

Activities: Vegetable, poultry, and egg production.

Grant Size: \$35,072

The Setting.—The Boiteko Agricultural Management Association (AMA) conducts a horticultural and poultry project in the village of Serowe, in eastern Botswana, approximately 300 kilometers north of the capitol of Gaborone. Nine women and one man from the village comprise the AMA group that runs the project, with assistance from a technical manager and a financial consultant.

The area surrounding Serowe, known as the hardveld, is semi-arid. Arable agriculture normally is constrained by inadequate and variable precipitation during most rainfall seasons. In a good year, the area can expect to receive between 400 and 450 millimeters of rain. Reliable supplies of water cannot be depended on for any production activity, especially horticulture, and the situation has been exacerbated by a six year drought that has decimated the country's cereal production.

During the last 3 years, the Ministry of Agriculture has strongly encouraged the development of horticulture projects as a means of increasing rural employment while decreasing dependence on South Africa for the importation of most of the country's vegetables. The Ministry supports small scale producers by limiting the importation of vegetables

⁵In January 1988, ADF's Project Review Committee approved a new Institutional Revolving Credit grant of \$248,000 to PfP which addresses both OTA points.

that are grown domestically and by providing technical assistance.

The Project.—The Boiteko project attempts to provide a reliable income source and employment for rural people while providing a reliable source of vegetables and eggs for the local market within Serowe.

The Boiteko group has a long history of project experience. The present AMA represents the remaining core of a group started in the early 1970s as a production unit of the Serowe Brigades, a private vocational training/income generating movement started by a teacher from South Africa, Patrick Van Rensburg. The original Boiteko group was involved in weaving and vegetable gardening and had over 100 members. However, with the decline of the Serowe Brigades throughout the late 1970s and early 1980s, and some inappropriate technical assistance, the Boiteko group disintegrated.

During 1984, the Southern Region Field Representative for ADF heard from Van Rensburg, then the head of a non-governmental organization, that the remaining members of the Boiteko group had hired a technical advisor and wished to continue their horticultural scheme and add an egg laying operation. The objectives of the group were to provide members with a consistent supply of income and provide the village and the group with vegetables,

The group so far has accomplished a great deal. With the original ADF grant, the group has been able to purchase wire fencing to enclose a 1 hectare plot for the vegetable and egg production operations as well as build a chicken house. Other grants from an AID-sponsored appropriate technology project and from the Canadian University Service Organization provided a windmill for the irrigation borehole, a mechanical tiller, and netting for the vegetable nursery. From the proceeds of the project, the group pays its members approximately \$45 per month and the members have expanded their operations to include a citrus orchard. The vegetable operation grosses between \$120 and \$240 per month and the egg laying operation between \$420 and \$540 per month.

One recurring problem has been a reliable source of water. The windmill, purchased with a grant to the group, is a prototype for Botswana and has frequently broken down. Recently, the group asked for and received from ADF an amendment to their original grant for a diesel engine pump and irrigation piping, which will alleviate their immediate water supply problems.

The group feels they have accomplished their objectives, but have hope further that the operation

will eventually increase their present incomes. They also hope to become self-sufficient in technical and financial management of the project.

Conclusion.—The group and the project both face a potentially very productive future because of the strength of the group's organizational and participatory structure. Their open style of management and sharing of responsibilities have become models for group development in Botswana. The project faces some obstacles because of environmental concerns over the resistance of pests to insecticides and the compaction of the soil. In addition, the group faces somewhat severe undercapitalization which forces lag periods in production while waiting to replace inputs.

The most encouraging sign for sustaining the project is the support the group gets from other donors and the Ministry of Agriculture. Boiteko has become a symbol of success for horticultural projects and there appears to be a committed effort to ensure its longevity. The ministry hopes that projects similar to Boiteko can be replicated, and it appears that other non-governmental groups in the country are following the model. Other horticultural groups have formed in the villages of Ramotswa and Kanye. However, the one powerful force of the Boiteko group is its solidarity. Many people have commented on the uniqueness of the group and it maybe that because of the conditions under which it formed and sustained itself, the success of this project may be difficult to replicate.

Tutume Tractor Hire Project

Organization: Tutume McConnell Community Trust

Site: Francistown, Botswana

Activities: Rent tractors for plowing and hauling.

