Traditional pastoral communities securing green pastures through participatory forest management: a case study from Kiteto District, United Republic of Tanzania

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SUMMARY

This case study describes how the Suledo Village Forest was first established eight years ago and describes the lessons that can be learned from its ongoing management, conducted by the local people for their own benefit, with great success and at no cost.

The Suledo Forest, made up of nine village forest reserves in Kiteto District, Arusha Region, the United Republic of Tanzania, has been under successful and low-cost community management since 1994. The forest is a vast and species-rich miombo forest, which has been providing green, sustainable pastures for the indigenous Masaai population for centuries, without any threat to the forest.

In 1994, government forest officers came from Arusha and cut lines in the forest to impose a central government forest reserve. This would have made traditional forest grazing a crime overnight, and it threatened to undermine the very lifestyle of the indigenous people.

The only viable alternative for the various groups residing in the area, particularly the Masaai, was to take control of the forest themselves. Once this was understood and accepted, things happened very quickly. Forest management committees were formed, local use zones in the forest were drawn up, simple forest use rules were made, and a patrolling system was put in place.

No expensive surveys or inventories were carried out. What took place was simply straightforward, common-sense participatory planning of how the forest should best be protected and developed. It was kept on track by the District Forest Officer (DFO) and sporadic outside facilitation.

Management started. Everything seemed to go well. After some time, the Masaai started to relax. The frequency of patrolling decreased. Funds collected as fines in the villages disappeared. Some corrupt village leaders started to give in to outsiders looking for land to open up farms in the forest. Land grabbers came from far away, with guns. The Masaai stood by, almost helpless. Soon there were more than 100 farms in the forest.

It took time for the system to grasp the full magnitude of the situation. But, once put into full force, the mechanism of the law worked. With support from the district administration, a clean-up operation was mounted and the land grabbers were chased away. The village by-law, as identified by the villagers, had worked.

From this we learn the following lessons:

- To set up community-based forest management is one thing, to maintain it is another, which shows that this is a typical development process in which problems must be solved as they occur.

- Proper reporting, monitoring and recording systems must be put in place.
- There must be transparency in the villages.
- We must accept failure; not every village will succeed immediately.
- Everything comes down to land and the right to land. More emphasis must be given to the understanding of the new Village Land Act. Vulnerable groups, in particular, must be made aware of their legal and human rights to land.

Sustainable forest management and community involvement in natural resources management enjoys strong policy support in Tanzania, which in this regard is at the very forefront in Africa. However, it is not yet backed by an institutional mechanism strong enough to ensure nationwide implementation. The capacity to coordinate and promote activities in the field still remains weak.

The setting

The Suledo Forest, a vast and species-rich miombo woodland, is situated in the southeastern corner of Kiteto District, bordering on Handeni, Kilosa and Kongwa districts. A major characteristic of the Suledo Forest is that its main use is for in-forest grazing, as Masaai inhabit the area. The forest is situated inside the legally gazetted borders of nine villages, in the three wards of Sunya, Lengatei and Dongo, from the names of which it derives its own name, a combination of the first two letters of each.

From the very beginning, the area was inhabited entirely by the Masaai and the only land use then was grazing. In colonial times, the area was administered as a special Masaai District and no land use other than grazing was allowed, offering the Masaai almost total protection over their land. Since then, however, the gradual immigration of other tribes has resulted in a diversified society, putting pressure on the forest resource. Over time, extensive logging operations, in the form of pit-sawing, have targeted and removed all larger timber trees. Large land areas have been opened up to agriculture, much of it on a commercial scale, severely disrupting traditional grazing patterns not only by reducing areas available for grazing but also by cutting off cattle tracks and preventing access to water sources. Today many people from surrounding districts see the large forest area as a resource for establishing a base for improved livelihoods based on agricultural production. This is now the biggest threat to the forest. The Masaai are also gradually starting farming activities for subsistence, but this affects smaller areas only.

Safeguarding the traditional grazing areas is a prerequisite for the Masaai if they are to maintain their lifestyle. To ensure that adequate areas can be set aside and maintained for sustainable grazing, individual villages therefore need to put mechanisms in place to control the exploitation of their land.

Historical background

The area constitutes a large forest, which the regional forest administration had planned to set aside and gazette as a central government forest reserve in 1993. A very traditional forest inventory, targeting timber trees only, had been done, and borderlines of the planned reserve had been cut in the forest, with beacons placed on the ground to mark the area to be gazetted. However, no survey of socio-economic conditions had been done, nor had any serious consultations with the local people been held. If such information had been sought, it would soon have revealed that established villages, with cultivated fields, settlements, etc., were well established inside the targeted area. In reality, it was impossible to establish a forest reserve here, as there was no support from the local people, nor was there political support from the local leaders. Still, the forest administration went ahead, desperately wanting to meet some unrealistic goals set by the 1989 Tropical Forestry Action Plan (TFAP) to increase the area of forest reserves in the country.

The turning point

At this critical stage, with foresters running around in the forest and not talking to the local people, things were set up for a major confrontation. A donor-funded forest project operating in the region, financed by the Swedish International Development Agency (SIDA) and implemented by ORGUT Consulting AB of Sweden, was prepared to support forest management, but not in the above way. After initial consultations with the local people, in the form of

simple village meetings, it was quickly revealed that they were fully prepared to take on forest management themselves.

The turning point was the simple fact that a forest reserve would take away all local access to the forest and make forest grazing, the major land use, illegal, thus removing the very foundation of the traditional society. In addition, in the past the local people had witnessed government staff exploiting forest resources by harvesting and not effecting any management. The local people felt they could do a better job, protecting and utilizing the forest in a sustainable way, and not simply cutting it down for short-term gains.

Overall management approach

Village-based forest management of the Suledo Forest was thus initiated and got off to a good start in 1994. No expensive inventories of forest covers were conducted, as such surveys would not produce data that could support any management, as the main purpose was to bring control into the forest. From the beginning, it was simply straightforward, common-sense participatory planning, village by village, of how the forest should best be protected, utilized and developed.

The starting point was a simple and participatory land-use planning exercise that took place in each village, whereby the village land was divided into specific management zones. For each zone, a set of local use rules was established, and this makes up the management plan. This was made legal by village by-laws, issued individually for each of the nine participating villages. Each village is made up a number of sub-villages, usually from five to eight, based on ethnic grounds. The total area of the forest under management today is some 167 000 ha.

Environmental management committees

In each sub-village a management committee, the Environmental Management Committee, was established, and its members, in turn, make up the same committee at the village level. These committees meet regularly and take minutes. The roles and duties of the environmental committees at the village and sub-village levels are well defined, and include detailed terms of reference for the chairperson, secretary and treasurer.

For the coordination of activities within the whole forest, a Zonal Management Committee has been established, with members drawn from the village committees. This arrangement has proved useful in approaching issues of common interest to all the villages.

When a problem occurs, these committees meet and discuss the issue, take a decision and then implement that decision. This now works well, although it was slow to become operational. When serious problems occur, such as extensive forest exploitation or large-scale clearing for agriculture, these committees need support from the District Council to impose the law. Similarly, to punish culprits breaking the forest use rules, legal support has at times been required from the District Court in Kijungu. However, the magistrate there has not always supported the communities. It is obvious that these committees need to cooperate closely with the village governments, and that support and encouragement is required at the district level to ensure continuity.

Forest zoning

There are two main, dominant areas in each village: a settlement area and a forest area. Agriculture is practised in the settlement area, and this is where the settlements are found, where forest products can be collected freely and where agriculture is allowed to expand. The forest area is, legally speaking, the village forest reserve. No settlements are allowed in the village forest reserve, and the use of the forest is regulated by a set of forest use rules.

The village forest reserve is subdivided into three main zones:

- the grazing zone;
- the agriculture expansion zone;
- the totally protected forest zone.

