
Appendix 3

Country Report Mozambique

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TABLE OF CONTENTS

1. Introduction	4
2. Description of the Pilot Area and the Pilot Measure	4
2.1. The Project Area	4
2.2. The Pilot Measure	5
2.2.1. The expected outcome of the pilot measure	5
2.2.2. Project Approach	6
3. Methodological Approach	8
4. Findings	9
4.1. Contribution to the outcome through outputs	9
4.1.1. Forest Management Plans	9
4.1.2. Empowerment of local communities	12
4.1.4. Income generation	16
4.1.5. Documentation of experiences and development of toolkits	18
4.1.6. Marginalized Groups	19
4.1.7. Sustainability	20
4.1.9. Project Management and Coordination	23
4.2. Assessment according to international evaluation criteria	24
4.2.2. Relevance	25
4.2.3. Effectiveness	26
4.2.4. Efficiency	27
4.2.5. Impact	27
4.2.5. Sustainability	29
4.2.6. Coordination	29
4.2.7. Overall rating of the pilot measure	29
5. Conclusions and Outlook	30
Statistical data	33

Executive Summary

The Mozambique pilot measure was carried out in the community of Geregi in the district of Mabalane in Gaza province, about 370 km to the North of Maputo, the capital city of Mozambique. The area has rainfall of less than 500 mm per year and is mostly covered by woodlands dominated by mopane and Lebombo ironwood. It has become an important supply area of charcoal to Maputo, where about 74% of the population still relies on woodfuel.

The pilot took place in a favourable institutional setting characterized by the development of policies and legislation supporting community participation in government and resource management. However, favourable policy statements are not always matched by adequate practices.

The pilot's development goal is to improve the living standards of communities in Madliwa and Hochane involved in the sustainable use and management of their natural resources. Its objective is the management and conservation of indigenous forests through community based approaches. The target community comprises about 1000 people living in 263 households and manages an area of 1700 km². The pilot started in 1998 and was implemented by a national NGO. Since 2004, it has benefited from German technical advisors paid by DED who until 2006 supported the elaboration of the management plan and since 2007 concentrate on the development of alternative income opportunities.

The project's main achievements are:

- A certificate stating that the community has requested a community title for its 1700 km² territory;
- Four local committees for the management of the forest, water, agricultural resources and a community fund and a group of ten trained community rangers;
- Two forest inventories and a forest management plan laying down management principles including zoning and a maximum allowable cut;
- A marketing strategy based on centrally determined prices and a central selling point;
- A licensing system paid for by the traders who buy the charcoal produced under a communal license from the central government which includes an additional community fee;
- A community fund supplied through the community fee paid for by the charcoal traders at the central selling point and used for investments in public amenities.

The project failed to:

- Develop effective income generating alternatives to charcoal burning;
- Transfer key skills with regard to the management of natural forests;
- Transform the local committees in an association that can legally claim the community share in government forest levies;
- Guarantee unequivocal and effective government engagement with the project;
- Guarantee effective compliance with the management plan with regard to allowable cut and exclusion of outsiders;
- Guarantee the correct application of bylaws and other principles regulating the operation of the community's committees;
- Guarantee that the community fund is used solely for community benefit and not for the local elite;
- Support sufficiently women and female headed households and other marginalized groups, allowing thus an increase in inequality in the community; and
- Guarantee replication by the production of manuals and toolkits or other visible activities with regard to knowledge management and dissemination of experiences and lessons learned.

The present evaluation is based on an analysis of available documents, interviews with key informants, and a survey among 97 community members. For the interviews the consultant

used Portuguese translations of standardized questionnaires developed for all four pilots. The survey was carried out by three enumerators whereof one female in the local language (Shangaan).

The results of the survey confirm that 75% of the population knows about the management plan and 87% about the committees. Most (62%) of those aware of the existence of these committees state to be satisfied with the way in which they operate and feel well represented. The survey also indicates that the population is able to raise an income 30% above the average in the province. Eighty per cent of the population aware of the management plan claim that it is well implemented. However, in reality the population is able to raise a substantial income by a production of charcoal almost three times the annual allowable cut and by not complying with community market regulations. As a result, the sustainability of the resource is seriously threatened.

The project has covered 70% of the households in its attempts to generate alternative income. However, all attempts, except those related with charcoal, proved fruitless. Harsh climatic conditions (floods and droughts), insufficient technical support to community members, absence of market demand, inadequate budgeting and internal bureaucracy in the implementing NGO and an initial focus on building groups around activities in stead of targeting individual households explain the lack of success.

This evaluation assesses the pilot according to OECD DAC procedures with regard to its relevance, effectiveness, impact and sustainability. This assessment shows that it is generally unsatisfactory (rate 4). The pilot's relevance is severely hampered by its failure to produce manuals and toolkits or engage in other activities with regard to the formulation and dissemination of lessons learned. Its effectiveness is insufficient as despite improvements in natural resource management sustainability is not guaranteed. The pilot's impact is unsatisfactory because it failed to create alternative sources of income and marginal groups, primarily women, benefited less than the average. Its sustainability is also unsatisfactory because of substantial free riding with regard to the community fund and because the pilot's failure to obtain unequivocal support from government agencies as to the compliance with the management plan, the protection of communal land rights, and the exclusion of outsiders.

One of the reasons for the lack of the success of income generating activities other than charcoal has been the impact of the drought. Support to farming through the supply of seeds basically failed as the seed did not germinate or the crop not mature due to lack of water. Future projects should focus on income generating activities that are less dependent on rain, concentrate on water harvesting and other agricultural techniques appropriate to semi arid areas, incorporate the development of markets, target support to households rather than groups of households with a diffuse accountability structure. They should also pay more attention to the quality of the transfer of natural resource management related skills and monitor better the change in the local skill and knowledge base. Finally, the impact in the field is substantially constrained by the budget. Over the 2007-2008 period, almost 95% of the budget is spent on salaries and transport, leaving too little for acquisition of goods and services for activities.

1. Introduction

This document contains the result of an ex-post evaluation (EPE) of the Community Forestry Pilot component in Mozambique, which is part of the project SADC - Sustainable Forest Management and Conservation (PN: 2006-2075.7).

The objective of the EPE is to evaluate the success and sustainability of the development measures in the pilot component on the basis of clearly defined evaluation criteria and a standardised success assessment grid.

The original project is based on the assumption that rural poverty and forest degradation in the SADC region are inseparably linked. Sustainable, community based, participatory forest management is considered a key instrument to break this circle, offering the rural population prospects of enhanced livelihood conditions and income generation at the same time.

The ex post evaluation assesses the economic and ecological results and impacts and the institutional changes and ownership achieved at the community and local government level. It will identify what approaches, instruments, methods or concepts are lastingly used, institutionalised or further developed by the target groups, partner institutions or other actors, and how the impacts for these groups will continue beyond the end of assistance as well as identify key risk factors for longer-term sustainability of the results.

2. Description of the Pilot Area and the Pilot Measure

2.1. The Project Area

The Mozambican pilot is located in Gaza Province at about 380 km to the North of the capital (Maputo) in the district of Mabalane in Gaza Province. The area is sparsely populated. Population density is about 3.5/km².

Mabalane district is a dry area. Average annual rainfall is about 400 to 500 mm. The district is crossed by the Limpopo river but the sandy soils and low rainfall make agriculture a highly unreliable livelihood strategy in most parts of the district. People often have to fetch their drinking water from wells or boreholes at a large distance. Traditionally a cattle holding area, most residents lost their livestock during the war of independence of Zimbabwe and the conflict between the Government and Renamo between 1976 and 1992. Labour migration and the commercialisation of forest products are now the main sources of survival. Social and economic ties with South Africa are strong. Many residents spend several years across the border as migrant workers. Many maintain cross-border family and friendship ties and visit South Africa regularly. The population also relies for much of its information on the Shangaan speaking station from Gazankulu in South Africa, as the reception of national radio stations is deficient.

Mabalane district is served by two major infrastructures: a dirt road and a railway connecting Maputo harbour with the Zimbabwean hinterland. Both are running parallel at a close distance (ca. 10 m) from each other. Over time, railway stations and related facilities have become small population agglomerations as people were attracted to the associated labour and business opportunities.

The relics of old wagons and the bullet holes in ruined buildings once serving the railroad company testify to the infrastructures' strategic importance. After the war the road and the railway were rebuilt only to be partially destroyed again in 2000 by floods. Currently cargo trains transport fuel and other commodities to Zimbabwe on a daily basis. Local producers and passengers are served on a weekly basis. Despite the on average low annual precipitation access is conditioned by rains and floods during the rainy season.

The district is not served by the national electricity grid. The district capital has a generator which supplies energy to a small local network during part of the day and evening. It is also

served by one of the two national mobile phone network operators (MCell). In Combumune a local bar operates a public phone booth of TDM. The level of education is low. In 1997, only 14% of the population was able to speak Portuguese and less than 30% able to read and write. The project area Geregi itself is not covered by any facility except for a primary school (with delegations in Hochane and Chaves) and a small health post.

The dominant land cover in the district is woodland. There are two major forest types. The first is dominated by mopane (*Colophospermum mopane*), the second by Lebombo ironwood (*Androstachys johnsonii*). Mopane is a highly valued source of charcoal. In Maputo, approximately 74% of the population still relies on woodfuel, mostly charcoal. As wood resources around Maputo city have been depleted, Mabalane has been gaining importance as one of the most important source of charcoal. Charcoal is exported from the district to Maputo on trucks and by train. Other important timber species such as copalwood or chacate (*Guibourtia conjugata*), zebrawood (*Dalbergia melanoxylon*), African sandalwood (*Spirostachys africana*) and in particular African mahogany or chanfuta (*Azelaia quanzensis*) are less abundant but increasingly attract the attention of loggers. The latest inventory data indicate however that in the project area itself these resources have all but been completely depleted.

The project area was selected by the district government of Mabalane among three alternative locations. Criteria were: the concept of community, economic potential, ecological status (extensive well-preserved woodlands) and accessibility. The project area is located in the northern section of the district in the administrative post of Combumune. It lies quenched between two conservation areas: the Banhine National Park and the Limpopo National Park. The latter was created in 2006 as part of the Kruger-Limpopo-Gonarezhou Trans-Frontier Conservation Area. The project area comprises three communities or neighbourhoods (Mandliwa, Hochane and Chaves) of about 1000 persons (estimated on the basis of locally supplied data) and an area of 1700 km².

2.2. The Pilot Measure

2.2.1. The expected outcome of the pilot measure

The pilot measure in Mozambique has the following objectives and expected outcomes:

Development Goal: To improve the living standards of communities in Madliwa and Hochane involved in the sustainable use and management of their natural resources.

Project Objective: Management and conservation of indigenous forests through community based approaches are implemented and improved.

Expected Project Results (Outcomes):

- R-1: The communities at local level are empowered, the local organization is strengthened and the capacity in the management and control of natural resources is strengthened.
- R-2: The awareness of the population against STDs/HIV/AIDS is increased.
- R-3: A participatory management plan of the communal natural resources is established and implemented.
- R-4: Crop production, livestock raising and planting of trees as potential alternatives to destructive forest utilization are intensified.
- R-5: The existing marketing strategies are improved.
- R-6: The existing results of the project are processed and compiled in toolkits.