Grant Size: \$40,604

The Setting.—The Tutume McConnell Community Trust is an enterprise of the brigade located in Tutume, a village 110 kilometers northeast of Francistown, in northeast Botswana. The brigades are private training programs for school leavers which also provide some employment opportunities and sponsor some businesses to cover their costs. The brigade's mandate is to provide vocational training within profit-making production units.

Arable agriculture in Botswana is rarely a full time occupation. Most households follow a very diverse strategy of income generation, relying on formal and informal employment opportunities and live-

stock production supplemented by food production. Households face significant constraints because of the paucity and variance of rainfall and the lack of draught power for plowing. The draught power constraint severely affects female-headed households as they are generally the last to be able to borrow or hire oxen for plowing. Since plowing must be timed to coincide with unpredictable rainfall patterns, those who plow last suffer diminished or insignificant harvests.

The government of Botswana has initiated several programs in attempts to become more self-sufficient in food production. Both of the principle programs, the Arable Lands Development Program (ALDEP) and the Arable Rainfed Agricultural Program (ARAP), provide grants and subsidies for draught power. ALDEP is an on-going program and ARAP is a drought relief program intended to encourage farmers to plow during the drought.

The Project.—In April 1984, the Tutume McConnell Trust Brigade proposed a tractor hire scheme as a solution to the draught power constraints of farmers in the Tutume area. The objectives of the project were to alleviate the shortage of draught power, to increase food production in the area, to haul manure during the season, and haul bricks and sand for the brigades during the off-season. The project was intended to improve the agricultural incomes of the area's farmers and the operating income of the brigade. An amendment to the original grant provided for a 10 hectare demonstration plot for the brigade.

The project has provided plowing for approximately 60 farmers during the initial season of operation. On average, each woman has had approximately 1.8 hectares ploughed and each man 2.4 hectares. However, the results of the project must be viewed in the light of some of the complicating factors. First, the success of the project depends on the affordability of the tractor service. Presently, ARAP provides any farmer a subsidy of \$30 per hectare for hiring draught power. The subsidy means that during the drought, the Tutume area farmers receive the tractor service at no monetary cost. The project is therefore demand driven based on the subsidy offered by the government. In addition, even the first farmers who received the service did not get their lands plowed until late December, far into the agricultural season and decreasing their chances of realizing a productive harvest.

The project has operated for one agricultural season. The objectives of the brigade have only been partially fulfilled: tractor plowing has been provided to several farmers in the area and the brigade has been able to use the tractor to haul materials dur-

ing the off-season. However, there is no evidence that food production has, or will be, increased because of the project for several reasons. First, the brigade intends to use the tractor to plow its own demonstration plot before proceeding to plow farmers' fields. Because agricultural production is so dependent on the timing of plowing coincident with the start of the rains, it is questionable that this pattern will allow any increase in local production. Second, the brigade has had a serious problem matching the technology to the soil conditions of the area. A moldboard plow could not be used successfully because of the predominance of tree-stumps in most of the fields. In switching to a disc plow to offset the problem, the upper horizons of the soil structure of the plowed fields has been damaged leaving them susceptible to wind and water erosion.

Conclusion.—The project appears to be economically sustainable only as long as the subsidy makes the project affordable to the farmers. Several planners at the district and the national level have commented that the subsidy is intended as drought relief and will be discontinued in the near future. There is also the question of who will be able to afford the plowing services after the removal of the subsidy. Definitely, the poorer farm households were not able to afford such a service before the drought and it is unlikely that they will be able to afford it in the future.

Environmentally, the project faces an even bleaker future. Even though the technical problems leading to increased soil erosion maybe worked out, it is still questionable whether increased farmland should be opened up to monocropping in a fragile semi-arid ecological zone. The removal of trees and the plowing of large areas of land may have already made the area more susceptible to environmental damage.

Organizationally, the project is not sustainable. The farmers receiving the services of the brigade have no say in the decisionmaking of the project or in the demonstration plot research being conducted by the agricultural unit of the brigade. This top-down form of consultation does not allow input from the farmers and makes later field trials irrelevant with respect to meeting the needs of farmers. There is no learning or process of group empowerment, as no primary groups exist.

Finally, the project has passed on the large risk of farming in a semi-arid environment to the farmers. Any increase in soil erosion, or financial risk due to planting increased hectareage, is passed on through ADF and the brigades to the rural households. Past demonstration tractor hire schemes in

Botswana have not increased agricultural production sufficiently to cover the costs of production.