The grazing zone, together with the agriculture expansion zone, is used for grazing. In the totally

protected forest zone no grazing is allowed, except during emergencies and possibly during the dry season, according to rules set by the individual village.

Grazing patterns

For centuries, the pastoralists in Kiteto District have developed and followed a grazing system that covers large areas and does not observe any administrative boundaries. This system allows grazing to take place in a very flexible way, depending on where water and grasses are available at any given time. Sharing grazing areas and allowing free movement of cattle are necessary if animals are to survive periods of severe drought. The system allows continuous grazing throughout the year and divides the grazing land into three main categories:

- areas with permanent sources of water for grazing during the dry season;
- areas without permanent sources of water for grazing during the wet season;
- areas close to homestead areas reserved for the grazing of calves and sick cattle.

In the process of establishing the management plan for the Suledo Forest, this traditional grazing pattern was, of course, taken into account. This is the grazing system, evolved over time, that is practised inside the grazing zone. The introduction of management plans and village by-laws secures large areas for grazing, a major reason why the concept as a whole receives such strong local support.

Anybody who violates the grazing rules is heavily fined; the fine usually consists of a mature bull, which is slaughtered and shared by the community members. The rules are strictly adhered to because of the impact of the fine on individual cattle owners.

Forest use rules

The basis for management of the area is the division of the forest cover into the above-mentioned zones. The borders of the zones are marked on trees and stones with yellow paint to make them fully visible on the ground. The zones have also been mapped by the villagers on simple sketch maps.

Based on the zoning of the forest and on its condition, a set of simple forest use rules has been worked out, village by village. The rules stipulate very clearly the extent to which the forest can and cannot be used, as follows:

- no use at all (prohibited);
- free use;
- use with a free permit issued by the village environmental committee;
- use with a permit and the payment of a fee.

It should be noted that exploiting the village forest reserve to obtain forest products requires a permit, and a fee must be paid if the village forest is to be exploited for commercial purposes. If the rules are broken, an offence is committed and a fine must be paid.

These rules, applied to the zoning system of the forest, make up the management plan, which is specific to each village. The management plan, in turn, becomes a legal instrument in that it will be passed as a village by-law. In practice, there is no difference between the management plan and the village by-law.

Patrolling

Patrolling remains an important component of management, particularly at the early stages, when a presence in the forest is essential. Patrolling is usually done by a group of young men from the village, who are exempted from other village duties. Appointment as a patroller should be regarded as an important duty in the village, something to be proud of. It can be done on a rotational basis, and appreciation should be expressed to the individuals selected. Providing direct payment is usually difficult and must be avoided if donor funds are involved, and if long-term sustainability is to be achieved.

The patrollers should identify areas in the forest that are being targeted by pit-sawyers, poachers and cultivators, and they should concentrate on those areas during their patrols. A patrolling system should be in place. Observations made by individual Masaai, moving within the forest with their cattle herds, are also useful.

Reporting

A reporting format is needed. The patrollers should report what they see and experience, using a simple reporting format. Similarly, permits issued and fines issued and collected should also be recorded as part of the process of monitoring what goes on in the forest. It is particularly important that all money matters and the handling of funds become fully transparent in the villages.

Observations

First of all, a major change has occurred, in that forest covers have improved and regrowth is taking place in the forest. The overall situation has gone from one of open access to one of control, making way for planned management.

The management approach taken is quite protective, in that the village looks after and controls its own village land, cutting off access from outsiders.

The development has been an almost total success. The initiative contains important components of participation, sustainability, empowerment, involvement of women and even poverty reduction, not to mention environmental conservation, and even biological diversity conservation.

In line with the desire of the concerned communities, the major land use is now grazing. As much as 80 percent of the forest area has been set aside for grazing, supporting the grazing of some 40 000 head of cattle, which safeguards the basic interests of the Masaai population. The forest provides the local communities with many other benefits that are crucial in supporting basic livelihoods, particularly those of the rural poor. The forest offers a particularly high potential for beekeeping, as it is rich in varieties of flowering plants and reliable water sources.

Although many scientists would argue that forest grazing limits forest growth and damages regeneration, the fact remains that the forest is still fairly intact in spite of years of heavy grazing. It is not the grazing that threatens the condition of the forest, but uncontrolled logging and land grabbing.

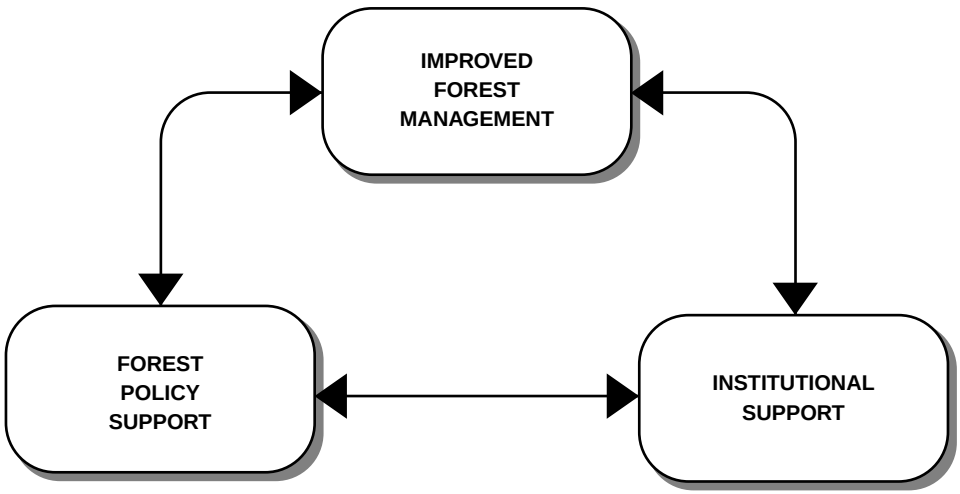
How it has been possible

This has been possible because the management approach is simple and utilizes common sense. It builds on the institutional framework that exists in Tanzania, which after a number of policy reforms has put the village at the centre. It is quite democratic, in that the villagers, in village assembly meetings, can decide which type of land use is best for their village, a process that provides the village with legal protection through village by-laws.

Over the years, many development efforts have failed in Tanzania. In the forest sector, many diverse technical interventions have been tried, from industrial forest plantations and forest industry undertakings to forest inventory and village forestry. These failures occurred because they were too technically focused, addressing symptoms rather than the cause of the problems.

The success of village-based forest management is illustrated by Figure 1, which shows that the introduction of improved forest management rests on, and requires, policy reforms and the strengthening of implementing institutions.

FIGURE 1 • The interrelation of forest management, forest policy and institutional support



The enabling environment

In Figure 1, the operational framework is quite clear: for local communities to be able to improve forest conditions through better management and effective protection, an enabling environment is required, and this, in turn, is provided through support from strong policies and operational institutions.

The policy framework

The policy framework is the starting point, and the overall policy in Tanzania is at present very clear. There is a Forest Policy dating from 1988, and new draft forest legislation is in preparation. In Tanzania, there is a good connection between the macro- and the microlevels, evident in the fact that present policies that have been put in place have been identified and created on the basis of field experiences, including this very case.

In addition, a strong and recent Village Land Law is in place, which provides total land security for individual villages and their inhabitants.

There is no doubt that a strong policy framework exists to put excellent land management in place. These policies and laws need to be printed and distributed widely in the field for successful implementation.

The institutional framework

The village is the basic component. The management approach builds on the unique and favourable situation that exists in Tanzania, with decentralized government. As part of local government, the village is a corporate entity that is able to have its village by-laws recognized in a court of law and is able to own property in its own right.

In each rural village, there is a village executive officer who is assigned by the central government to assist the village with administrative matters. The presence of the village executive officer has had a very positive impact in many villages, for example in raising awareness and in assisting villagers to formulate village by-laws.