These objectives and expected outcomes match with the other pilots except for R-2, which is unique for Mozambique. Another difference is the lack of explicit attention for the situation of marginalized groups, prominent in Botswana and Namibia, and gender issues.

2.2.2. Project Approach

The project is implemented by a Mozambican NGO called GTA (*Grupo de Trabalho Ambiental*). GTA was created with support from the Dutch NGO HIVOS to prop up the presence of Mozambique on the UNCED 1992 Conference in Rio de Janeiro. Among its founders are leading environmentalists, who since then have become involved in other organizations such as IUCN and WWF. Within the project, since 2004, GTA benefited from technical assistance from a DED financed expert.

GTZ and GTA have their headquarters in Maputo; in 2000, GTA established a base camp in Combumune, not too far from the offices of the local government representative (*chefe do posto*) and about 25 km from the main target community. The DED technical expert is based in Xai-Xai at 270 km from the project area and 210 km from Maputo. Xai-Xai is the capital of Gaza province and home to the provincial government, including the provincial agricultural and forest services and land register. Licenses for timber and charcoal are issued here. The technical assistant does not have an office but works from his house in Xai-Xai Praia, about 10 km from the city centre. For specific activities such as the training of carpenters or of people interested in rearing guinea fowl, additional technical assistance would be contracted.

DED technical support was fundamental to the elaboration of the forest management plan and the attempt to translate the experience into a toolkit. However, neither the DED expert nor GTA have been able to guarantee full-hearted engagement by the provincial forestry services in community management.

The project has been operational since 1998. In its initial phase, it commissioned technical support by the national agricultural research institute (INIA) and the national forest research institute (CEF). The first implemented a soil suitability study. The latter was responsible for the execution of the first forest inventory. The forestry department of the country's main university (UEM) assisted with a second inventory as part of a student training activity. A national consultancy agency (SEI) did a study of the market for non-timber products. In 2007, GTZ implemented a third inventory.

The project has tried to achieve its objectives and results through six kinds of activities:

- Awareness raising (community education, competitions among local schools, etc. on environment and HIV/AIDS);
- The design and implementation of a community-based forest management plan;
- The creation of a local organizational infrastructure capable of implementing the management plan;
- Training of community members in specific economic and/or professional skills (e.g., forest legislation, forest ranging, charcoal kiln building, carpentry, etc.);
- Support of economic activities not directly related to forest exploitation (e.g., breeding of guinea fowl, horticulture, seed supplies, transport, horticulture, pineapple production, water storage facilities) and directly related to forest exploitation economic activities (marketing of charcoal); and
- Support to social amenities (schools, health post, boreholes).

Besides GTZ the German embassy in Maputo supported some specific activities such as the equipment of a bore hole with a solar-powered pump.

The implementation of activities has been guaranteed during field visits. Apparently, the GTA team would spend about 80 days a year in the field. However, in 2000, GTA was forced to interrupt its presence for eight months as the area had become inaccessible due to the huge floods of that year. In 2007 the project was interrupted for two months due to difficulties regarding the recruitment of new staff and later for another four months due to cash flow problems.

The consultant did not have access to the project's finances. Available information indicates that, for 2007 and 2008, GTZ made available a total amount of US\$ 144,000. According to the project coordinator, the typical budget would be US\$ 18,000 per trimester, whereof US\$

13,500 for salaries, US\$ 4,000 for fuel and maintenance of two vehicles and one motorcycle, and US\$ 500 for activities.

Administrative difficulties at GTA sometimes provoked delays in the disbursement of funds by GTZ. As a result, in 2007, for example, the project came to a complete standstill during three months.

Project activities are still ongoing and will end in December 2008.

2.2.3. Factors affecting the status of the outcome

The project was initiated during the post-war recovery period. This period is characterized by important reforms in the land and forest policies and legislation. These reforms are designed to create the conditions for furthering the transition from a planned economy towards a market economy already initiated a decade earlier. At the same time, for the first time in Mozambican history they acknowledge the rights of communities with regard to access, management, control and benefits from land and forest resources. The 1997 land law recognizes communal land titles and the 1999 Forest and Wildlife Law proposes different forms for community benefits and control with regard to the exploitation of woodland resources. The 2002 Forest and Wildlife Regulation creates the obligations to consult communities prior to the issuing of forest exploitation licenses as an instrument for the harmonization of business and community interests. It also establishes a community share of 20% of all license fees collected by the Government. In 2005, a joint decree (diploma) by the ministers of Finance, Agriculture and Tourism lays down the mechanisms for the transfer of these funds to the benefiting communities (Diploma 93/2005). Under this procedure, according to figures from the Ministry of Agriculture, the communities in Mabalane district should receive about US\$8500 over 2006 and US\$1000 over 2007.

The reforms in the land and forest legislation coincide with changes in the organization of local government. In 2000, the Council of Ministers approved a decree that opens the road to the formal recognition of local leaders, including traditional chiefs and headmen, as authorities within the government's administrative framework (Decree 15/2000). Previously, the government always denied traditional rulers any role in public administration. In the same year, the Minister of State Administration issued a decree (diploma) that calls for the creation of local consultative councils (Ministerial Diploma 107-A/2000).

The 2003 Law on the Organization of the Local State (LOLE) and its 2005 Regulation strengthen the position of the district administration in the state hierarchy. Contrary to previous legislation, LOLE attributes executive competences to the district government with its own budget.

The 2005 Regulation of LOLE also formalizes people's participation in the elaboration of the District's Strategic Development Plan (PEDD). The participation of the communities is channelled through consultative councils at the village, administrative post and district levels. Although there are no clearly established means for guaranteeing that the composition of these councils is representative, they are an important avenue for the channelling of local concerns into the district development planning and budget making processes. GTZ has supported the decentralization process in Manica Province, but not in Mabalane. In Mabalane, PEDD has become institutionalised since 2008. One GTA staff is part of the district consultative council.

Another important innovation is the attribution of Mt 7,000,000 (about US\$ 300,000) to the districts in support of local development. After a confusing start in 2006, the criteria for the application of these so-called Budgets for Local Investments and Initiatives (OILL) are becoming more and more clear. The OILL are now basically perceived as rotating funds to support local initiatives and are likely to become one of the most important levers in triggering local businesses.

OILL is a relative large amount of money. In the case of Mabalane, it is about the double of the annual budget of the district. The annual budget of Mabalane district is about Mt 4,000,000 (US\$166,000), whereof Mt 600,000 (US\$ 25,000) is raised through its own revenues. More than half of these revenues result from a levy on forest exploitation.

Other important factors are the floods of 2000, which devastated a large part of the Limpopo valley, and droughts which destroyed the harvests in the subsequent years.

3. Methodological Approach

In order to guarantee comparability of the four country assessments a workshop was organized during which assessment objectives and procedures were established. During the same workshop, a questionnaire was designed for key informants and for community members. The questionnaires were translated into Portuguese and can be found in Annex I.

Field work in Mabalane took place between October 15 and 25. The first few days were used for obtaining authorization of the district and administrative post authorities to operate in the area, an interview with the local forest guard, and for meetings with the local community. During the weekend, the technical expert provided by DED was interviewed in Xai-Xai and training sessions were held with the enumerators. The following days were dedicated to the implementation of the survey. During the days in the field, the team established a camp on the precinct of the primary school in Mandliwa.

The assessment is based on a broad array of information from different sources. To obtain an image of the project design phase documents at GTZ and GTA were consulted (See Annex III for complete list of consulted documents). Moreover, various project outputs were made available, including intermediate evaluations and an impact assessment. It should be stressed that most information dated from after 2002. These documents were however insufficient for a complete reconstruction of the key decisions with regard to the selection of the location and the build up of relations with the local community.

Written documentation was supplemented with material from interviews with the GTA project coordinator, the technical advisor to GTA and government officials at the provincial, the district and the administrative post levels. For the interviews with government officials the above mentioned questionnaire was used.

At the community level a day-long session was organized. This session was attended by members of all four existing committees (natural resources, agriculture, finance and water) at the same time and by most of the traditional leaders. The 14 attending members rejected a suggestion to hold separate meetings with each committee arguing that they normally would have large collective sessions. The questionnaire for key informants was used as the guiding instrument for the discussion. Annex IV contains a list of the interviewed key informants.

The local leaders provided the consultant with lists of all heads of households of the three main communities in Geregi: Mandliwa, Hochane and Chaves. As these communities differ considerably with regard to their location (close or distant from the road/railroad), history (mainly original residents and mainly war refugees) and size, it was decided to apply a stratified sample. The lists provided by the local leaders were used to establish systematic samples that take into account the differences in numbers of households for each of these areas.

Table 1 provides a summary of the planned and achieved sample sizes and the weighing factors used for the calculation of parameters at the population level. The total sample size of 97 allows for a reasonable accurate estimate of proportions. The 95% confidence interval for a proportion in the sample of 50% is $50 \pm 8\%$.

Table 1: Number of households, planned sample size and implemented sample size for the three communities covered by the project.

Community	Nr. of households	Planned sample		Implemented sample		Weighing factor
	N	Number	Proportion	Number	Proportion	
Mandliwa	162	54	33%	60	37%	1,00
Hochane	32	16	50%	16	50%	0,74
Chaves	69	23	33%	21	30%	1,21
All	263	93	35%	97	37%	1,00

The interviews were carried out in the local language (Shangaan) by three enumerators, one of whom female. Each enumerator did interviews in all neighbourhoods to avoid enumerator related biases. Almost all interviews were carried out in the respondents' residences and in all cases the enumerators were accompanied by a local guide.

Field work was seriously constrained by the organization of World Food Day in the locality Cumbumune on October 24. The celebrations were attended by the Minister of Agriculture and the Provincial Governor. As all provincial and district government officials and local leaders were engaged in the preparations of the celebration, the fieldwork was interrupted. The district administrator and provincial officials were interviewed in Xai-Xai and Macia on October 27. The district director for agriculture was interviewed in Maputo on November 22. The latter claimed that due to his appointment only six months ago he was not familiar with the project.

Contacts with the population showed that people were keenly interested in the continuation of GTZ's support to the community. This interest is likely to have led to a bias in the responses of the interviewed members of the community, who tended to highlight positive results even though their statements were contradicted by observations and other sources.

The interviewed parties received a draft of the report for comments. Only the DED expert and the GTA project coordinator used this opportunity to clarify issues and supply additional information. It should however be stressed that the final document expresses the opinion of the consultant which does not necessarily coincide with that of the informants.

4. Findings

4.1. Contribution to the outcome through outputs

4.1.1. Forest Management Plans

The forest management plan is central to the success of the project. Through the implementation of the plan, the project aims to achieve sustainable resource use by balancing the level of extraction with natural re-growth. The plan is also central to the distribution of exploitation rights among community members and the creation of a community fund on the basis of a licensing system.

Already in 1998, the project established a communal license and a bylaw stating a per household quota for charcoal production. This action preceded the first forest inventory (finalized in 1999), the demarcation of the community's territory (in 2002) and the elaboration of a forest management plan (completed in 2005). Under the management plan the bylaws and quota were revised.

