

## 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<sup>1</sup> is a very important step in this approach; local codes of conduct stipulate in very simple terms the rules governing the utilization of resources.<sup>2</sup> 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.<sup>3</sup> Furthermore, the participatory approach enables local communities to assume responsibilities<sup>4</sup> in the management of their affairs.

The fuelwood sector is no longer the monopoly of the forest operator lobby,<sup>5</sup> 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<sup>2</sup>, 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-Sahelian 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 niayas, 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),<sup>6</sup> 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<sup>7</sup> 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.

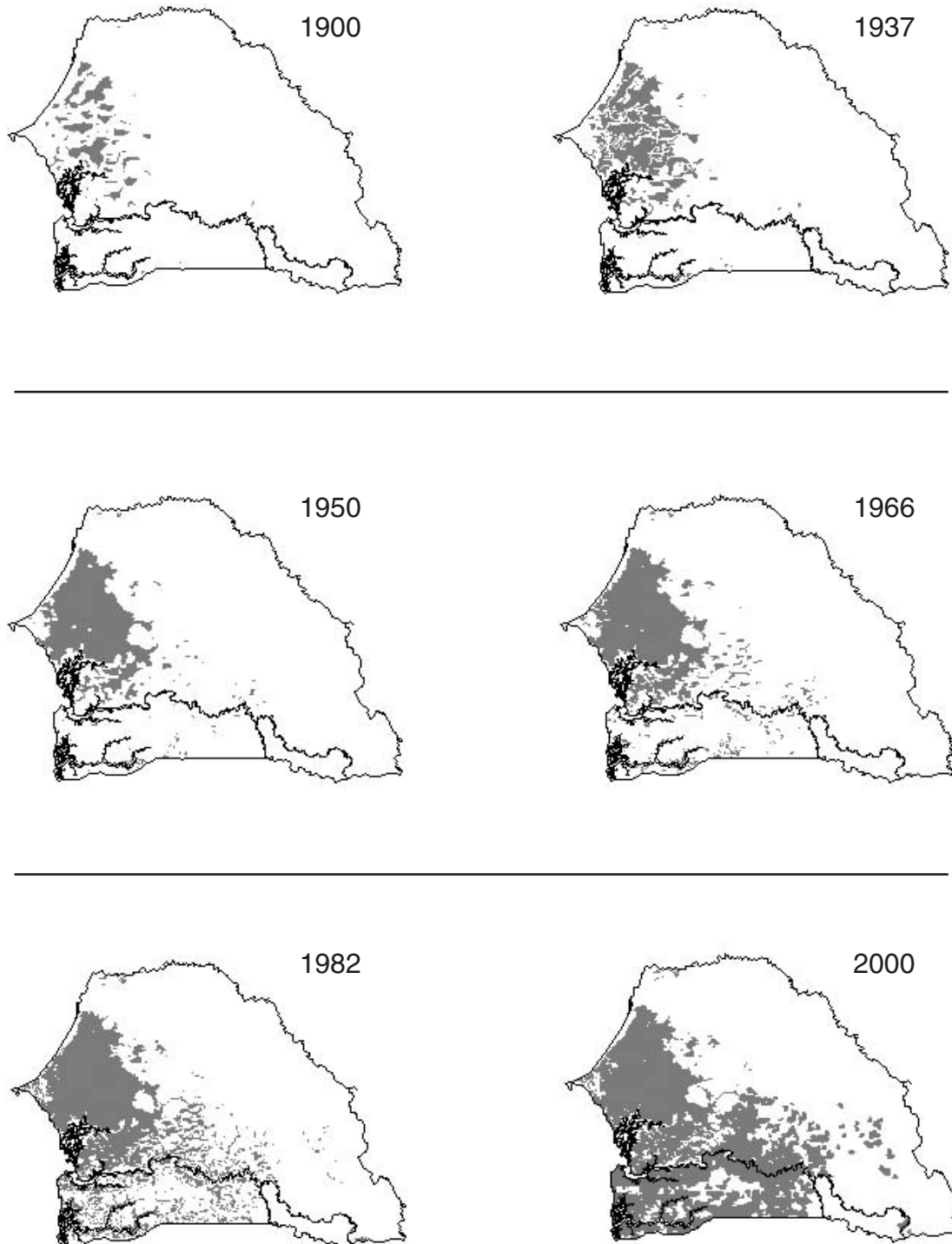
In Senegal, as in many countries of the Sahel, major causes of forest degradation are clearing for farming, bush fires and production of fuelwood. Unfortunately, no recent data are available on the extent of destruction resulting from each of these causes. Figure 1 presents changes in cultivated area.

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.<sup>8</sup>

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<sup>9</sup> 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<sup>10</sup> 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)<sup>11</sup> 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.

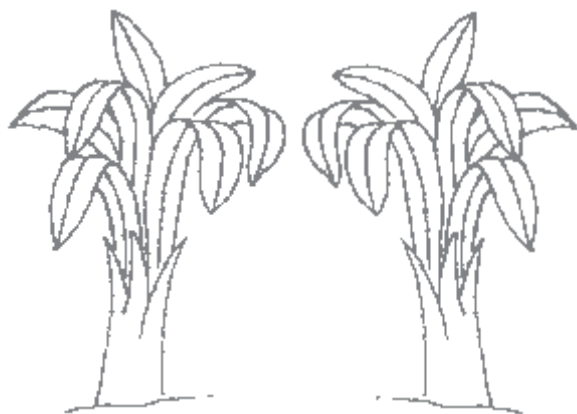
The “traditional” traders of forest products (who are legally recognized) are very well organized and represent a political-religious lobby group that tends to slow down this process. In fact, people in communities bordering the forests are taking over the production that was part of these traders’ monopoly. The conversion of those traditional traders, undertaken with the assistance of a World Bank programme, the Programme de Gestion Durable et Participative des Energies Traditionnelles 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
<b>Total</b>			<b>79</b>	<b>125</b>	<b>161</b>

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 (m <sup>3</sup> /ha/year)	TOTAL PRODUCTION (m <sup>3</sup> /year)	POTENTIAL (foot/m <sup>3</sup> /ha)	TOTAL PRODUCTION (m <sup>3</sup> )
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
<b>Total</b>	<b>19 462 445</b>		<b>13 352 835</b>		<b>318 656 967</b>

Source: J. Piot, A. Ly, and I. Guèye Mai. 1991.

Etude sur la gestion des ressources forestières et des terroirs 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.<sup>12</sup> In the bush savannah resulting from

degraded woodland savannah, the increase in volume is more than 1 m<sup>3</sup>/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

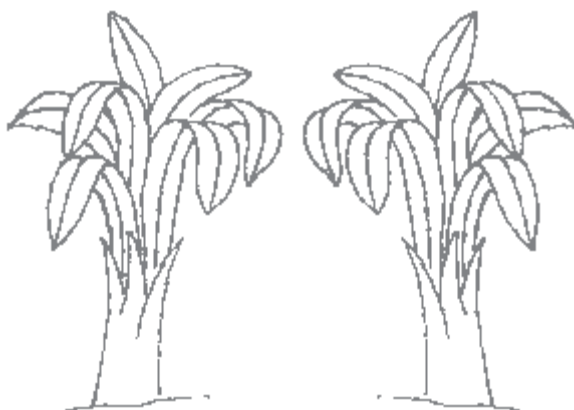
Major lessons have been learned from the experience gained in the development of participatory forestry in Senegal. However, the adoption of participatory management will largely depend on the institutional and political environment. The following conditions are necessary for creating an appropriate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