Institutional support has provided the on-the-spot facilitation required to put forest management in place at the village level. Facilitation has been needed to convince villagers that they have policy support in undertaking forest management. Facilitators have accompanied villagers to the forest to determine the condition of the forest and to identify management zones, to assist with drafting forest use rules leading up to a management plan and, ultimately, with drafting of the village by-laws to ensure legal protection.

Villages will require support from district councils in order to put in place and to maintain village-based forest management. But the capacity to provide such facilitation is limited because of a shortage of staff and transportation, etc. Policies established at the central level can therefore not always be picked up immediately at the field level.

Improved technology

Based on the policy framework, the procedures for establishing community-based forest management are today well defined in Tanzania. The Forest and Beekeeping Division has prepared and issued an excellent manual, based on practical field experiences, which provides practical guidelines and many details on “how to do it”.

Implementation constraints

Although a platform for improved forest management at the village level has been created in Kiteto District, implementation has not been without problems. A number of illegal activities have taken place. Many cases of pit-sawing and poaching have occurred. At one stage, farms were opened up in the forest to such an extent that it was impossible for the patrollers to get an overview of the situation; the area is large and the number of patrollers has been small.

The by-laws have at times been used successfully to send offenders to jail, including one sub-village chairperson and one schoolteacher. The environmental committees have been meeting to deal with problems that occur, but they have not always been able to take the appropriate action. In addition, proper reporting and documentation of events and incidents have been lacking. And there has been little transparency as to what has happened to the funds collected as fines in the villages.

The uncontrolled opening of forest land for agricultural expansion is a real and serious threat to both the forest and the very existence of the pastoralists who depend on the green pastures it provides. In all villages, without exception, forests and grazing areas are being lost to agriculture. This is because outsiders, sometimes armed and sometimes supported by the village leadership, are exploiting the land for short-term gains. There has been lack of protection as well as of monitoring and, above all, there has been lack of capacity and authority among the committees and its members to stop these destructive activities in time.

Perhaps worst of all, when the villagers have sought support from Kiteto District Council as well as from the magistrate at the Primary Court in Kijungu, the system has not always been able to respond and guarantee the Masaai their legal rights to their village land. This clearly indicates a situation of conflict, not between the land users and the forest administration, but between the village level and the district level.

Another quite different type of constraint concerns the harvesting of commercial forest products to generate income to pay for forest management in order to ensure long-term sustainability. So far, commercial harvesting in the forest has not begun. There are marketing restrictions for the products that can come out of the forest because of the distance to the nearest market from a remote location. As any commercial harvesting will generate cash income for the villages, it is also important that such a money flow can be handled in a transparent way, so that no conflicts are caused.

Lessons learned

The village-based forest management approach that has been developed has provided a workable and low-cost framework of forest management that is fully operational through village by-laws. As a result of training provided to the members of the environmental committees, almost half of the committees are now composed of women, who are committed to the task and are able to undertake forest management through their knowledge of the forest and the rules that govern its utilization and protection.

The support provided to the management of the forest by Kiteto District Council has been limited to arrangements with transport to enable the district forest officer to go to the field and assist the villagers with technical management issues from time to time. The district level has not always been able to provide

the villagers with the required support, in that there has been a lack of technical staff's presence on the spot to provide facilitation, which is a matter of limited capacity at that level. The villagers therefore work very much on their own, despite the limited support. This shows that the initiative is ongoing and that the will to protect the forest is strong. The activities taking place are sustainable, as the villagers are doing all implementation themselves.

Empowerment at the district level and above does not come easily. There are forces at work that resist change and that do not want to give up decision-making powers and access to a natural resource such as a forest to ordinary villagers. Safeguarding the long-term interests of the inhabitants of the Suledo Forest will require reinforcement of the overall management structure, which in turn will require that all institutional arrangements be strengthened.

Looking ahead

Had there been better support to the villagers of the Suledo Forest, this eight-year-old initiative would today have been standing strong. There should have been well-functioning management committees, active and efficient patrolling and a prosperous forest resource under full control and monitoring. The initiative should also have been expanded to other, surrounding villages that are waiting for assistance and support.

Expansion has not taken place because of lack of capacity in the field organization. There are a total of 48 villages in Kiteto District, so the question remains as to how the remaining 39 can now be covered, if the vision is that every village should manage its own village forest reserve. In a national context, meeting the spirit of the Forest Policy and expanding to new villages will require substantially increased capacity in the field organization, so that village-based forest management can become a national movement.

The established environmental committees today represent fully operational bodies at the village level, which are fully capable of moving on and addressing other problems and conflicts in land use.

In addition, to take community management of forest resources beyond the village level and into the large areas of forest reserves that exist in Tanzania, all of which are fully open to exploitation, will require adjustment and refinement of present experiences to arrive at joint forest management arrangements and agreements.

References

Forestry and Beekeeping Division. 1989. *Tropical forestry action plan.* Dar es Salaam, Ministry of Natural Resources and Tourism (MNRT).

Forestry and Beekeeping Division. 2001. *Community-based forest management guidelines.* Dar es Salaam, Ministry of Natural Resources and Tourism (MNRT).

Iddi, S. & Sjöholm, H. 1997. Managing natural forests and the village level: reaching the ultimate development goal. In *Proceedings from the XI World Forestry Congress. The vision and role of community forestry in sustainable development*, Vol. 5, topic 26. (available at www.fao.org)

Malimbwi, R.E. September 1999, January 2000. *Natural forest inventory reports.*

Mwansasu, S. 1994. *Inventory report: the proposed Sunya-Lengatei forest reserve.*

Sjöholm, H. 2001. *Strengthening the village-based forest management of the Suledo Forest.* Sweden, ORGUT Consulting AB.

Sjöholm, H. & Wily, L. 1995. Finding a way forward in natural resources management: the emergence of village forest reserves. *IDRC Currents.* Uppsala, Sweden.

United Republic of Tanzania. 1998. *National forest policy.* Dar es Salaam.

United Republic of Tanzania. 2000. A bill for a forest act. Draft No.4. Dar es Salaam.

von Mitzlaff, U. 1994. *The proposed Lengatei/Sunya forest reserve.* ORGUT Consulting AB, Sweden.

von Mitzlaff, U. 1995. *Natural forest management in Sunya village: a pilot project for the land-use management programme in Kiteto District.* ORGUT Consulting AB.

Wily, L. 1966. Collaborative forest management: villagers and government. The case of Mgori forest, Tanzania. Special Report. Uppsala, Sweden, FAO/Forest Trees and People Programme (FTPP).

Wily, L. & Mbaya, S. 2001. *Land, people and forests in eastern and southern Africa at the beginning of the 21st century.* World Conservation Union/Natural Resources Institute (IUCN/NRI).

Zonal Environmental Committee. 2000a. *Participatory programme management: development and utilisation of the Suledo forest.*

Zonal Environmental Committee. 2000b. *Mpango was ushirikishwaji wa utunzaji, uendelezaji na utumiaji wa misitu wa Suledo.*

Development of participatory forestry in Senegal: a case study of the Kaolack Region and Dankou Forest experience

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SUMMARY

For more than a decade, Senegal has developed a participatory approach to forestry, and several projects, including the Senegalese-German Project for Household Energy (PSACD), have been established to support this initiative. Since 1995, PSACD has assisted the Department of Forestry and Water Resources in drafting national strategies and in ensuring their implementation within the decentralization policy in the country.

The pilot experiment established at the Dankou Forest served as a trial area where various strategies have been tested since 1996. The results obtained by local communities, assisted by the Forestry Department and PSACD, have shown the need to entrust the management of forest resources to the local communities.

The Kaolack region has incorporated a participatory approach in its Regional Forestry Action Plan. The objective of putting six forests annually under the new management was surpassed in 2000/2001 when nine forests, in addition to Dankou, started implementing the participatory management approach.