The Mozambican pilot forest management plan is valid for a fifteen-years period. A simplified summary has been translated into the local language (Shangaan). The local natural resource management committee has at least one copy. Provincial and district government have formally endorsed the document, making it an official tool in the management of the forests.

The management plan's vision is: "The planned and sustainable use of the forest areas in order to generate long-term revenues for the community members and to guarantee the conservation of the communal forests for future generations".

To achieve this vision the plan has the following objectives:

- Avoid the unrestrained spread of deforestation by the opening of new fields through the planning of land use;
- Motivate community members to recognize and comply with locally defined rules;
- Resolve potential conflicts about natural resource use with neighbouring communities;
- Legalize the exploitation of the forest resources by community members
- Reduce the exploitation of local natural resources by external users through communal policing;
- Maintain the productive forest areas through less intensive exploitation leaving the forest in an ecological equilibrium.

The plan introduces several general measures such as the prohibition of chainsaws and the creation of interest groups for exploitation of forest resources other than charcoal.

The plan does not include reforestation activities. However, in 2001, the project established a nursery. The nursery operated till 2005, when the project ceased to pay a monthly salary to the two community members who had been working on it. The nursery produced *Azadirachta indica*, *Casuarina equisetifolia* and *Eucalyptus camaldulensis* as well as fruit trees. Three eucalypts on the precinct of the school in Mandliwa, a small plot of eucalypts a few kilometres to the south of Mandliwa and a few specimens of native species (*Trichelia emetica* among others) close to the nursery are indications of the project's reforestation activities.

The plan is based on two inventories (from 1999 and 2003). It uses an average annual growth on the basis of established literature of 0.32m³/ha. On the basis of these sources the plan foresees an exploitation of 50 trees per adult member of the community per year, which is the equivalent of two kilns or 24 bags of approximately 42 kg each.

For charcoal production the plan foresees in measures such as: zoning, restriction of the number of kilns per hectare, rotation, selective felling, concentration on only two species (mopane and *Combretum apiculatum*), a minimal diameter of the trees to be felled (20 cm), a maximum cutting height above the ground (20 cm) and the prohibition using fire in the killing trees and in clearing the forest.

The implementation of the plan is based on community licenses for charcoal production. The community, through its natural resources management committee, acquires this license from the provincial forestry services in Xai-Xai. In 2007, the license amounted 12,000 bags.

The license is a means to control extraction and to raise government and community income. The government license costs Mt 11.50 per bag. The costs of the license is passed on to the buyers of the charcoal. These pay a total fee of Mt 35.00 per bag. This fee includes, besides the government license (Mt 11,50), a fee raised by the district administration (Mt 2,00) and a community fee (Mt 21.50). The latter is deposited directly in the community fund. This fund is reinforced by the 20% community share of the government license (Mt 2.30 per bag) the government is required to transfer to the community fund under the Forest and Wildlife Regulation.

his licensing system represents a radical step forward in comparison with general practice, where not the charcoal producers but the charcoal traders hold the license. When charcoal traders hold the license, it is impossible to connect the extracted woodfuel to a specific area. The attribution of the licenses to the producers enhances the potential to achieve planned natural resource management.

The management plan is well known among the population. About 75% of the respondents are aware of the existence of a management plan and 24% claim to know well its objectives.; only 17% of those aware of the plan do not know its objectives. The respondents appear also convinced of the successful implementation of the plan. Almost all with knowledge of the plan (80%) stress that the plan achieves sustainable use. Asked for how this is done, people refer to the zoning system, selective felling, the prohibition to use fire, and the practice of cutting trees at a height closer to the ground. The latter measures are seen as favourable to regeneration.

The influence of the area of residence and gender is not statistically significant, although the level of knowledge among women (70%) is lower than that among men (80%) (weighed results).

Although the plan was designed with external technical input, many community members state that they were able to participate to some extent in its preparation. Out of the 74 people who acknowledged knowing about the plan, 39% state to have participated strongly in the definition of its objectives, 37% in the definition of its scope, and 59% in the selection of those who are responsible for its implementation. More than half (55%) participated strongly in the design of the management rules and the aspects of the plan related to the use of the communal benefits.

The only aspect of the plan where local people were hardly involved is the inventory: 82% of the respondents state explicitly that they did not participate in the inventory or even know about it. This part of the planning process apparently remained an expertise exercise. As a result, there is also little understanding among community members with regard to the stock and its carrying capacity (see below in chapter 4.1.3).

The population presents an image of perfect implementation of the management plan: About 90% of those who know about the plan allege that as a result of the plan's implementation the level of extraction is reduced; that outsiders are excluded from the area; that the licensing under the plan is successful as well as the zoning of exploitation. Little less than three-quarters believe that the nursery is completely successfully implemented, even though they acknowledge that it is not producing as the dam used to irrigate it is now dry. The only aspects about which people are more hesitant are tree planting (18.9% believes it failed) and the distribution of the benefits: 59% believes that this part of the plan has been totally successful, 15% thinks it is somewhat successful and 9% believes it is a failure.

The level of satisfaction is not equal in each neighbourhood. The population of Mandliwa is happier with the application of the funds than that of Hochane and in principally of Chaves. In Chaves, only 26% is totally satisfied, compared to 63% in Hochane and 73% in Mandliwa ($p=0.002$). Gender also influences the level of satisfaction with the application of the community funds, with women being less happy than men (50% compared to 68% fully satisfied). This difference is however not statistically significant ($p=0.115$).

An analysis of the facts casts more doubts about the positive image entertained by the population. Although many households (42%) received fruit trees, reforestation with charcoal and timber producing species has mostly failed due to drought, vandalism, and predation by goats. The nursery always operated under the stress of drought but ceased to function completely as soon as the project ceased to pay the two local workers.

An analysis of the implementation of the management plan with regard to charcoal exposes other critical factors.

The survey data indicate that on the average each household has three adult members. On a total of 263 households, this means that there are 790 adults. According to the plan, each of these adults are entitled to 24 bags of charcoal per year. Given the price of MT 125 per bag this production would guarantee an gross average monthly income per household of Mt 900.

Total extraction as foreseen in the plan rounds about 19,000 bags per year or 1600 bags per month. This quantity is more than 50% more than the volume that was licensed in 2007.

The difference between the locally allowed volume and the volume licensed through the provincial government indicates that a substantial quantity of charcoal was sold outside the community market regulating and licensing framework. The associated loss of receipts for community fund amounts to 150,000 Mt or US\$ 6,000. The discrepancy between the locally allowed extraction and the extraction registered under the community license has increased in 2008. In this year, the community has declared less than 5000 bags, although all other signs point to a continuation of excessive extraction levels.

The community licensing system hinges upon one the monitoring of one exit out of the area: the railroad. About 3.5 km north of Mandliwa there is a small station where the single railroad track doubles. This place is aptly called *Agulhas* ("points") after the switches that allow the train to manoeuvre. Each week, the railway company CFM leaves two wagons to be filled with charcoal. One wagon serves communities on the west bank of the Limpopo river, and the other serves the Geregi community. A wagon takes about 450 bags. During the field visits, two fully loaded wagons were parked on the side track; the harvest of one week. Besides the tracks, another 350 bags had been deposited, ready to be uploaded the next day. People were still transporting more bags from the forest to the station. Thus, the volume uploaded at *Agulhas* rounds about 450 bags per week, the equivalent of about 1800 bags per month or 21,600 bags per year, almost 25% above the limits established by the plan and 80% more than the volume licensed in 2007 and more than four times the volume declared for 2008.

The median and the mode of the average monthly income stated by the respondents is 7 (Mt 2000 - Mt 5000). Almost all income is generated through charcoal (only 18% of the households admit receiving some kind of remittances). With a price per bag of 125 Mt the average per household charcoal production is between 16 and 40 bags per household per month. Given that the community has 263 households, total average production ranges between 4200 and 10500 bags per month. Using the lower limit of the median income range, this means that the extraction level calculated on the basis of estimated income is at least 2.6 times the limit set by the management plan and the double of the amount uploaded at *Agulhas*.

This short reflection on the limits set by the plan and the estimated extraction on the basis of other sources indicates that:

- (a) Total harvest exceeds the amount covered by the community license;
- (b) Total harvest exceeds considerably the established annual allowable cut as set by the management plan; and
- (c) A large and increasing proportion of the extracted charcoal leaves the area by other means than the train, without the payment of the community and state licenses.

Apparently, inside the community, there is a substantial lack of commitment with complying to harvest restrictions and licensing rules. This lack of commitment translates in an undermining of the sustainability of the resource and a loss of income to the government and the community fund.

It should be added that the above simulations do not consider seasonal fluctuations. During the rainy season, charcoal production and trade tend to abate due to the relocation of labour from charcoal burning to farming and the deterioration of road conditions. This abatement is however unlikely to significantly affect the above, already cautious, estimates regarding the excess in exploitation and the dodging of community licensing.

4.1.2. Empowerment of local communities

Under the project several actions have been undertaken to strengthen the community's organisational structure for natural resource management:

- 1998: Establishment of village committees for Natural Resources, Agriculture and Finances and definition of responsibilities;

- 1998: opening a village bank account by a special “Control of Bank Account Committee”;
- 1998: Establishment of a community fund and definition of the amount to be paid into the funds by each member who uses commercially the forests;
- 1999: Simplified training of financial recording;
- 2001: “Revitalization” of Natural Resource Management Committee (election of new members);
- 2005: Establishment of a water committee;
- 2005: Adaptation of the defined responsibilities of the committees according to the Forest Management Plan.

Today, all these committees and a committee for agriculture are still existing. The agricultural committee played a role in agricultural and horticultural activities as well as the measurement of cultivated fields. As agriculture has all but come to a standstill due to the lack of rain the committee is currently basically dormant. It does apparently not fulfil an active role in land use planning as foreseen by the project.

The natural resource management committee plays an important role in at least the five following fields:

- The community licenses from the provincial government for charcoal production;
- The allocation of plots for charcoal burning;
- The determination of the market price of charcoal (currently at Mt 125.00);
- The supervision of the community forest rangers;
- The collection of the license fees from charcoal buyers at the Agulhas loading station.

The financial committee manages the funds obtained from the community license. The amount collected through the licensing system is considerable despite systematic dodging of payment. It also manages the funds the government returns to the community under the 20% rule. According to the committee's treasurer, the government has not yet paid its dues over 2007 (almost 12,000 Mt or US\$ 475 according to figures from the Ministry of Agriculture) because the committees in Geregi have not yet been transformed into registered associations as required by Diploma 93/2005. However, the province has recently agreed to deposit the funds over the entire period in an individual bank account in order to avoid further delays in the implementation of this ministerial decree, even though the community has not yet complied with the prerequisites. As a result of these revenues, the community fund has been able to accumulate a considerable amount of money. Currently, it holds about Mt 73,000 (US\$ 3,000).

The money has been applied in social amenities such as the roofing of the schools and the houses of the teachers and the health post. Currently, the community fund has invested Mt127,000 (about US\$5,000) in the drilling a borehole on behalf of the community of Hochane. This is a co-investment together with the German Embassy and GTZ. However, the contracted company has failed to deliver and GTA will now try to get the money back.