At present the project appears to be replicable because the brigades and other NGOs have embraced the idea and are promoting it. At least two other brigades in Botswana have expressed interest in a tractor hire scheme in their area. As long as the subsidy remains, such a project has the potential for tremendous popularity. However, the question here is not "Can the project be replicated?" but "Should the project be replicated?" From available evidence and past experience in Botswana, the answer appears to be negative.

Zimbabwe Coffee and Tea Project

Organization: Agricultural Finance Corporation
 Site: Honde and Pungwe Valleys, Zimbabwe
 Activities: Revolving credit fund for coffee and tea production.
 Grant Size: \$101,537

The Setting.—After independence in 1980, the government of Zimbabwe faced the difficult task of restructuring the rural economy of the country to provide services to the African smallholders previously excluded from participating in economic development. Agricultural production in pre-independent Zimbabwe favored the large-scale commercial sector and institutionally the delivery of inputs and services was directed toward the larger farmers. The present objective is to provide access to inputs and services for the smallholding low-resource farmers of the country.

The Agricultural Finance Corporation (AFC) of Zimbabwe is a parastatal credit institution that was founded to provide loans for agricultural activities. Previously, its experience was mostly with the larger commercial agricultural sector. For the last seven years, the AFC has been redirecting its attention to provide loans to smallholders for both marketable food and cash crop production. They make loans available for the short-, medium-, and long-term for crop production expenses including land preparation, the purchase of fertilizers and chemicals, harvesting, transportation and marketing.

The Project.—The ADF funds for the Zimbabwe Tea and Coffee Project allowed the group to establish a revolving credit fund for the production of tea and coffee by smallholders in the Honde and Pungwe Valleys of eastern Zimbabwe. The Honde and Pungwe Valleys stretch from the Nyanga-Mutare road northeast to the Mozambique border.

The area provides a favorable region for the production of tea and coffee in addition to several different food crops.

The AFC has two important credit schemes in the valleys, one of which is funded with European Economic Community funds and the other financed by ADF. The ADF project provided medium- to long-term loans for the purchase of tea and coffee seedlings, and expenses related to land preparation and fertilizers and chemicals. Initially, approximately 144 farmers received loans of approximately \$600 spread out over 3 years. The interest rate charged is 13 percent per year. The projected numbers of farmers to receive loans under the revolving credit fund are 214 in 1986-87 and 383 in 1987-88. In total, there are 500 farm households in the area.

Because both tea and coffee take a number of years to mature, no returns to the farmers have been measured. Estimates made by the AFC and AGRITEX, the government agricultural research and extension agency, anticipate returns per farmer of approximately \$700 to \$1,000 per hectare per year for tea and a higher return for coffee. With the average size of a combined tea/coffee plot being one hectare per household, the expectations are that each household will be able to repay the loan starting in year 3 or 4 and have a reasonable profit.

The project has not been able to yet recover the value of the loans because they are not yet due for repayment. However, it is anticipated that there will be a high repayment rate because of the favorable conditions under which the farmers operate, because of the potentially high returns for coffee, and because the AFC will be repaid directly by the marketing societies before the farmers receive any returns from the sale of crops.

Conclusion.—The possibility of sustainability for this project is relatively high. Economically, the funds are being used to support fairly high-value cash crops. As long as coffee prices paid to the farmers offset the depressed price of tea, the prospects for increased income and for the continuance of the revolving credit scheme are high. However, it is not clear if the economic feasibility plans of the project accurately reflect the changing conditions for the marketing of these cash crops. In the area, several farmers who have long-term experience with the production of tea have had to sell food crops to repay AFC loans.

The project has increased the potential of organizational sustainability at the primary cooperative level and for the AFC. The cooperatives associated with the project appear very democratic and participatory, except possibly with respect to women's access to the project. As institutions, they

have experienced substantial empowerment because of their involvement in the production of tea and coffee.

The AFC has also benefited from the shift in emphasis from the large-scale commercial to the small-holder sector. The ADF funds contributed to sustaining this shift, but did not produce the major incentive for it.

Environmentally, the replacement of food crops grown on steep slopes by the more soil-protecting tea crop benefits soil conservation. However, it is not clear how the continuing shift from tea to coffee will affect the degree of groundcover in the area. Alternatively, little or no research has been done on the possibility of intercropping the tree crops with food crops for soil conservation. There has also been no analysis of the potential for surface and ground water contamination (or the potential for increased incidence of health problems) caused by the increased use of pesticides in the area.