The participatory approach put forward by PSACD was adopted by the Forestry Department, which assists requesting populations. The approach is gaining ground and is supported by local facilitators (trained as extension workers) recruited from and by local communities; each resource person covers up to three forests.

The Memorandum of Understanding on participatory forest management, which was signed by the Forestry Department, the local community (authorities) and the villages bordering forests, guarantees the rights of all parties and is very effective. The preparation of local codes of conduct[1] is a very important step in this approach; local codes of conduct stipulate in very simple terms the rules governing the utilization of resources.[2] Illustrated handbooks and manuals have been prepared in French and local languages for use by villagers, resource persons and decentralized units of the Forestry Department.

The empowerment of villages bordering forests in the planning process, as well as in the implementation and monitoring/evaluation stages, enables local populations to participate effectively in and identify themselves with forestry management plans.[3] Furthermore, the participatory approach enables local communities to assume responsibilities[4] in the management of their affairs.

The fuelwood sector is no longer the monopoly of the forest operator lobby,[5] as the local population is taking charge of production. In addition, the higher output of non-wood products, thanks to the control of bush fires and natural regeneration, provides substantial incomes, which give a new economic dimension to the forest as a "green bank".

1. Local codes of conduct prepared by all user groups are approved by the authorities.
2. Provided for by regulations in force as well as regulations for sustainable development.
3. Required by the Senegalese Forestry Code for all forests of more than 20 ha.
4. Locally elected officials of rural councils (a consequence of decentralization) and civil society.
5. Very well organized urban business people who produce, purchase, transport and sell fuelwood and charcoal.

Presentation of the case study

The whole of the territory of Senegal, which has a surface area of 196 722 km^2, is located between 12°and 17° 30' north latitude and between 11° 30' and 17° 30' west longitude. This paper focuses on natural forests (savannah) – even when they are degraded – which cover 65 percent of the territory (Forestry Action Plan, 1993).

Most of Senegal lies in the Sudano-Sahelien zone. It has a semi-arid tropical climate with a period of heavy rains that lasts for three months in the north and five months in the south. The vegetation is linked to the rain pattern. There are three phytogeographic zones from the north to the south: Sahelian, Sudanese and Guinean, with each zone having specific types of forests. In addition, some special areas, such as forest gallery, mangroves (*Avicennia africana* and *Rhizophora racemosa*) and the niayes, have specific species.

Senegal has a population of more than 8 million inhabitants, 45 percent of whom are under 14 years of age, and a population growth rate of 2.9 percent. There has been a large increase in urban population since 1970, particularly in the western and central parts of the country. In the past, the economy largely depended on the primary sector, dominated by the production of groundnuts; this sector currently contributes 18.5 percent of the gross domestic product (GDP),[6] while the secondary sector contributes more than 20.7 percent, and the tertiary sector 60.8 percent (including non-trading services).

The country has a favourable institutional context and has received substantial international assistance in forestry for several decades. In such an environment, with many actors, any project faces major problems in identifying possible complementarities, particularly because the conception of projects often takes place several years before implementation, during which time the context changes. The Senegalese-German Project for Household Energy (PSACD) has a component in energy planning and another in forestry. The available information system in these sectors was analysed and, in collaboration with the Forestry Department, the project identified possible ways for improving information. PSACD proposed a national framework for evaluation of forest resources, a programme for data processing of forestry inventories and a national system of reporting. Despite the support and technical advice of the project that led to the definition of national instruments, it soon became obvious that sustainable forest management faced problems that could not be resolved solely by using technical approaches. Although good-quality management plans[7] were prepared, their implementation was not effective.

PSACD proposed to develop a concept of participatory forest management of natural forests and implement it within the context of decentralization. A pilot zone identified in Dankou Forest in 1996 serves as a trial area where proposed strategies are tested on the field; this zone has a surface area of 3 500 ha, 3 000 ha of which are gazetted forests. Dankou Forest is in the southern part of the administrative division of Kaffrine, in the Kaolack Region. The vegetation varies from bush to woodland savannah, resulting from degraded forest savannah. The area receives an average rainfall of 600 mm per year, spread over four months.

The pilot zone was deliberately limited in surface area and has provided lessons that served as a basis for preparing a regional programme of natural forest participatory management. The regional programme has been integrated into the Forest Action Plan of the Kaolack Region since 2000. The zone covered by the regional programme is more than 8 000 ha, to which at least six communal forests are added every year (two in each administrative division).

Current state of forest resources

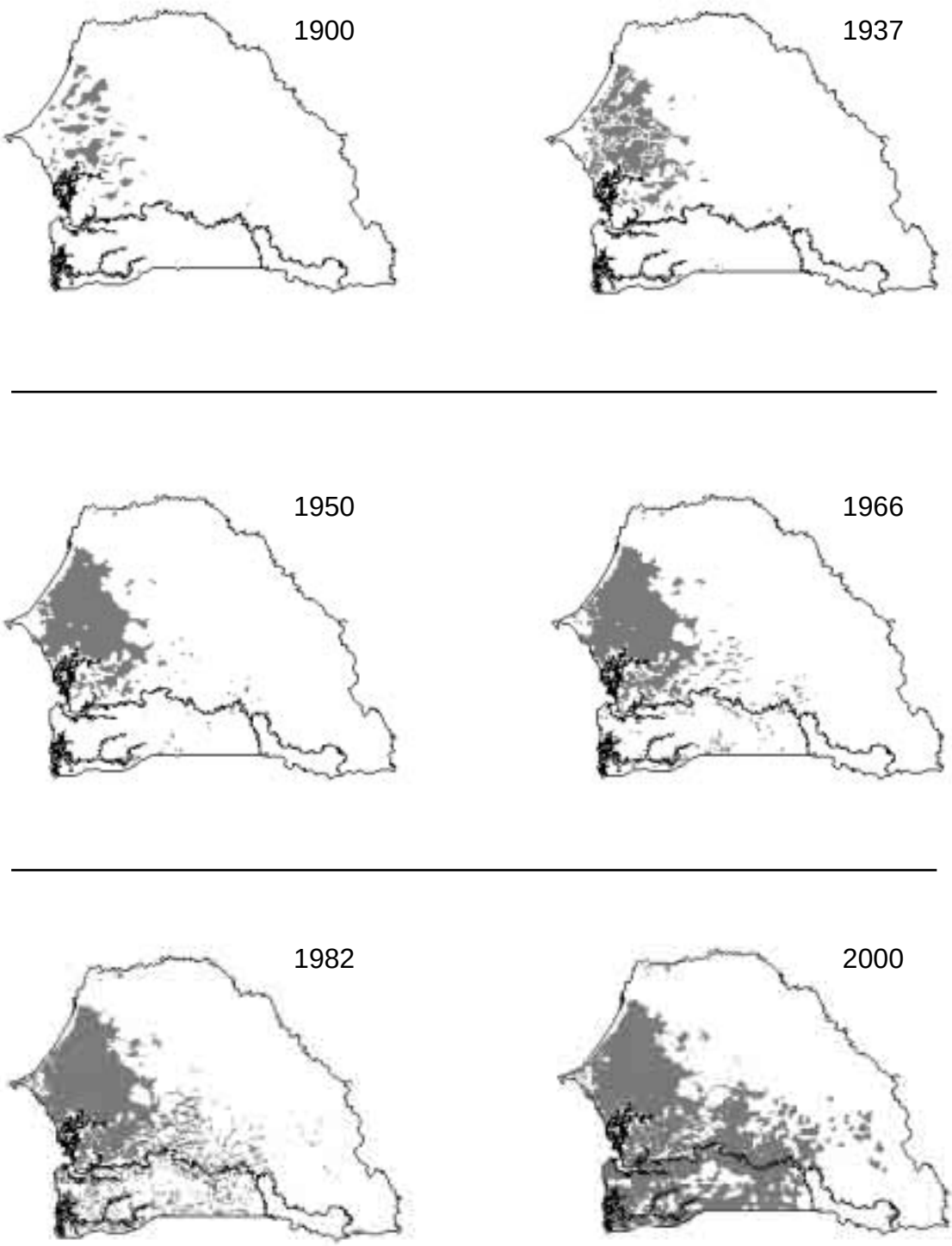
The country has forests that vary from bush pseudo-steppe to open forests, but the majority of them range from bush to woodland savannah.