The community funds are not used to pay any of those involved in the management structure. This means that even the community rangers are not compensated for their effort.

The water committee is responsible for the management of the solar-powered bore hole in Mandliwa. This borehole is a constant trouble as it often ceases to work. The households who want to use the water from this borehole have to pay a monthly fee of Mt 20.00 to Mt 30.00 depending on an estimation of the consumption. In 2007, the committee collected Mt 11,200.

It has not become clear to what extent the committees currently act as separate bodies. The fact that they refused to talk to the consultant separately suggests that they in practice have merged into one decision making body with separate executive responsibilities. The extent to which these responsibilities are executed varies considerably: the treasurer of the community fund appeared well informed; his counterpart of the water committee was unable to specify

the committee's financial accounts; and the person responsible for collecting the license fees at the loading station was (at 8 am) too drunk to serve a reliable spokesperson.

At the meeting the committee members made clear that the committees do not adhere to their bylaws with regard to the frequency of their meetings, the recording of their deliberations and the elections. It appears that they basically function on an ad hoc basis and that officials are only replaced if they want to retire or a serious opposition emerges among their constituents. The possibility of officials losing their mandate was confirmed during the field visit. The traditional leader of Mandliwa was de demoted and a new official was elected who will soon be installed by the district administrator. The contestation seems to be based primarily in tensions between the communities of Mandliwa and Hochane.

The survey contains several questions that provide indications with regard to the level of acceptance of the committees. These data show:

- Most community members (75.3%) are aware that the committees exist;
- Only a small minority (12.6%) does not attend any public meeting organized by the committees and a large group (38.4%) claims to attend all of them;
- A large majority (72.3%) is very satisfied with the way in which the committees conduct these meetings;
- Most community members (61.6%) are satisfied with the way in which the committees have resolved conflicts; and
- Most community members (62.8%) feel well represented by the committees;
- Most community members feel that the committees' decisions have a large (52.2%) or at least some (30.6%) impact on their lives; only 17.2% believes that their decisions are irrelevant.

The level of satisfaction with the committees is not the same among the neighbourhoods. About one-fifth of Chaves and Hochane (20.6%) feels totally not represented by the committees compared to only 7.4% than Mandliwa (significant at 10%; $p=0.095$). The respondents from these neighbourhoods are also less satisfied with the operation of these committees but this difference is not statistically significant.

Gender does not have an impact on the way in which people assess the committees.

4.1.3. Capacities of local people

The project has strengthened the capacities of the local people in different ways. One is by supporting their forest management and exploitation skills through the formulation and implementation of a management plan and the creation of the institutional arrangements around it. The other is through the provision of specific training programs to the community members. These courses frequently support income generating activities which makes separating them from these activities difficult (See chapter 4.1.4).

According to the data of the survey, over 62% of the weighed sample attended at least one of the specific training courses offered by the project. Trainings mentioned by the respondents include:

- Building of kilns (40%)
- Horticulture (37%)
- Training of rangers (6%)
- Rearing of guinea fowl (4%)
- Training of carpenters (2%)
- Forest legislation (1%)

Of those who attended any form of training, 40 (68%) use their acquired skill on a regular basis, although this use is normally conditioned by the weather; 14 (24%) never use the knowledge they acquired and 5 (8%) sometimes, again depending on weather conditions.

In an attempt to raise the efficiency of charcoal production, GTA has tried to introduce the Cassamance kiln. The local population rejected the technology but changed the original boat model by placing the branches and trunks now perpendicular to the main axis in stead of parallel to the main axis.

The guinea fowl was introduced to two groups (one in Mandliwa and one in Hochane) but failed for several reasons (See also below in chapter 4.1.4). Lack of capacity building is one of them. Misunderstanding about their behaviour (e.g., locals stated that guinea fowl breeds in pairs, which is against established knowledge which says that there is one male to five females) and lack of knowledge about breeding technique (e.g., how to resolve the difference in incubation time between domestic chicken and guinea fowl) indicate that the training was insufficient.

Farming techniques, in particular with regard to horticulture and crop production have been highly appreciated by the population. However, due to the lack of rain, the acquired skills are hardly applied.

The project created two groups of rangers. The first group of five apparently did not benefit from any training. The second group of ten rangers was sent to a three weeks course in Massingir. The beneficiaries highly appreciate the training.

The project also trained a small group of carpenters. The course was highly appreciated but only two still practice their art, alleging lack of tools and demand. Reports about the training confirm that tools were insufficient and that some broke during the course. The lack of adequate tools is cited as one of the mean reasons for quitting.

Besides the above mentioned trainings, the project should have provided the community with skills related to forest management and forest management. The survey shows that these skills basically do not exist:

- The capacity to assess the existing forest resource and the impact of exploitation:
 - Almost nobody understands the concept of an inventory or can explain how this is done;
 - Very few have ideas for determining a sustainable harvest and these ideas are basically recounts of the norms established by the management plan;
 - Many know that *Guibortia conjugata* is a forbidden species for charcoal making but most are unable to distinguish local restriction on the use of fruit-bearing tree species from government laws regarding the protection of valuable tree species (only one remembered having attended the training in forest legislation);
- The capacity to assess the economic viability of ones activities:
 - People find it hard to link price to effort and need, and basically accept price as a market determined parameter which can be negotiated through collective decision making at the community level;
 - People also find it hard to think in terms of profit although some who use hired labour are definitely clear about how to calculate costs and revenues;
- There is little clarity about the procedures regarding exclusion and admission of outsiders;
- Almost nobody is aware of the community rights with regard to the government levies.

These data suggest that the forest management plan, despite all efforts to involve the community, in reality did not create a local forest management capacity. The community is not yet ready to make appropriate adaptations on its own but is still dependent on external expertise. The data also suggest that community is insufficiently equipped to confront the state in negotiations about exclusion and admission of external users, and also has not yet acquired the skills it needs to set up successful businesses.

4.1.4. Income generation

According to an overview from February 2006 the project has supported several income generating activities.

- 1998: identification and measurements of actual agricultural fields for determination of quantity of inputs needed (317 fields; 505 ha);
- 1998: providing of 550kg improved maize seeds (was not successful due to low germination percentage; no more seeds from SEMOC bought);
- 1999: Introduction vegetable production in swamps (after one success in 1999 the vegetable production failed due to lack of water and insects);
- 2000 (after flood): The project provided as emergency aid seeds, agricultural tools, food and stationary for school;
- 12/2003: Supply of agricultural inputs (1000kg maize, seeds of different vegetable, which could not be used due to lack of water);
 - 1999: Laboratory analysis of marula oil;
 - 1999: Creation of a straw mat interest group using reeds from material from 30km away (5 members); failed due to flood of 2000 which destroyed reeds;
 - 2001 / 2002: Guinea fowl breeding activities started;
 - Year (?): Installation of a fenced area for ostrich breeding (delivery of ostriches supported by IUCN failed due to bird disease and later funds were withdrawn);
 - 04/2004: 24 guinea fowls were handed over to two interest groups; Problems are: slow adjustment to local harsh conditions; attacks from predators;
 - 2006: Trial with production of pineapple;
 - 2008: Training of 14 carpenters;
 - 04/2008: Training in horticulture and post harvest conservation of cereals;
 - 11/2008: Small business skills (not covered by the survey of October).

About 70% of the population (weighed samples) state that at least one member participated in at least one of these activities. There is no statistically significant difference in the level of participation between the three neighbourhoods, even though distance could have been an influential factor. The activities that respondents mentioned are:

- Agriculture using seed provided by the project (mentioned by 61% of the respondents)
- Fruit trees (42%)
- Marketing of forest products (51%)
- Charcoal production techniques (44%)
- Production of pineapple (7%)
- Forest nursery (9%)
- Guinea fowl (5%)
- Thatching grass (4%)
- Carpentry (4%).

Many of these activities were not successful. Seeds did not germinate and fruit trees died as a result of the lack of rain; thatching grass fields were destroyed during the 2000 floods.

The introduction of guinea fowl seems to have failed for other reasons. One - the lack of adequate technical support - was mentioned in chapter 4.1.3. According to the people involved, the technician stayed only two days when the animals were delivered and afterwards no further assistance was provided. The second problem appears to have been the technical approach: People are used to keep their chickens free ranging. The project built a large poultry for the guinea fowl and this was apparently not appropriate. The third is the social approach: by allocating the animals to a collective instead of to individuals, responsibilities were diluted and nobody really looked after the animals. The fact that three individual households have small flocks of guinea fowl appears to endorse the reasoning that in the case of

income generating activities, in Geregi individual households are better targets than collectives.

The attempt to introduce ostrich farming in the area failed due to the withdrawal of a key partner, IUCN. The project had already prepared a pen close to the nursery and the dam, but this pen now stands idle. However, given the bad experience with the introduction of guinea fowl and the fact that the handling of ostriches is far more complex, it is perhaps for the best that this action was not implemented.

The carpentry course was highly appreciated. Participants were selected on the basis of application. During the training, the trainees learned to make chairs and tables. The chairs (which are of a very good quality) are used by the school. Of the 14 trainees, only two still practice their skills. Lack of tools and weak demand are the main constraints. Moreover, they claim that demand for tables and chairs is rather low. People prefer doors, a skill the carpenters had to develop themselves. One may conclude that two people are able to raise some income thanks to this activity but that impact is limited.

There appears to be no cultivation of pineapple going on. It has not become clear why the impact of this effort has remained so insignificant.

One action not mentioned in the list but reported in other documents is the introduction of donkeys for animal traction. The donkeys were handed to a collective of a small group of people and died a few years later. The people involved alleged that the donkeys provided by the project were old and weak, but also admitted to overburdening these animals with work. Like in the case of guinea fowl, the lack of ownership seems here to have played an important role in the donkeys' fate. Moreover, apparently the beneficiaries counted on a rapid replacement by the project. Donkeys are a widespread phenomenon in the area and people apparently know how to treat them.

The main success story of the project is the production of charcoal. Only the feeble and sick members of the community who are too weak to cut the wood and burn it and are also unable to hire labour to do this for them are not engaged in this activity and do not benefit directly from the revenues it generates.

The price of charcoal is centrally determined by the committee. The current price is Mt 125 (about US\$5). The buyers have to pay the license fee of 35 Mt. To them a bag costs Mt 160. Bags are resold in Chókwè at between Mt 180 and Mt 210 (US\$7.20 - US\$8.40) and in Maputo between Mt 400 and Mt 450 (US\$16 - US\$18)

Charcoal production may involve the payment of wages (typically 400 Mt per person per kiln) and transport. Transporting charcoal from the kiln to the loading station at Agulhas costs between Mt 15 and Mt 35, depending on the distance. Transport is mostly by cart, but one can also see cars moving around. Renting out one's cart is an additional source of income for those who have been able to invest their revenues in buying animals and a wagon. Excluding eventual labour costs, the profit margin per bag is between 85 Mt and 105 Mt depending on the location of the kiln in relation to the loading station if one has hire transport.