The last issue of sustainability involves the lack of monitoring being done by the AFC, ADF, or the primary organizations. The AFC is attempting to increase their computer capability to track loans and recipients, but they must also ensure that data is collected on who is being served and the impacts on the target group.

The AFC revolving credit scheme for tea and coffee production has little potential for replicability in the rest of Zimbabwe because of the specific ecological conditions necessary for the production of these crops. However, the lessons learned by the AFC with regard to repayment procedures and the success of the primary groups could be adapted for other crops and situations within Zimbabwe. This project has the potential for a significant impact on the income levels of low-resource farmers and for the growth of indigenous institutions involved in improving access to previously excluded portions of the farming sector, but efforts must be made to build in monitoring procedures that allow organizations to determine the populations actually being served and the benefits to them.

Silveira House Development Fund

Organization: Silveira House
 Site: Nine communities, Zimbabwe
 Activities: Dressmaking cooperative; animal and storage facilities; store; farm inputs and equipment.
 Grant Size: \$20,808

The Setting.—Zimbabwe contains a plethora of non-governmental organizations (NGOS) involved



Photo credit: ADF/Christine Fowles

Women learn dressmaking as part of the Silveira House Project

in rural development. Some are non-denominational, while others are religiously based. One of the more respected religious-based institutions is Silveira House. It began as an institution in 1964 with the major objective being to provide a place where people could gather to discuss political issues. In 1970, Silveira House started an agricultural program centered around groups using the traditional *nimbe* cooperative labor group for organizing purposes. Within several years their activities expanded to cover over 500 groups within their diocese.

Silveira House derives most of its present budget from lay contributions solicited by institutions representative of the German Catholic Bishops (MIS-EREOR) and from funds awarded by a Dutch Catholic development organization (C EBEMO). Its total budget is approximately \$500,000 per year. Their agricultural program is one of the most expensive, approximately \$120,000 per year.

The Project.—In 1983, the director of Silveira House felt that a discretionary fund would be a useful method of providing loans and grants to communities for small-scale projects. This fund would allow rapid responses to groups' and communities' needs. ADF approached Silveira House at the suggestion of an Oxfam staff member familiar with the idea, and in March 1985, ADF gave a grant for \$15,510. Subsequent grant amendments brought the total up to \$20,808.

With the ADF money, Silveira House has provided funds for dressmaking cooperatives, livestock dip tanks, piggery construction, the stocking of a community store, building sheds for the storage of farm inputs, and purchase of farm inputs and processing equipment. In all, groups from 10 communities are scheduled to be assisted with ADF funds.

The results so far have been concentrated in nine of the communities and interest-free loans have been made totaling approximately \$8,000. The remaining monies of the discretionary fund will be dispersed when the groups' projects are ready for funding. An additional \$3,298 is budgeted for the purchase of a motorcycle for the agricultural field staff; however, some problems with the transfer of funds between the ADF and Silveira House have delayed its purchase.

Conclusion.—Silveira House remains one of the most stable and respected NGOS in Zimbabwe, thus ensuring the sustainability of the group beyond the end of the project. It is also likely that because of the training and organizing skills transferred from Silveira House to local communities that the recipient groups will continue to prosper after the ADF funds have been used. Finally, the activity of a revolving credit scheme being funded by ADF encourages the sustainability of the project's activities.

Several pros and cons of this use of ADF funds are apparent. The advantages are those of sustainability listed above, plus the probability that the funds are being used by an institution with a mandate sim-

ilar to ADF's. Silveira House has a strong training program and works closely with government group development programs and the groups themselves to strengthen local institutions. However, little data exist to suggest that the target groups reached by Silveira House represent the poorer segments of the communities. Of the several activities visited by the OTA teams, for example, the piggery project at Mwanza and the cattle dip in Chishawasha, principally benefited the more affluent small farmers, those who could afford the entry fee for the piggery project and those who owned cattle. Another concern is that some of the projects encourage women to learn traditional skills such as dressmaking which are less remunerative than agricultural activities.

On the positive side, Silveira House has a fairly large and consistent budget commitment of which the ADF grant is a very small portion. Were the ADF funds not available, Silveira House most likely would have been able to secure funds for the discretionary credit scheme from other sources. When the ADF grant is disbursed, Silveira House will likely be able to use its contacts with other donors to raise additional funds.