In Senegal, as in many countries of the Sahel, major causes of forest degradation are clearing for farming, bush fires and production of fuelwood. Unfortunately, no recent data are available on the extent of destruction resulting from each of these causes. Figure 1 presents changes in cultivated area.

Although the Centre for Ecological Monitoring (CSE) takes satellite pictures on a daily basis to measure areas affected by bush fires, precise figures on losses in surface area caused by bush fires are not available.

6. Official statistics of the Ministry of Economic Planning and Finance.
7. Gazetted forests of Bandia, Malème Hodar, Koumpentoum, Bakor, Mahon, Dabo, Goumel-Niandane and the forests in protected areas of Nétéboulou and Tiewal.

FIGURE 1 • Changes in cultivated area, Senegal



Source: Centre of Ecological Monitoring, Dakar, Senegal.

The above-mentioned factors that destroy forests every year are accompanied by tree felling. It has been estimated that annual losses of forest cover between 1990 and 2000 totalled 45 500 ha.[8]

Measures taken by the Forestry Department to fight such destruction include sensitization of the local people, preventive and active combating of fires and the use of the Forestry Enforcement Act to control the exploitation of forests. Preventive activities, such as the creation and maintenance of firebreaks, are very effective in the north, but heavy firefighting equipment[9] has shown its limitations (often resulting from a lack of maintenance and resulting demobilization of the local people).

Major forest products include, in decreasing order of importance: fuelwood, charcoal, fruits, edible leaves, leaves, bark, roots for medicine, wood (sticks and poles), wood for carving, animals, gum and timber. Trade in these products is regulated and annual quotas for wood, charcoal, crafts and timber are allotted. Six permanent control posts, in addition to mobile units, monitor transport on the main access routes (roads and railway). These measures are not very effective, because household consumption surveys show a rate of consumption that is more than twice the official production rate. It is generally admitted that more than 25 percent of the charcoal found in towns is produced illegally, taking self-consumption into account.

The process of participatory forestry in Senegal

In 1990, Senegal initiated a rural forestry programme that advocates the involvement and empowerment of local populations. The Forestry Action Plan of Senegal, completed in 1993, gives first priority to these concepts. This policy was reaffirmed in the Forestry Code of 1995 and reconfirmed in the last review in 1998. Since 1990, different projects have been funded by different donors, all of which have contributed to the use of the participatory management approach at all levels. For many years, the national in-service training centre in forestry has provided modules on the participatory approach to all forestry staff in the country.

Forestry staff are increasingly assuming the role of advisers to local communities, and are no longer viewed only as agents of repression, as in the past. Some forestry staff have succeeded in clearing the air of mistrust, have won the confidence of local communities and villages and are planning activities with them; this has been achieved through the use of techniques acquired during training sessions and through personal motivation.

As part of the decentralization process that started in Senegal in 1972, the management of natural resources has been transferred to local communities since 1996. Thus, 320 rural communities are responsible for the management of non-gazetted and public forests. Nevertheless, the Forestry Department must approve their forest management plans for forests with a surface area of more than 20 ha.

Commitment to decentralization calls for the definition of new policies. To that effect, the legal and regulatory framework was adapted after the review of the Forestry Code in 1998. Projects, including PSACD, have collaborated with the Forestry Department in elaborating adaptable implementation strategies. Consequently, the Memorandum of Understanding on participatory forestry management[10] was prepared. It is a legal document that brings together the Forestry Department, local communities and surrounding villages in the management of a community, communal or gazetted forest for which permission

8. FAO, 2000. Forest Resource Assessment. Rome.
9. PROGEDE. 1999. Etude diagnostic sur les feux de brousse dans les régions de Kolda et Tambacounda. Dakar, Centre de Suivi Ecologique.
10. Joint proposal of PSACD and PSPI, implemented by the latter and the PAGERNA, three projects of Senegalese-German Cooperation, one at the national level, one in Kolda Region and another in Kaolack Region.

has been granted. It defines the rights and obligations of each party. This engenders a climate of trust that is necessary for the real participation of villages and communities, which are guaranteed to benefit from their efforts.

For gazetted forest, the legislation allows the state to grant the management of forests to communities, but the communities may also delegate the management to a third party after signing contracts. Thus, there is no procedural difference in the implementation of participatory forestry between gazetted forests and non-gazetted forests, except for the prior approval of the Forestry Department in the case of gazetted forests.

The Memorandum of Understanding links all the partners in a process of participatory forest management that leads to the management of the forest by the local communities, following the simplified forest management plan. Several steps are included, which progressively give more responsibilities to the communities as they become better organized and trained. Preparation of the simplified management plan is one of the activities in the process but it is not the first one, so the communities can contribute to establishing and presenting it for approval.

Most of the Senegalese forests are at least partially degraded or destroyed by bush fires. This means that activities designed to restore and protect them are always needed. It has been proved that the restoration of vegetation cover can be achieved simply by protecting against bush fires, illegal harvesting and overgrazing. Local communities are better placed to execute these simple tasks and take action quickly. At the beginning of the process, local actors participate in the preparation of simple working plans. The management plan is prepared subsequently with local communities and villages on the basis of their experience during the implementation of simple working plans. As training in planning and forestry management improves, the villagers acquire the skills necessary to prepare, with the support of the Forestry Department, medium- and long-term working plans that are an integral part of the management plan.

The role of the Forestry Department is more that of a partner than a superior. The department provides advice, supervises forest exploitation activities and ensures respect of the law (codes, laws on regionalization). Projects and non-governmental organizations (NGOs) help in the process by assisting administrative authorities and providing capacity building for the actors.

The signing of a Memorandum of Understanding requires prior identification of representatives of the local people, at the level of the village and local community that request participatory management. The organization comprises village committees (VCs) for forest management in the surrounding villages, which together form the intervillage committee (IVC) for management of a specific forest. Village authorities that are signatories to the memorandum publicly identify the members of the VC and appoint one female member and one male member to represent the village in the IVC. The duties of these members (see Annex 1) are clearly explained to the villagers before their appointment. These simple structures form the executive organs of the village; they are not composed of interest groups that are independent of the village authority.

It is not sufficient to have recognized representatives and a legal framework of collaboration with authorities; actors must also agree on the activities to undertake, the modalities of benefit sharing and the measures to take against offenders. After consulting with the village, the VC holds a meeting, analyses the condition of its forest and prepares a biannual or annual programme of work. The programme is implemented, and it has been observed that regular support and advice from an extension worker at this stage speeds up implementation of the process. These new responsibilities are accompanied by capacity building provided by the Forestry Department, NGOs, projects or programmes involved. The need to define specific rules for the forest under management is soon recognized.

PSACD has assisted the VCs to prepare a local code of conduct involving all user groups and signed by all actors; this code spells out local rules of utilizing the forest. This type of instrument is often used by the

German Agency for Technical Cooperation (GTZ)[11] in natural resources management projects. Regulatory provisions in the code of conduct are documented in simple language because local people have a limited knowledge of the legal documents used in the exploitation of forest resources.

The local code of conduct, as are many instruments designed for use by local communities and by training institutions, is illustrated and is translated into the local language, with assistance from GTZ adult education projects.

The experience acquired after two years of implementation led to definition of the optimum period for executing the tasks necessary for implementing participatory management of a forest. Estimates of the minimum period required for the implementation of different activities were made, depending on the size of the forest (see Table 1). The size depends more on the number of villages involved in management than on the number of hectares covered, although there is a relationship between the two.