Charcoal production is by and large the most important source of income in Geregi. Table 2 provides insight in the distribution of income among the households of the three neighbourhoods that constitute the Geregi community. The income was estimated on the basis of statements regarding the number of bags and the acquisition of key staple foods (rice).

Total stated household income varies between class 1 (Mt 0 to Mt 400) to class 9 (over Mt 10,000). The median is class 7 with its central value at Mt 3500, the equivalent of about US\$140.00. The monthly per capita income of these households varies between Mt 0 and Mt 3500 (US\$140); the average is Mt 656 (US\$26.24). Roughly 24% lives above the poverty line of US\$1 per day and 76% under this line.

Despite the high incidence of poverty one should keep in mind that:

- The average household income in Geregi of MT 3500 is more than the double of the official minimal wage of about Mt 1600 (US\$65);

- The average household income in Geregi is also higher than the average household income of Gaza Province (in 2002, Mt 1480; corrected for 10% annual inflation in 2008 about Mt 2600 or US\$104).

The figures in Table 2 already show that income distribution is not equal. The Gini Index calculated on the basis of the per capita incomes is 0.48, which is slightly higher than the national index of 0.42. The value indicates that in Geregi the income distribution is less equal than in the country as a whole.

People are quite clear about attributing a significant increase in their living standards to charcoal production, and, indirectly, to the project. Only four respondents (4.2%) think that living standards did not change; the remainder thinks that they improved somewhat (30.2%) or even a lot (65.6%). A similar image emerges when questioned about their own households: The far majority (83.2%) of the respondents believes that the conditions of their own household improved somewhat or considerably.

Those who are less confident that their own household progressed are mainly women: 24% of the women compared to only 11% of the male respondents believe that their conditions did not improve (significant at 5%; $p=0.03$).

Table 2: Income inequality in Geregi.

Class	Income interval	Central value		Nr. of respondents	
		Mt	US\$	In sample	Percent
1	0-400	200	8,00	8	8,1
2	400-500	450	18,00	2	2,1
3	500-600	550	22,00	3	3,3
4	600-700	650	26,00	2	2,1
5	700-1000	850	34,00	8	8,2
6	1000-2000	1500	60,00	23	24,2
7	2000-5000	3500	140,00	44	45,2
8	5000-10,000	7500	300,00	5	5,4
9	over 10,000	10000	400,00	1	0,8
Total				96	100

In Mozambique female-headed households normally have lower incomes than male-headed households. The data collected in this survey confirm this. Using the central values of the different income categories it appears that in the 47 cases that a man is household head, the average monthly income (2680 Mt) is higher than that of the 15 cases in which a female is household head (1990 Mt). The difference is not statistically significant but matches with the earlier observation that women in general and female heads of household in particular are less convinced that their living conditions improved.

The area of residence in Geregi does not affect income distribution.

4.1.5. Documentation of experiences and development of toolkits

The Mozambican pilot has not developed toolkits. Current DED's technical advisor found on the computer he inherited from his predecessor a draft text about the elaboration of community forest management plan. The text document was never finalized nor translated into Portuguese. The project team does not seem to have access to other documents describing the experiences obtained during the initial years of the project or lessons learned from these experiences, not even within the context of internal evaluation and monitoring activities.

Some of the experiences have been shared by the project team at the steering committee level, but only records of the meetings for the last two years were made available for the present ex post evaluation. There are no reports on dissemination through workshops although the project is mentioned in an overview of 42 community forestry projects published in 2001.

The district has formed now in total eight community associations. The administrator stressed that these associations have been created as part of the implementation of Diploma 93/2005 and cannot be seen as copies of or inspired by the Geregi experience. They do however offer an excellent opportunity for the replication of some of the pilot's key activities such as the formulation of the management plan and a marketing system based on community charcoal licenses.

4.1.6. Marginalized Groups

In Mozambique there are no groups that are marginalized because of their ethnicity. However, women, especially single women, orphans, and diseased, disabled and elderly people are clearly in a weaker social and economic position than healthy male community members. These groups will depend to a large extent on the care of family and neighbours.

The project did not contemplate specific actions targeted at any of these marginal groups. However, it shows gender awareness, e.g., with regard to the composition of the committees. In total, of the 30 committee members mentioned in the 2006 impact assessment, 7 are female. Moreover, during the preparation of the management plan the project held a separate meeting with women to identify their specific interests in the forest. Today, women are specially prominent on the agricultural commission (5 out of 10).

The data presented in chapter 4.1.4 already indicate that women may have benefited less from the project than men. This image is confirmed when one compares the answers of male and female household heads. Only three out of the 15 interviewed female heads of households think that their living conditions improved a lot compared to 25 of the 47 male heads of household (Table 3). The difference is significant at 10% (p=0.06).

Table 3: The relation between gender of the respondent and his or her appreciation of the level of change in the household's living standards (only household heads; percentage between brackets).

Level of change in household's living standards	Gender of the respondent		Total
	Male	Female	
Improved a lot	25 (53.2)	3 (20.0)	28 (45.2)
Improved somewhat	36 (36.2)	8 (53.3)	25 (40.3)
Remained the same	5 (10.6)	4 (28.7)	9 (14.5)
Total	47 (100.0)	15 (100.0)	62 (100.0)

Today, community members are not convinced that the project contributed significantly to the improvement of the conditions of marginal groups: Out of the 95 community members who responded this question only 56% see an improvement in the living conditions of marginalized elements. However, out of these, almost all attribute a positive influence to the project. Gender did not influence the answer to these questions.

About two-thirds of the 37 women responding the question claimed that the project in strengthened at least to some extent their personal involvement in community decision making processes. This would suggest the project did support the empowerment of women.

Despite the satisfaction among the majority of the interviewed women, it appears that the project did not really support the weak in the community. As some respondents put it, the project helps those who can help themselves. The project's major impact has been boost of

local charcoal making. All able-bodied persons to a certain extent benefited from the charcoal industry. Those who are too weak to engage in this activity, did not benefit from the project. As the most able households thanks to charcoal making have emerged from poverty and the weakest ones lag behind, inequality has increased during the project intervention and the project has not sufficiently addressed this issue.

4.1.7. Sustainability

The continuity of the project measures after the cessation of support is related to five important aspects:

- The institutional framework (management committees);
- The cash flow into the community fund;
- The sustainability of resource management (i.e., the implementation of the management plan);
- The documentation of the activities; and
- An exit strategy.

As explained in chapter 4.1.2, the institutional framework is in place and more or less operational. The committees are known among the population and are seen as representative and useful. However, due to the weak skill basis in the community and to widespread poverty the quality of their operation is still below standards. The water committee for example, is unable to tell how much money it has raised. It is also incapable of maintaining and repairing the pump. The long distance between the community and Maputo, and the lack of means of communication make it almost impossible to mobilize technical support independently from outsider assistance. These difficulties are likely to mine the trust base of the organization among community members and put at risk its sustainability.

The community fund is currently receiving a considerable inflow from the community license on charcoal. These revenues have been used for social services such as corrugated roof sheets for the schools and the medical post. The accounts with regard to the decision making process with regard to these applications differ. The committee maintains that it responded to community requests, but GTA and local government stress that the funds were only liberated after substantial pressure from these agencies.

More recently, the community fund has made available Mt 127,000 for the drilling of a borehole on behalf of the Hochane neighbourhood. About eight months have passed and the enterprise has not yet started drilling or even appeared in the area. Community members in Hochane suspect that GTA "stole" the money (GTA is trying to get a refund from the defaulting company and has already identified and approached a replacement). The decision to dedicate money to the borehole was made under strong pressure from GTA and GTZ.

The committee itself has decided to use communal funds for the creation of a loggers' association. About twelve influential community members have applied for a collective license to extract chanfuta and other precious and first-class timbers. Apparently, four community members own a chainsaw, although the management plan explicitly forbids the use of this tool. A recent inventory carried out by GTZ shows that there is no viable stock left of these species and that additional exploitation puts at risk the survival of these valuable resources.

These examples point at several large institutional weaknesses: lack of technical skills, dependence on outside support for the contracting of services, internal divisions and potential battlegrounds.

In chapter 4.1.1 the management plan was discussed in detail. The mid-term success of the management plan hinges on three factors:

- Self-control by the community;
- Clear and recognized limits of the community's territory

- The capacity to exclude outsiders from the resource use, or at least integrate them in the implementation of the management plan.

Self control of the community exists but is clearly insufficient to guarantee sustainable use. Extraction levels estimated on the basis of declared income surpass the limits established in the management plan by at least a factor 2.6. A recent inventory confirms that exploitation is well above the sustainable level. There are rumours about corruption among community forest guards. Project staff emphasized that much of the GTA's presence prior to 2007 was dedicated to patrolling and the enforcement of the management plan, apparently because internally the will and capacity to do so were deemed insufficient. The creation of a loggers' association equipped with chainsaws is another sign that the community - or at least some of its leaders - is not very keen on protecting its resources. Apparently, there is lack of capacity and of will to comply with the principles of sustainable resource use as laid down in the management plan.

The successful protection of the resource also depends on the community's capacity to defend the resource against outside users. This capacity is seriously constrained by the size of the territory under community administration: five community rangers work simultaneously to protect an area of about 1700 km² (i.e., 340 km² each) with a more than 140 km long boundary on bicycles and without means of communication. The community rangers are not paid for their effort and therefore quite susceptible to bribes. Although the vast majority of the respondents states that no outside users are currently presents, others affirm that outsiders may acquire use rights through local (neighbourhood) leaders. Offering these leaders a gift in compensation seems to be part of the procedure.

The community's capacity to defend its territory also depends on government support. Formally, this support is guaranteed by national legislation and by the official adoption of the management plan by the provincial and district governments. However, formal support is a far cry from what happens in the field. There are conflicting statements about land claims and occupations on the northern and southern border. The committees claim that the government hands out land and forest exploitation rights to outsiders without proper consultation. GTA even filed a letter complaining about the allocation of land rights over territory already certified as belonging the Geregi community. The district administrator claims that requests for land are either put on hold or re-dimensioned so as not to affect the community's territory. Whatever the real situation, it is quite clear that government support despite all positive statements in reality is not very strong and might wane further after the project has come to an end.

The government's rangers appear also to provide little support to the community's policing efforts. The two rangers are based in Combumune. One is apparently too old to work and the other appears not to have adequate transport. He also demonstrates very little interest in supporting the community rangers, but seems to adopt a wait-and-see attitude, saying that he would fine trespassers brought to him by local forest guards.

The relation between the community and the government may further sour if the area becomes affected by the plans to expand the trans-frontier conservation area by linking the Limpopo and the Banhine National Parks. Community members are clearly concerned with this issue and reacted very negative to the possibility to develop ecotourism activities in the area. They oppose this option as they feel that it will impede them from hunting. (During the field visit venison was on offer and one night a car left in the direction of Banhine National Park, allegedly to go hunting.)

The sustainability of the project and its role as a pilot also depends on the quality of the documentation of its operation. The project has a very weak institutional memory as a result of incomplete archives, deficient monitoring and evaluation mechanisms, and the fact that one of the activities - the production of manuals and toolkits - was not implemented. Therefore, it is basically impossible to retain the project's experience for the future.