The information obtained from this experience led to the preparation of an illustrated implementation manual, for the use of any actor who wishes to assist villages in the process. Several institutions, such as FAO, the International Institute for Environment and Development (IIED), the World Conservation Union (IUCN), the Peace Corps and Japan International Cooperation Agency (JICA), are very keen on implementing this approach in projects that they run outside Senegal.

The beneficiaries are the most interested in this approach, as documented in a film, radio programmes and articles in the press, as well as during informal discussions among local communities. The Forestry Department and local communities are increasingly convinced of the benefits of this approach, which delegates responsibilities to local communities.

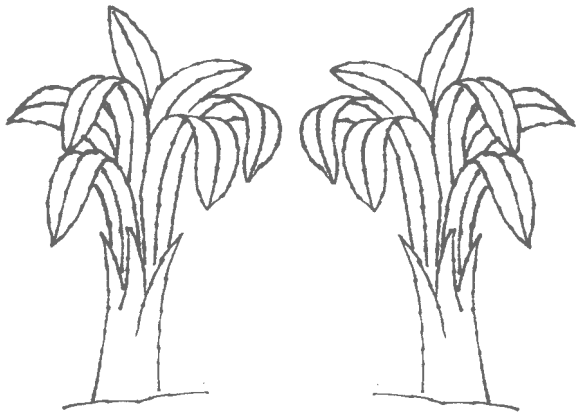
The "traditional" traders of forest products (who are legally recognized) are very well organized and represent a political-religious lobby group that tends to slow down this process. In fact, people in communities bordering the forests are taking over the production that was part of these traders' monopoly. The conversion of those traditional traders, undertaken with the assistance of a World Bank programme, the Programme de Gestion Durable et Participative des Energies Traditionelles et de Substitution (PROGEDE), should lead to limiting them to transport and trade in the cities.

Impacts on the livelihood of villagers

Although local communities' participation in the management of some forest resources for plantations of *Eucalyptus* has improved their incomes, no detailed or recent studies showing quantities involved have been conducted. Furthermore, studies of non-wood forest products on the market show that these products make a significant contribution to the national economy, but no analysis has been made of how they improve the means of subsistence of rural communities. Consequently, PSACD has proposed using the Dankou pilot project to gather such data.

Two studies have been conducted and a third is under preparation. A study to monitor vegetation is conducted by making successive inventories in permanent plots; this facilitates assessment of the forest's production potential (see Table 2). Another study monitors households bordering the forest and markets, in order to assess the value of all forest products and their potential for trade. The forest cover is regenerating as a result of natural regeneration occurring after introducing participatory management. The quantity and diversity of forest products is increasing, so avenues for the sale of these products must be improved. PSACD is studying markets under the market analysis and development (MA&D) approach, formulated by FAO. This will facilitate the creation of small, private forest companies in rural areas for collecting, conserving and trading forest products.

The third study (in progress) involves the collection of additional data and is designed to improve the



11. A workshop was organized in 2000 in Senegal on this theme, and GTZ published a description of the PSACD tool in its Local Codes for a sustainable management of natural resources: collection of experiences of the German technical cooperation in francophone Africa.

TABLE 1 • Implementation of participatory management of forests in Senegal

Estimates of the number of days/activity according to the number of villages involved

YEAR	STEPS	ACTIVITIES	5 VILLAGES	10 VILLAGES	15 VILLAGES
1	1	Informing authorities/local representatives	1	1	1
		RC meeting to disseminate information	2	2	2
		Informing NGOs, projects			
	2	Discussion with village authorities	3	4	6
	3	Meeting with the local population to disseminate information	5	8	11
		Collecting data	5	8	11
	4	Identification of a forest	1 day/100 ha		
	5	Assisting the villages in preparing their requests	2	3	4
	6	Deliberation of the RC			
		Approval by the administrative division chief			
		Informing the chiefs of villages			
	7	Requesting support			
	8	Meeting to identify village committee structures	5	8	11
		Meeting to identify committee structures at the intervillage level	2	2	2
	9	Informing committees about the Memorandum of Understanding	3	7	10
		Signing the Memorandum of Understanding	2	2	2
	10	Meeting to define a work plan	3	7	10
		VC meeting to monitor activities	3	7	10
		IVC meeting to monitor activities	2	2	2
	11	VC meeting (local code of conduct)	3	7	10
		Meeting with pastoralists (local code)	2	2	2
		Meeting with experts and RC (local code)	2	2	2
		IVC meeting (local code)	2	2	2
		Delivery to village chiefs (local code)	2	2	2
		RC meeting (local code)	2	2	2
		VC meeting (local code)	3	7	10
		IVC meeting to monitor activities	2	2	2
	12	VC meeting (simplified management plan)	3	7	10
		Description of forest parcels	1 day/200 ha		
		IVC meeting (management plan)	2	2	2
		Meeting with experts and RC (management plan)	2	2	2
		IVC meeting (management plan)	2	2	2
		RC meeting (management plan)	2	2	2
		IVC meeting (management plan)	2	2	2
		VC meeting (management plan)	3	7	10
2	12	VC meeting (monitoring of activities)	3	7	10
		IVC meeting (monitoring of activities)	2	2	2
		RC meeting (monitoring of activities)	2	2	2
		VC meeting (monitoring of activities)	3	7	10
		IVC meeting (evaluation of activities)	2	2	2
		IVC meeting (evaluation of activities)	2	2	2
		RC meeting (evaluation of activities)	2	2	2
Total			**79**	**125**	**161**

Key: **VC** = village committee; **IVC** = intervillage committee; **RC** = rural council.

TABLE 2 • Surface areas, productivity and production in Senegal, 1980

VEGETATION	SURFACE AREA (ha)	AVERAGE GROWTH (m3/ha/year)	TOTAL PRODUCTION (m3/year)	POTENTIAL (foot/m3/ha)	TOTAL PRODUCTION (m3)
1. Bush pseudo-steppe on plateaus and peneplains	1 595 698	0.10	159 569.80	0.50	797 849
2. Bush/woodland pseudo-steppe (plateaus and valleys)	412 732	0.25	103 183.00	4.00	1 650 928
3. Bush/woodland pseudo-steppe (plateaus and peneplains)	935 496	0.20	187 099.20	3.00	2 806 488
4. Bush/woodland pseudo-steppe under cultivation	772 993	0.20	154 598.60	2.00	1 545 986
5. Woodland pseudo-steppe (plateaus)	170 243	0.25	42 560.75	4.00	680 972
6. Bush savannah (plateaus and peneplains)	1 783 714	0.20	356 742.80	2.00	3 567 428
7. Cultivated bush savannah	79 207	0.20	15 841.40	1.50	118 811
8. Bush savannah (valleys)	28 168	0.25	7 042.00	3.00	84 504
9. Bush savannah (marshes)	70 173	0.15	10 525.95	1.00	70 173
10. Bush/woodland savannah (plateaus)	1 098 735	0.25	274 683.75	3.00	3 296 205
11. Bush/woodland savannah under cultivation	1 395 096	0.40	558 038.40	4.00	5 580 384
12. Bush/woodland savannah (valleys)	297 225	0.50	148 612.50	6.00	1 783 350
13. Woodland savannah (plateaus)	11 443	0.50	5 712.50	5.50	62 937
14. Cultivated woodland savannah	1 489 373	0.50	744 686.50	5.00	7 446 865
15. Humid and cultivated woodland savannah	341 282	0.70	238 897.40	8.00	2 730 256
16. Woodland savannah (cultivated valleys)	23 965	0.75	17 973.75	7.00	167 755
17. Woodland savannah (valleys and flats)	8 289	0.75	6 216.75	8.00	66 312
18. Woodland savannah (plateaus and peneplains)	986 686	1.00	986 686.00	11.00	10 853 546
19. Woodland savannah (valleys)	106 415	1.50	159 622.50	20.00	2 128 300
20. Woodland savannah (plateaus)	2 805 800	1.00	2 805 800.00	25.00	70 145 000
21. Woodland savannah (valleys)	261 832	1.50	392 748.00	40.00	10 473 280
22. Woodland savannah (hills and residual hills)	97 711	0.75	73 283.25	20.00	1 954 220
23. Woodland to bush savannah (plateaus)	111 062	1.00	111 062.00	25.00	2 776 550
24. Woodland and bowés steppe	1 534 914	1.00	1 534 914.00	25.00	38 372 850
25. Thickly wooded savannah and open forests (plateaus)	1 069 720	1.50	1 604 580.00	50.00	53 486 000
26. Thickly wooded savannah and open forests (valleys)	458 238	2.00	916 476.00	75.00	34 367 850
27. Gallery forests	125 084	2.50	312 710.00	140.00	17 511 760
28. Dry open forests (plateaus and peneplains)	297 116	1.50	445 674.00	50.00	14 855 800
29. Dry open forests (valleys)	21 739	2.00	43 478.00	95.00	2 065 205
30. Dry open forests and woodland savannah and bowés (plateaus)	140 386	1.75	245 675.50	75.00	10 528 950

Table 2 continued

VEGETATION	SURFACE AREA (ha)	AVERAGE GROWTH (m3/ha/year)	TOTAL PRODUCTION (m3/year)	POTENTIAL (foot/m3/ha)	TOTAL PRODUCTION (m3)
31. Secondary forests (plateaus)	30 035	1.50	45 052.50	50.00	1 501 750
32. Humid open forest (valleys)	6 120	2.00	12 240.00	50.00	360 000
33. Humid open forest (valleys and palm forests)	65 271	2.00	130 542.00	50.00	3 263 550
34. Open forest and dense semi-dry forests (plateaus)	16 109	3.00	48 327.30	125.00	2 013 265
35. Palm forests and secondary forests (plateaus)	29 377	2.50	73 442.50	75.00	2 203 275
36. Mangroves	182 423	2.00	364 846.00	40.00	7 296 920
37. Tidal flats	100 988	PM	0	PM	0
38. Mud flats with marshy grasslands	74 929	PM	0	PM	0
39. Marshy grasslands (Niayes)	19 506	PM	0	PM	0
40. Marshy grasslands (valleys)	26 252	PM	0	PM	0
41. Pseudo-steppes (hills and residual hills) (Bakel)	27 199	0.20	5 439.8	3.00	81 597
42. Bush pseudo-steppes (valleys) (Ferlo)	27 469	0.30	8 240.70	0.50	13 735
43. Other zones	326 242	PM	0	PM	0
Total	**19 462 445**		**13 352 835**		**318 656 967**

Source: J. Piot, A. Ly, and I. Guèye Mai. 1991.
Etude sur la gestion des ressources forestières et des terrois villageois en vue de l'élaboration du Plan d'Action Forestier du Sénégal. FAO basé sur l'exploitation de la carte du couvert végétal du plan national d'aménagement du territoire de 1985. United States Agency for International Development (USAID)/RSI Project No. 685–0233.

quantification of benefits coming from the forest in the form of products as well as services. The information will be the basis for a multicriteria analysis, a popular tool in economics, to show decision-makers the economic value of engaging in participatory forestry that gives more responsibilities to rural communities.

Management by local communities in Dankou has shown encouraging results since technical management was initiated in 1997, and since financial management was undertaken by the IVC since 2000. The important role of small loans established by the IVC to improve the living conditions of the communities bordering the forest, shows that forest management has a valuable role to play in local development. A study revealed that all the loans had been reimbursed, that the borrowers had undertaken income-generating activities and that the benefits from these activities satisfied basic needs in food, health, education of children, etc. The IVC's decision to establish small loans (microcredit) controlled by the VCs (to diminish social pressure on borrowers) was made in order to find additional financial means (interest on loans) that would replenish management funds and solve the problems that local communities faced in gaining access to loans from traditional credit organs, given their limited sources of guarantees.

Furthermore, revenue generated by the sale of forest products benefits local communities and generates revenue for the management of forests. The sale price of forest products to transporters is fixed on the basis of remuneration for the person who exploited/transformed the product, plus a forestry tax and local allowance fixed by the VC and included in the local code of conduct. The local allowance is shared as follows:

- 35 percent for the development fund administered by the IVC;
- 30 percent for village development activities administered by the VC;
- 20 percent to the rural communities, to finance activities in natural resources management;
- 15 percent for forest patrolling (for repairing and purchasing bicycles and paying forest guards).

As the local code of conduct is approved and adopted by all actors (including farmers and pastoralists) at the beginning of the management process, the legal base is used to enforce management rules, and social pressure can be applied on the strength of this code.

A special tax on some products from forests was agreed in certain cases, with the possibility of granting exemptions. The argument for this provision was that it was necessary to encourage new villages that wanted to apply the new management procedure, because those villages did not have the initial capital and the forest was often too degraded to serve as capital. Giving exemptions to such villages when they first exploit products from the forest would allow them to create management funds more quickly, and thus to depend on foreign assistance for a shorter period.

The establishment of participatory management benefits not only the rural communities bordering the forests, but also nomadic pastoralists who graze animals in these forests during the dry season. Pastoralists recognize the benefits of management by local communities, especially in terms of protection from fires, and have thus agreed to make annual financial contributions to the IVC.

Impacts on conservation and forest management

The yearly monitoring of permanent plots and the pilot experiment in Dankou Forest have evidenced that natural regeneration amounted to more than 1 million new stems each year from 1997 to 2001 on 3 000 ha.[12] In the bush savannah resulting from degraded woodland savannah, the increase in volume is more than 1 m^3/ha/year, when there are no bush fires or illegal felling. Biological diversity is also improving.

Furthermore, there are no significant differences in natural regeneration assisted by enrichment planting in fenced areas, confirming that grazing in forests is less important than bush fires as a cause of degradation and that grazing can actually have a positive effect on protection against fire risks by reducing the grass layer.

It is too early to evaluate the effects of the new management system on other forests where it has been effective for several years. However, an impact assessment study to evaluate changes in forests under the new management system is in progress. Two forests managed by local communities, Kumbeng in the Gambia (since 1992) and Dankou (since 1997), can be used to extrapolate the impacts of the participatory management strategy, such as that proposed by PSACD to the Government of Senegal.

Production of both non-wood and wood products is on the increase owing to a reduction in bush fires and to natural regeneration. Local communities managing the forests are receiving substantial income from the harvesting, transformation and trade of forest products. These activities are giving a new economic meaning to the forest as a “green bank” and employer. This motivates local communities to engage more in the conservation and maintenance of the forest that has been entrusted to them.

Regional Forestry Action Plans (PAFRs) have been prepared in the ten regions, with assistance from the Forestry Department. Participatory management occupies a special place, together with afforestation. For three years now, annual work plans for the forest sector have been prepared with all actors in order to launch PAFR and ensure better synergy among actors in the regions. Given the availability of such frameworks of reference and consultations among actors, the implementation of sustainable participatory forestry management in Senegal is guaranteed, but foreign aid is still needed to support the process for several years. Assistance is needed in capacity building and organizing exchanges of experience between communities already involved in participatory forestry management and those who want to launch it.

12. Annual average per hectare: 385 new stems of more than 1 cm dbh from 84 new clumps. Senesylva. 2001. Memo on the follow-up of permanent plots of the pilot zone of PSACD, pp.16–17.