The absence of an exit strategy including procedures for the handing over of specific responsibilities and resources to the community and the government clearly defined at the start of

the project is an other factor affecting the sustainability of the project's intervention after its phasing out. GTZ has tried to resolve this problem by organizing a workshop in Xai Xai with all stakeholders with the objective to define the parameters of this strategy in April 2008. In November it has laid out principles for technical support through the local government as an attempt to engage that party in the project and to strengthen skills locally perceived as too weak. It has however failed to clarify the ownership of project assets such as vehicles and the base campo in Combumune. Local government agents are particularly preoccupied with these assets, but the issue covers in reality all aspects of the project and its resources. It is quite likely that even specific structures that were build in Geregi such as the dam, the nursery and the ostrich pen will simply remain abandoned as soon as the project ends..

4.1.8. Project Approach

The project approach is based on three key elements:

- The decision to work in a low-rainfall area;
- Use of a local NGO instead of international organizations or the government; and
- The conviction that forest degradation is based lack of environmental awareness and ownership and on poverty.

During the design phase, the decision at SADC level was to opt for low-rainfall areas. This decision brings specific additional challenges. In these areas forest growth is slow and its productive capacity low, which implies that even relatively low levels of extraction may not be sustainable. Moreover, the capacity to develop alternative income sources such as farming is also heavily constrained, which means that in many cases forest exploitation remains the most viable livelihood strategy, compounded in the particular case of Mozambique by the destruction of irrigation infrastructure and of cattle herds during the civil war.

The implementing agency has been GTA, an NGO with at the time of the launch of the project had little or no experience in the field of CBNRM. It is not clear why GTZ opted for this organization and not for (international) partners capable of mobilizing more resources and technical expertise or, like in Namibia, for government agencies. At the time of the conception of the project, the Ministry of Agriculture was heavily engaged in CBNRM through a FAO project.

Although the government is part of the steering committee, government ownership of the project is low. The provincial forest services complained that the DED technical advisor did not provide more technical support, e.g., with regard to forest management in the province.. They also complained that GTZ did not support the build-up of government patrolling capacity but instead focussed almost all attention and resources on the community. The DED advisor cites a lack of interest. The GTA coordinator mentions budget constraints which restrict the capacity to buy the government in through the provision of equipment and the payment of per diems and other support in case of visits to the project area. The distance between the project and the government might have been motivated by of a lack of trust by GTZ in the sincerity of the government with regard to CBNRM. It definitely undermines the sustainability of the project's activities and achievements now its being phased out.

The project appears to be based on the conviction that unsustainable use of woodlands is the result of lack of environmental awareness, ownership and economic alternatives. The GTA project coordinator wrote in 1999: "Many people did not believe that the project would bring changes to their lives (...). There was some kind of resistance (...). This was the result of misinformation carried out by exploiters who were seeing their objectives threatened".

The first phase was therefore dedicated mainly to awareness raising activities (theatre, environment as a theme for a drawing competition for school children, exchange visits), the obtaining of a community title for the community's territory and support to agriculture to lure the local population away from exploiting the forest resource. The raised awareness and the development of alternative sources of income were expected to make viable the implementation of the forest management plan.

In retrospect, it seems that this approach was both incorrect and badly implemented:

- First, environmental awareness is probably not enough to encourage changes in behaviour. This awareness should be supported by a real knowledge and understanding of the nature of the resource. As argued above, this knowledge and understanding were not achieved as the project did not involve the community in the inventory and the determination of the sustainable yield;
- Second, the legal force of the community land certificate issued by the government compared to a land use title (DUAT) and to forest exploitation rights is not totally clear, allowing local government to enter into manoeuvres that infringe on apparent community rights;
- Third, the area is so large and the capacity to control it so small that the community has little means to enforce its rights both with regard to outsider charcoal burners and loggers and government manoeuvres. Moreover, weak supervision renders the community rangers who do not have any income susceptible to bribes;
- Fourth, the attempt to cap extraction in an early phase and the revision of the quota several years later when the management plan was finalized linked to local demography created the impression that allowable cuts are flexible and not the result of solid science but rather the outcome of negotiations.
- Fifth, under current market conditions, crop production cannot compete against charcoal burning. The rates of return in farming are much lower than those associated with charcoal production. Moreover, in low-rainfall areas such as Mabalane, rain-fed farming fails at least three out of four years. Activities that are less dependent on rainfall such as rearing guinea fowl, were badly implemented and basically failed, pointing at management issues.

Finally, the project's design did not include a clear-cut exit strategy, which may raise tensions between the implementing NGO and the government with regard to the future ownership of certain assets and severely reduces the chances that the government will endorse the continuation of its activities in the future. Only in 2008, GTA and GTZ held workshops with the partners to identify the main features of such a strategy. Important elements of that strategy such as the ownership of the project's assets after cessation of the activities are still not clear.

4.1.9. Project Management and Coordination

Project management and coordination was in the hands of the GTA office in Maputo with a camp in Combumune, about 25 km from the project area in a community regularly trespassing on the Geregi territory, but close to the local government (administrative post). As a result, there was a huge distance between the implementers and the community and their interaction remained limited to the duration of field visits.

Management has suffered from discontinuities in staff. GTA recruited current project staff in the beginning of 2007. At roughly the same time DED e GTZ replaced its technical staff. Within government, the district administrator and the head of the provincial forestry services were replaced. New staff has found it difficult to trace old documents, which on the one hand shows institutional weaknesses with regard to archiving and on the other reduces significantly the possibility to understand the evolution of this project.

There are several important management issues:

- The structure of the budget, which does not favour the implementation of activities in the field (only US\$500 per trimester for implementation besides salaries and travel expenditures);
- Financial management centralized in the director of GTA, which at least until quite recently caused delays in the transfer of money from GTZ to GTA and the cashing

of cheques within GTA. These delays will, in the end, have justified the extension of the period two years beyond the original closing date.

It is important that in future projects clear procedures are defined for the archiving of documentation, for speedy financial management and for a more direct and supportive presence *in loci*.

4.2. Assessment according to international evaluation criteria

4.2.1. General remarks

The pilot had six expected outcomes (see chapter 2.2.1): Community empowerment, improved forest management, income generation, improvement of the position of marginalized groups, capacity building and replication. This evaluation maps the achievements of the pilot as expressed by its expected outcomes against the five main international evaluation criteria:

- **Relevance:** The extent to which the intervention is suited to the priorities and policies of the target group, partner country and donor;
- **Effectiveness:** The extent to which an intervention attains its objectives;
- **Efficiency:** The relationship between the inputs and outputs, mostly evaluated by comparing alternative approaches to achieving the same outputs;
- **Impact:** The positive and negative changes produced by an intervention, directly or indirectly, intended or unintended;
- **Sustainability:** The extent to which the benefits of an intervention are likely to continue after donor funding has been withdrawn.

As an analysis of the expenditures was not part of the Terms of Reference and as at this stage it is impossible to compare approaches efficiency is not really measured but only briefly discussed.

Table 4: The relation between expected results and relevance, effectiveness, impact and sustainability.

Output	Relevance	Effectiveness	Impact	Sustainability
Empowerment	•	•••	•••	••
Forest management plan	•	•••	•	•
Income generation	•	•••	•••	•
Marginalized groups			••	
Sustainability	•			•••
Capacity building	•	••	•••	••
Experiences, replication	•••			

••• = output highly relevant for the analysis of the evaluation criterion; •• = outputs is relevant for the analysis of the evaluation criterion; • = output less relevant; blank = output may still be relevant, but in a less significant way

Table 4 provides a summary of the relation between expected results and these four evaluation criteria. The pilot's relevance is mainly determined by the possibility of replication. For effectiveness, i.e., the extent to which the project achieved its objectives, core expected results such as empowerment by the creation of community institutions, the formulation and implementation of a management plan, income generating activities, and to a less extent, training are the key factors. The impact of the project is mainly the result of the extent to which empowerment has been achieved, income generated and the target group has acquired new relevant knowledge, skills and capacities. The pilot's effect on the position of marginalized groups - in the case of the Mozambican pilot, women, sick and disabled persons, is highlighted as well. The sustainability of the project's benefits depends on a broad

range of almost all expected results except for the effects on marginalized groups and replication. The small social, economic and political weight of marginalized groups implies that they play hardly any role in perpetuating the project's benefits and the efforts as to replication are mainly relevant for other projects that may benefit from the pilot's experience.

For each item an assessment will be made according to the standardized scale maintained by the OECD's DAC:

- 1 Very good rating, significantly better than expected
- 2 Good rating, fully in line with expectations, no significant defect
- 3 Satisfactory rating, falling short of expectations but with positive results dominant
- 4 Unsatisfactory rating, significantly below expectations, and negative results dominate despite identifiable positive results
- 5 Clearly inadequate rating: despite several positive partial results, the negative results clearly dominate;
- 6 The project is useless, or the situation has deteriorated on balance.

Ratings 1-3 show a positive or successful rating, 4-6 a rating which is neither positive nor successful.

4.2.2. Relevance

The project's development goal is the improvement of the living standards of communities in Madliwa and Hochane involved in the sustainable use and management of their natural resources. The project definitely contributed to an improvement of living standards, mainly by assisting the communities in producing and marketing charcoal. It also achieved empowerment through assisting with the building of a local institutional capacity which can divert part of the private profits from charcoal burning to communal benefits, with establishing boundaries and controls that support the exclusion of outside users and with the creation of the conditions for the sharing in the government revenues from forest exploitation levies. According to the project's own standards, however, it did not achieve sustainable resource use nor a significant increase in income created from other sources than charcoal and timber. The pilot has also not been very successful in local capacity building.

These failures are due to:

- Conceptual errors with regard to the nature of the local society ("the illusion of solidarity", "*le bon sauvage*") and the role of charcoal in the local economy ("the illusion of inclusion");
- Strategic errors with regard to securing territorial rights of a small community over a vast area ("the illusion of exclusion") and the relation with local and provincial government;
- Operational errors with regard to capacity building and income generating activities and the documentation of the experiences as well as issues regarding the budget and project management (bureaucracy).

The relevance of the project is largely the possibility of replication, which depends on the one hand on the quality of the undertaken activities and on the other on the quality of the documentation of the experience. This documentation should not only address success stories that can be copied as best practices but also highlight the failures and mistakes from which future projects can learn. The project's failure to produce clear records that dissect the arguments used along the project's lifetime with regard to the many strategic and operational decisions and engage actively in the dissemination of the lessons learned significantly reduces its already limited value as a pilot.

This combination of success and failure renders the Mozambican pilot only partially useful for upscaling. The experience with a producing a management plan for an indigenous forest is basically unique for Mozambique and useful, although key aspects with regard to the partici-

pation of the community in the data collection and design phases need to be improved. However, the project has failed to conclude and disseminate the manual describing how this management plan was designed and implement or produce and disseminate other "lessons learned" material. There are also no reports on other activities with regard to dissemination of the activities and results. As such, it has failed the opportunity to leave a larger imprint on forest management practices in Mozambique.