Expansion of participatory forestry management

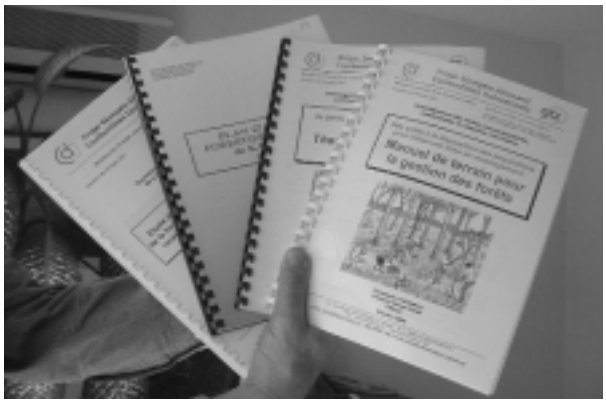
PAFR plans to put six forests in the Kaolack Region under participatory management each year (two in each administrative division). Nine forests, covering 5 160 ha, are now under participatory forestry management, in addition to the experiment in Dankou, which covers 3 500 ha. Other regions, such as Fatick, Tambacounda and Kolda, have started to implement participatory management with local communities. The total affected surface area under participatory forestry management is more than 20 000 ha.

At the same time, implementation tools for the approach (guides, manuals, models, simplified frameworks for the management plan) are distributed, and training is conducted for forestry staff and other actors in development.

Rural communities (RCs), which are the most decentralized local communities, request increasing support from the Forestry Department and PSACD in establishing participatory management. To satisfy this demand, a proposal was made to local communities to identify a young person within the community who would assist the Forestry Department staff with implementation. The forestry staff are responsible for the entire district but alone cannot give the necessary assistance to local populations. The young person is known as the community extension worker, and is trained in implementing participatory management, receiving all the documents and manuals. The community extension worker signs a contract with the rural community, which pays a modest salary at the end of each phase of the process (see Annex 1). The salary varies from CFAF 250 000 to 350 000 for each forest for two years, depending on its size.

Since each extension worker can handle up to three forests, the forests under participatory management should soon cover the majority of forest areas. This approach has not been in use long enough to quantify the increasing effect, but it can be stated that community extension workers are very active and motivated. Forestry staff (supported by PSACD) intervene only rarely, to give support or monitor progress.

It is easy for people to organize themselves but not to mobilize funds, however modest the amounts needed. Since regulations on decentralization state that each RC must prepare a local development plan (LDP) and a consolidated investment plan (CIP), participatory forest management must be included in order to receive funding. PSACD and the Forestry Department attend the RC's funding meetings.



Forestry staff inform the people of the various possibilities for implementing participatory forestry management. The RC that wants to implement the activity includes it in its LDP and the corresponding budget in its CIP. Funding for the implementation of participatory forestry management can then be obtained from the state and its various partners involved in the implementation of decentralization.

Although solutions exist for extending the area under participatory management, it must be realized that not all actors are playing their part. Participatory management needs to be strengthened by integrating it into legal and regulatory documents.

When participatory forestry extends over large areas, an institution specializing in extension work and capable of training and supporting rural extension workers in communities should take over from PSACD to assist the Forestry Department in monitoring. Such an institution should be able to receive foreign funding for several years.

Recommendations for the development of participatory forestry

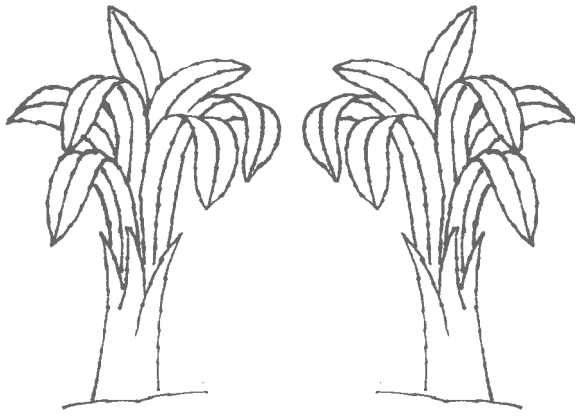
Major lessons have been learned from the experience gained in the development of participatory forestry in Senegal. However, the adoption of participatory management will largely depend on the institutional and political environment. The following conditions are necessary for creating an appropriate environment:

- The training of all forestry staff, particularly in participatory forestry, needs to be strengthened through in-service courses.
- The political will to give more responsibilities to local communities in the management of forestry resources is necessary.

- The political will must be supported by revised legal and regulatory laws, such as the Senegalese Forestry Code, which turn local communities into actors in the management of forestry resources and recognize the participatory management of natural forests as a management method and as a means of controlling the exploitation of resources.
- The policy should be clearly stated in national and regional Forestry Action Plans, indicating the targets and results to be achieved.
- It is necessary to propose clear procedures to local communities and villages bordering the forest.
- Ministerial departments should support and defend the efforts of technical departments and their decentralized units.
- The Forestry Department should accept extension workers' assistance to their civil servants in the field. Local communities need day-to-day support at the beginning of the process.

On the basis of major lessons learned from the experience in Senegal, we make the following recommendations for the expansion of participatory forestry:

- Sensitization programmes should include the sharing of experiences between participating and non-participating villages.
- Management structures at the village level must have representation from all socio-professional groups in the community, and not from special interest groups only.
- There must be transparency, particularly during the creation of committees and the presentation of the statement of accounts, which should be made in public.
- A management fund should be established and maintained by contributions from the sale of wood and non-wood forest products and interest from small loans as committees can grant in order to generate funds.



- The Forestry Department should, with its partners, lead the process beyond the experimental phase; this will solve the problem that arises when some projects and NGOs take over, at least partially, administration responsibilities.
- Communication in the media (documentaries on television, thematic radio broadcasts, articles in the press) is crucial, in order to inform the public about the possibilities for local communities to manage forests and the impacts of such management.
- The expansion of participatory forestry management programmes must address the requests of villages and local communities. Supporting structures (Forestry Department, projects, NGOs) must be prepared to respond.
- It is important to include the preparation of management plans in the implementation process, in order to allow local communities to participate effectively and to identify themselves with this planning.
- It is necessary to prepare a simple procedure with tools and models and to disseminate it among all the actors who may work with local communities.
- Training programmes for beneficiaries should focus on adult functional alphabetization and organizational development, and not only on forestry techniques.
- In addition to forestry staff, it is important to train community extension workers in participatory management, so that they can assist villages and local communities in the process of participatory management of their forest; without this, the Forestry Department cannot cope with all requests.
- Local communities should include participatory forest management of their forest in their local development plans in order to obtain funds from the state and its partners to support decentralization. Local communities often do not have sufficient funds.
- It can be useful to create a spirit of competition among the committees engaged in participatory forest management in order to speed expansion.

We hope that these recommendations will enrich the discussions of the different actors who invest their efforts in this important challenge.

Annex 1

Duties of office bearers of the Village Committee, Senegal

Chairperson (man or woman) **1**

- chair meetings
- ensure dissemination of information
- supervise the performance of members
- monitor all activities

Deputy chairperson (woman or man) **1**

- assist the chairperson (meetings, monitoring of activities, communication)
- be in charge of some activities
- supervise the use of means and equipment

Secretary and substitute (man and woman) **2**

- prepare summaries and minutes of meetings
- record villagers' participation (in meeting and fieldwork)
- translate and reproduce the plan of work (document it)
- receive and guide visitors

Treasurer (woman) **1**

- maintain the accounts
- distribute the equipment
- collect fines and issue receipts
- present statements of accounts (expenditure)

Women's representative (woman) **1**

- organize women's work
- disseminate information among women
- present women's requests and complaints to the committee
- present women's activities and tasks

Youth representative (man or woman) **1**

- organize youth work
- disseminate information among youth
- present youths' requests, complaints and ideas to the committee

Patroller (man)

- patrol the forest regularly
- report illegal activities to the committee
- propose protection measures

Advisers (often a village or religious chief or representative) **2**

- participate in meetings
- advise the committee

Pastoralists' representative (man) **1**