The creation of community associations in other parts of the district takes place as part of the implementation of the government policy with regard to the payment of the 20% community benefit of forest resource use license fees. The appears to have failed the opportunity to serve as a model for these committees even though this process takes place in the immediate neighbourhood of the project area.

The lack of conscious dissemination of lessons combined with a weak institutional memory that eventually would allow for the reconstruction of these lessons reduces severely the relevance of the project. Given the absence of causes outside the control of the project that can justify this failure,, the pilot is rated 4 (unsatisfactory) with regard to relevance.

4.2.3. Effectiveness

The project's objective is the implementation and improvement of management and conservation of Geregi's indigenous forests through community based approaches. This objective has been partially achieved. Without the project, management would be non-existing, the resource would lie open to anyone with the capacity to mine it, and community benefits would be considerably smaller even if the amount of charcoal legally licensed would be the same as that today (12,000 bags in 2007 with a community revenue of Mt 23.80 per bag versus Mt 2.30 as a result of the 20% community share in forest levies).

It should be noted that capacity building is not mentioned as a specific result but rather emerges as a transversal component of other activities such as the creation of committees and the support of income generating activities.

Table 5 unterhalb provides a schematic overview of the extent to which the project was able to achieve its expected outcomes. From the table it becomes clear that only with regard to three out of the five measured expected results the project was partially successful. (HIV/AIDS activities were not measured as they are specific for Mozambique and do not logically fit with in the scope of the regional project). The table confirms that pilot's performance is significantly below expectations, and negative results dominate despite identifiable positive results Therefore a score of 4 on the scale of 1 to 6 (unsatisfactory).

Table 5: Achievements by outcome and expected result.

Outcomes	Expected results	Achievements
Empowerment	R1: The communities at local level are empowered, the local organization is strengthened and the capacity in the management and control of natural resources is strengthened.	Committees do exist but are only partially effective in implementing management; local knowledge is still too weak as are the capacities and will to protect the resource from outsider exploitation and the cooperation from the government.
	R2: The awareness of the population against STDs/HIV/AIDS is increased.	This result is specific for Mozambique and was not evaluated
Management plan	R3: A participatory management plan of the communal natural resources is established and implemented.	The management plan exists and is known, it is however not fully implemented.
Income generation	R4: Crop production, livestock raising and planting of trees as potential alternatives to destructive forest utilization are intensified.	The project has failed to create significant economic alternatives, partially due to factors outside its control, partially due to bad implementation.
	R5: The existing marketing strategies are improved.	A considerable amount of charcoal is traded through the railways against a fixed price with a substantial increase in community benefits.
Replication	R6: The existing results of the project are processed and compiled in tool-kits.	The project failed to produce tool-kits or engage in other visible activities promoting the formulation and dissemination of lessons learned.

4.2.4. Efficiency

The project has not very efficiently used financial and technical inputs. The costs of administration, salaries, transport, etc. are 95% of the budget, only 5% is available for activities. The relatively small amount available for activities has certainly reduced the project's capacity to provide adequate support to the community, e.g., because externally hired technical expertise could not spend enough time with the community members (e.g., guinea fowl) or because there were insufficient funds for the acquisition of materials and tools (e.g., saws and other tools for carpenters). The project also did not have means to "buy" government participation through the payment of per diems to government officials. Impact was further reduced by delays in the disbursement of funds that have slowed down the implementation of activities and led towards the extension of the project to the end of 2008. The capacity of the technical advisor is not fully exploited to the direct benefit of GTA activities in the field (when the current incumbent initiated his assignment he stayed three months at home because GTA didn't get its finance running) and to the solidification of CBNRM capacity and support to the project at the level of the provincial and district governments.

4.2.5. Impact

The pilot was aimed at achieving sustainable natural resource management. As such it formulated a management plan and created mechanisms for the implementation. The central element of this management plan is the annual allowable cut translated into a cap on the annual production of charcoal. The large majority of the respondents claims that management plan is well implemented and extraction does endanger the sustainability of the re-

source. Other data presented in chapter 4.1.1, including those regarding average household income, point at an excess cut of at least 2.6 times the allowed volume. This excess cut is bound to provoke a rapid depletion of the resource and to destroy the woodland.

The intervention significantly supported the creation local institutions for forest management and benefit sharing. These institutions are widely known, Most community members are satisfied with the way in which they operate and feel well represented. However, at the same time it appears that the committees do not adhere to their own bylaws and fail to implement to a satisfactory extent the forest management plan (chapter 4.1.2).

The committees are also ill equipped to deal with the government. The fact that they have not yet been transformed into and officially registered as associations, for example, makes it more difficult for them to recover the community's 20% share of forest license fees. The fact that the government has been willing to transfer the amounts referring to the 2005-2007 period is an important achievement but should not be used as an argument to slow down the official transformation into a community association.

A considerable section of the population (62%) benefited from capacity building (see chapter 4.1.3). However, most of these trainings have little impact. The training with the highest participation rate (40%) was building an alternative charcoal kiln. However, the population was unanimous in declaring that the proposed alternative was inadequate. Training in horticulture was highly appreciated and with a strong participation rate (37%) will only prove useful if rains are sufficient and this hasn't happened for the last three or four years. Other trainings and courses either targeted small groups (rangers, carpenters) or have left no visible impact (forest legislation). The training in guinea fowl rearing seems to have been completely inadequate.

The intervention supported almost all members of the community through the reorganization of charcoal production and charcoal marketing (chapter 4.1.4). Even those who are too weak to engage directly in charcoal production and sale benefit indirectly as it enables their relatives to provide some support. Their lives are significantly better than before, also because the external strain on the resource has decreased and internal competition among charcoal burners for clients diminished (leading to an upward pressure on price). As a result, average household income in Geregi is more than the double of the official minimal wage and 30% higher than the average household income of Gaza Province.

However, the relatively high impact on income is to a large extent due to the fact that the population does not comply with the maximum allowable cut set by the management plan. In chapter 4.1.1 it was explained that if the plan were implemented, average household income would round Mt 900 (US\$36), or a bit more than half of the minimal wage and only a quarter of the current average household income (Mt 3500). The current level of income may perhaps be ascribed to the project but certainly is not as originally intended.

Moreover, the project failed to produce alternative income generating activities. These alternative sources of income would have made the implementation of the forest management plan viable as they would have closed the gap between the allowed income from forest resources and the population's financial needs. Even though the failure of these alternative income generating activities can only be ascribed partially to the project itself, it is also true that some failed because of inadequate planning and implementation. Finally, one may ask whether the option for certain activities was intelligent given the local climatic conditions and finally, if they shouldn't have been accompanied by the building of markets.

The last element to assess the pilot's impact concerns the marginal groups. The data cited in chapter 4.1.6 suggest that despite GTA's concern with involving women in the community's committees, women did benefit less from the pilot measures than the population in general. Moreover, people made it quite clear that those who benefited most were those who are physically fit. Finally, income data suggest that inequality is considerable and probably has increased as a result of the development of charcoal exploitation.

On the basis of this information, one has to conclude that despite several positive partial results, the negative results clearly dominate and that the pilot should be rated inadequate (4) as to its impact.

4.2.5. Sustainability

The project is still operational so that it is impossible to assess the sustainability of its impacts on an ex post basis. However, there are some aspects that give an indication of what is likely to happen in the future.

The project has created several committees. In chapter 4.1.2 it became clear that these do not operate as foreseen by the project. The ongoing production and marketing of charcoal and the ensuing community fund forms the basis for the continuity of this structure. The most likely outcome is that the original institutional set-up of different committees will evolve into an integrated hybrid which will assimilate with other local structures of power and authority in Geregí, the administrative post and the district, such as the consultative councils.

The forest management plan the natural resource management committee is supposed to implement will most probably lose its influence over the community after the project's closure. There is not enough internal will to restrain the level of exploitation to the allowable cut. also because viable alternative sources of income have failed to materialize. Activities such as the nursery and tree planting have already stopped under the project and are unlikely to be revived even if the rains return. Only when the resource becomes so scarce that its value for conservation and the costs of extraction increase more than the profit the level of exploitation will reach sustainability. There is also not enough external (government) support to uphold the community forest against intruders. This is points to weaknesses with regard to achieving the overall development objective regarding the incorporation of community based natural resource management in government routines but is also due to the absence of an exit strategy with documented experiences and a clear transfer of responsibilities and resources.

The project's achievements as to sustainability remain significantly below expectations, and despite identifiable positive results such as community fund negative results dominate. resulting into a rating of 4 (unsatisfactory).

4.2.6. Coordination

The project was not coordinated with other donors although some did support elements of the project. There is not enough coordination with government efforts. GTZ should have integrated this project in its support to district development planning.

Despite several positive partial results, the negative results clearly dominate and the rating is clearly inadequate (Scale 5).

4.2.7. Overall rating of the pilot measure

The analyses of the pilot measure's performance with regard to relevance (score 4), effectiveness (score 4), impact (score 4) and sustainability (score 4), shows that the project had some important positive achievements (e.g., the forest management plan and the establishment of management committees), but that these achievements are overshadowed by negative results and failures (replication, income generating activities, adherence to the implementation of the management plan, securing government support, guaranteeing the continuation of the achievements after the end of the financial support).

For an overall assessment it is important to identify to what extent these failures to achieve the desired outcomes are due to factors under the control of the project. One important factor was the decision to select a relatively small community and make it responsible for a vast area it is manifestly incapable to control effectively. This decision is partly the consequence

of the main scope of the project as a whole (dry forest) and therefore outside the control of the pilot itself, although it is possible that even within the dry woodlands of Mabalane more viable options existed.

Another important factor concerns the quality of the implementation. Above, important management weaknesses have been pointed out such as a large proportion of the budget for overhead, salaries and travel expenditures and a very small proportion for implementation, and bureaucratic obstacles that slowed down implementation considerably. Implementation itself was not always adequate. The forest management plan was only concluded in 2005 so that little time remained for building up community and government ownership and implementation capacity. Too little attention was paid to training and capacity building, e.g., with regard to the forest inventory, the training of the community rangers (the first batch was never trained) and the introduction of guinea fowl rearing. The project did not come up with viable alternative income sources for charcoal and only at a late stage recognized the need to engage in water conservation even though the area is known (and was selected) for its dry conditions and the issue was mentioned in the document produced by INIA at the start of the project. These factors are clearly under the control of the project itself and hence contribute to a negative overall assessment.

A third group of factors has been emphasized in other documents (i.e., the 2006 overview of activities) and are basically related to climate and bad luck. In 2000, the landscape was dramatically changed by the floods and the fact that many depressions and brooks carried water may have created the impression that the area has some agricultural potential impact. Since then, however, the reality of low rainfall and high evapotranspiration has hit hard and crops basically failed every year, turning agriculture related income generating strategies totally unviable. A car accident was another disaster that reduced the project's intervention capacity and staff morale.

This combination of some successes and of at least some important causes outside the direct control of the project results into a moderately negative evaluation. The living conditions of the population improved significantly and resource use is probably better than in the neighbouring areas, but the goal of sustainable management wasn't achieved. The pilot measure's achievement have therefore clearly remained significantly below expectations, and negative results dominate despite identifiable positive results. The overall assessment is therefore unsatisfactory (rate 4 on the six points evaluation scale).

5. Conclusions and Outlook

The above evaluation is based on an assessment of reports made available by GTA and GTZ, a field visit to the area which included the implementation of a survey of a representative sample of the local population, and interviews with key informants. The evaluation is seriously constrained by the fact that the documentation in the hands of GTA and GTZ is far from complete and from changes in staff in GTA, GTZ and government. For that reason, it was impossible to reconstruct the considerations made by the parties involved in the design and implementation of the project and to assess whether these parties analysed all available options correctly.

The field visit coincided with the uploading of the charcoal that had been produced during the previous weeks on the wagons of the railroad company. The local population was therefore not engaged in burning and relatively easy to locate. But it was also impossible to observe their charcoal burning practices and hence to verify to which extent verbal statements about the application of certain rules in the forest management plan matched with the facts. The lack of time also impeded a careful visit to the huge woodland area affected by the pilot measure in order to assess in a more systematic manner the presence of charcoal burners from other communities and other infractions of the plan's rule.

Despite these limitations the present evaluation brings a realistic image of the achievements of the pilot in Geregi. It shows that the living conditions in Geregi have improved drastically during the pilot's interventions. These improvements are mainly the result of an explosion in the production of charcoal production, price and sales. Despite the fact that many were able to improve their living conditions and average income is now well above the province's average, some, women and physically weak individuals, seem to have gained less than men and healthy community members.

The improvement in the living conditions is partly due to the project. The project assisted with the creation of community committees, the demarcation of the community area, with setting up marketing mechanisms and the establishment of a community fee. Thanks to these interventions, the community is now better equipped for the exclusion of outside resource users, is able to negotiate a better price for its charcoal, and to channel a substantial amount of money towards a fund for communal benefits.

The efforts to design and implement a management plan to guide exploitation, however, has only partially been successful. Certain important measures such as the prohibition to use fire, the cutting of trees closer to the ground, the application of a minimal felling diameter, and selective felling are apparently adhered to, although a systematic verification in the field was impossible due to time constraints. The community appears however to be unable to apply the planned caps on extraction and finds it difficult to effectively exclude outsiders. As a result, the pilot is not achieving its overall goal: sustainable community based forest management.

The community's incapacity to adhere to its own management plan with regard to the level of exploitation can be explained from the fact that viable economically attractive alternatives are lacking even though the pilot was explicitly required to produce these alternatives. The failure of the project to do so is partially due to the harsh climate, to the array of proposed alternatives, and to the way these alternatives were introduced to the population: no effective marketing and inadequate training. The difficulties with regard to the effective exclusion of outsiders are due to the fact that the population has no real idea about the real size of the resource and its productivity, that the area is too large to be effectively patrolled, and that the local government has not really been bought into the project and does not really support its actions.

At a more abstract level, one has to conclude that the project's failure is basically due to four delusions or fundamentally flawed assumptions:

- The illusion of inclusion: it is erroneously believed that the objective of the external agency (conservation or sustainable use) is shared by the target community;
- The illusion of exclusion: the fallacy of the assumption that the local community has the capacity (and will) to exclude outside users;
- The illusion of the Good Savage: reluctance to recognize the role of evil (jealousy, hatred, strife) in a community;
- The illusion of solidarity: the reluctance to accept that also at the level of a rural community there is a discrepancy between the what is good for the collective and what is good for the individual and that individuals are often not willing to sacrifice their own individual interest for the common good;

This general assessment of the pilot's performance and the causes behind it shows to what extent the experience still can be useful: Future experiences should make a realistic assessment of the resource, knowledge and skills bases of the target community and should address the deficiencies. They should also avoid wrong assumptions about the nature of the community and its relation to the resource and the outside world, including the intervening agency. This means that one should balance the population and resource sizes in such a way that effective management is technically practicable, socially feasible and economically viable. This also means that the project should provide at least three kinds of knowledge and skills: knowledge and skills to organize itself, knowledge and skills to organize resource

management and knowledge and skills to develop innovative alternative livelihoods that are suitable to the ecological, social and economic conditions.

Future experiences should also accept that a more intensive and lasting interaction with the target community is needed. These populations are poor and undereducated. Providing them with the means to change their lives and balance these with their environment is at least as arduous and time and resource intensive as changing the behaviour of populations of the rich world with regard to climate change and other fundamental environmental problems.

Finally, the pilot shows the importance of building up a solid relationship with the government. It is not enough that the government produces policies and laws enshrining community rights. It should receive the right support so that it can act on these policies and laws. Any community based natural resource management project will face the awkward position of standing between the community and the government and having to side with both, even though their immediate interests may be conflicting.

Statistical data

	Male	Female				Missing	Total
03a. Gender	54	43				1	97
	Yes	No				Missing	Total
03b. Household head	62	34	1			1	97

	Minimum	Maximum	Mean	Standard deviation		Missing	Total
04. Age	17	80	42.0	16.4		3	94
05a. Number of members of household	1	22	5.8	4.0		0	97
05b. Number of members younger than 18	1	12	2.9	2.7		0	97
05c. Number of members 18 years old or older	0	11	3.0	1.9		0	97
07. Number of contributors to household income	0	8	1.6	1.2		3	94
14. How long do you live in the community	1	75	25.7	18.0		7	90

	Yes	No				Missing	Total
06. Most spoken language (Shangaan)	97	0				0	97
08. Somebody receives remittances	18	79				0	97

09. Income (median)	7						
09. Income (modus)	7						

	Yes, very much	Yes, some	Not much	Totally not	No opinion	Missing	Total
10. Project successful in conserving forest resources	74	16	3	1	3	0	97
11. Project successful in improving community's living conditions	73	19	2	0	3	0	97
12. Project successful in strengthening community participation in natural resource management	65	13	9	1	7	0	97
13. Project successful in helping community sharing in benefits from the natural resources	55	14	14	0	13	0	97

	Yes	No	Don't know			Missing	Total
15. A forest management commission exists	85	4	8			0	97
16. A forest management plan exists	72	2	22			0	97

	Very well	Don't remember exactly	Don't remember at all			Missing	Total
17. To which level do you know the objectives of the plan?	23	33	17			1	74

	Yes, very much	Yes, some	Not much	Totally not	No opinion	Missing	Total
18- Up to which level were you involved in							
A. defining the objectives	29	6	10	14	15	0	74
B. defining the scope	28	8	5	16	18	0	74
C. decisions about the allocation of responsibilities for implementation	44	3	3	15	10	0	74
D. the execution of inventories	7	2	5	26	35	0	74
E. decisions about resource use and management	41	11	5	14	3	0	74
F. decisions about benefit distribution	41	4	5	20	4	0	74

19. Up to which level is the plan being implemented with respect to	Well implemented	Net very well implemented	Not implemented	Don't know		Missing	Total
A. extraction levels	60	7	3	4		0	74
B. exclusion of outsiders	61	6	2	5		0	74
C. licensing	58	6	1	8		0	74
D. zoning	60	6	0	8		0	74
E. nurseries	54	9	2	10		0	74
F. tree planting	47	10	14	3		0	74
G. application of benefits	43	11	7	14		0	74

	Very useful	Not very useful	Not useful at all	Don't know		Missing	Total
20. Up to which level, the plan's implementation contributes to the community's forest's sustainability	68	4	0	2		0	74

	Improved a lot	Somewhat	Didn't change	Became worse	Became much worse	Missing	Total
21. To which level the plan's implementation improved the community's living conditions	63	30	4	0	0	0	97
22. To which level the plan's implementation improved your household's living conditions	42	39	16	0	0	9	97

	Yes	No				Missing	Total
23. Did household members participate in income generating activities	68	29				0	97
24a. Farming with seed from the project	58	8				1	68
24b. Guinea fowl production	5	2				1	68
24c. Planting of fruit tree	41	26				1	68
24d. Harvesting of medicinal plants	2	65				1	68
24e. Honey production	1	66				1	68
24f. Forest nurseries	9	58				1	68
24g. Charcoal production techniques	43	24				1	68
24h. Marketing of poles, firewood and charcoal	50	17				1	68
24i. Tourism	0	67				1	68
24j. Harvesting of thatching grass	4	63				1	68
24k. Hammer mill	0	67				1	68
24l. Pineapple	7	67				1	68
24m. Carpentry	4	67				1	68

	Regular	Additional				Missing	Total
25. Activities' revenues regular or additional income	83	4				0	97
	Yes	No				Missing	Total
28. Are you involved in the work of any of the committees created by the project?	60	37				0	97

	None	Some	All			Missing	Total
29. How many community meetings did you attend?	12	46	37			2	97

	Totally not satisfied	A bit satisfied	Very satisfied			Missing	Total
30. To which level are you satisfied with conduction of these meetings by the committees?	2	21	61			3	88
31. To which level are you satisfied by the way in which the committees resolve community problems?	7	26	54			1	88

	Not at all	Somewhat	Very			Missing	Total
32. To which level do you feel represented on the committees?	11	22	55			0	88

	Not at all	Somewhat	Significantly			Missing	Total
33. To which level do you think the committees' decision affect your living conditions?	15	27	46			1	88

	Yes	No				Missing	Total
34. Did you attend any training offered by the project?	60	36				1	97
35a. Charcoal production	39						
35b. Charcoal marketing	25						
35c. Guinea fowl	4						
35d. Horticulture	36						
35e. Forest rangers	6						
35f. Nursery	11						
35g. Forest law	1						
35h. Carpentry	2						
35i. Crop protection	1						

	Never	Sometimes	Regularly			Missing	Total
36. To which level do you use the acquired knowledge and capacities?	14	6	40			0	60

	Very well	Somewhat	Not at all			Missing	Total
37. To which level do you master the following topics:							
A. Forest inventory	2	10	85			0	97
B. Sustainable yield	2	28	67			0	97
C. Extracted volume	8	23	67			0	97
D. Price calculation	16	36	46			0	97
E. Profit calculation	14	17	66			0	97
F. Prohibited tree species	29	36	31			2	97
G. Rules for exclusion	25	49	24			0	97
H Revenue sharing mechanisms	1	14	82			0	97

	Yes	No				Missing	Total
38. Do you think that marginalized groups improved their living conditions	55	41				1	96

	Nothing	Somewhat	A lot			Missing	Total
39. To what level did the project contribute to this improvement?	5	32	17			1	55

	No	A little	A lot			Missing	Total
40. Did the project strengthen your will and capacity to participate in community decision making processes?	13	14	10			6	43

	High	Moderate	Low			Missing	Total
Level of participation in interview	34	45	18			0	97

Estimated average monthly revenue

Class	Frequency	Percent	Valid Percent	Cumulative Percent
1	8	8,1	8,1	8,1
2	2	2,1	2,1	10,2
3	3	3,3	3,3	13,5
4	2	2,1	2,1	15,5
5	8	8,2	8,2	23,7
6	24	24,2	24,2	47,9
7	44	45,2	45,2	93,1
8	5	5,4	5,4	98,5
9	1	,8	,8	99,2
11	1	,8	,8	100,0
Total	97	100,0	100,0	