

freedy

IASCP

8 26 95
WORKSHOP IN POLITICAL THEORY
AND POLICY ANALYSIS
513 NORTH PARK
INDIANA UNIVERSITY
BLOOMINGTON, IN 47408-3895 U.S.A.

Fifth Annual Common Property Conference ^{CPK}
May 24-28, 1995
Bodo, Norway

Title :

**CREATION OF NEW COMMONS AS LOCAL RURAL DEVELOPMENT TOOLS :
RURAL MARKETS OF WOOD ENERGY IN NIGER**

Authors :

El Hadj Laouali MAHAMANE*, Pierre MONTAGNE,
Alain BERTRAND***, Didier BABIN******

**(forestier directeur du Projet Energie II / Energie Domestique -Volet Offre), Niamey NIGER*

*** (forestier conseiller technique au Projet Energie II / Energie Domestique -Volet Offre) CIRAD-Forêt GREEN-LESS, Niamey NIGER*

**** (chercheur en sciences sociales, ex-coordonateur des experts du volet Offre du Projet Energie II) CIRAD-Forêt GREEN-LESS, Atananarivo MADAGASCAR*

***** (chercheur en sciences sociales) CIRAD-Forêt GREEN-LESS, Nogent sur Marne FRANCE*

(Centre de coopération International en Recherche Agronomique pour le Développement-Département forestier ,
Gestion des ressources naturelles RENouvelables, ENvironnement-
Laboratoire d'Economie et de Sciences Sociales)

45 bis, avenue de la Belle Gabrielle F-94736 NOGENT sur MARNE CEDEX FRANCE
(phone) 33 1 43 94 43 00 (fax) 33 1 43 94 43 61 (E-mail) babin @ cttf.cirad.fr

Topic n°30 : **The "creation" of new commons : external interventions and issues of sustainability**

Abstract :

Since 1989, the *Energie II Project* fosters long term sustainability of tree stock for wood energy in Niger. It is thus based on reappropriation of forest stand by village residents. The regulation reform has switched renewable resource management from State to rural population. This transfer is direct, immediate, and a source of great local autonomy. Creating an institution called "rural market of wood energy" allows autonomous management of resources extraction, trading and recovery. The whole network has now a new structure based on subsidiarity. Decisions are taken at the most efficient level (local, regional or national) according to the common goal. Due to the absence of cash crops, Nigerian forest favours a potential accruing leading to local rural development. Thus, the use of the income drawn from wood energy by existing "rural markets". Rather than providing "readymade" responses to questions, the project supports the emerging "possible" ones and self organization without imposing development models. The novelty of this process is also the technical simplification of the organizational solutions leading to its implementation.

1. Introduction

In many countries of the Sudano-Sahelian zone, customary management of forest resources was confiscated first by the colonizer and then by the independent States, at the expense of local communities. As well as creating an upheaval in traditional practices, this confiscation also led to removal of responsibility for management of renewable resources from local populations. The different uses of these areas, very often shared between agricultural, sylvicultural and pastoral activities, were segmented by means of zoning techniques intended to guarantee their long-term conservation. The inability of the States to enforce respect for their laws covering these "protected" forest areas has, paradoxically, turned them into free access zones.

These areas are subject to relatively strong and long-term pressure. In Niger, for example, 98% of households use wood as an energy source for cooking. In 1994, it was estimated that fuelwood demand in the city of Niamey totals 150,000 tonnes per year. In a region where annual increase in plant cover is low due to severe climatic conditions and where land requirements for agricultural activities are constantly growing, resulting in anarchic land clearance practices, pressure on wood resources is a cause for concern. Rings of deforestation are developing around urban centers, presenting the threat, to some, of future shortages.

Over the last ten years, woodcutting activities have often become much more economically advantageous than agriculture or livestock production. However, these activities are controlled essentially by urban trader-transporters who make considerable profits from non-sustainable harvesting of wooded areas.

The aim of this paper is to discuss how, via the Domestic Energy Strategy project in Niger¹, the reappropriation² and rural trade of renewable resources provide a means to ensure sustainable long-term management, regular urban fuelwood supply and local rural development.

In the first part, we will examine the possibilities for rural development through the creation of new commons around renewable resources. The second part presents the experiment under way in Niger, its main results and future prospects. Lastly, we will discuss the lessons provided by this experiment in the wider context of negotiated local management of renewable resources.

2. Some initial remarks on "commons" and "rural development"

This paper does not attempt to define what is meant exactly by "commons" or "rural development". Numerous definitions exist and are noteworthy mainly for their diversity and the fact that they are changing all the time. Our aim here is to draw attention to the fact that certain relatively dominant, even hegemonic ideas may sometimes conceal possible and sometimes promising future paths. It appears essential to examine certain questions, some more theoretical than others, to broaden the scope of future action:

- in a context of growing urbanization in Africa, does development necessarily have to favour the town at the expense of the country?
- faced with a situation of free access in practice (but not in law) to renewable resources, are there any alternatives to privatization?

¹
The current Energie II-Energie Domestique project is the culmination of work by the Niger Government and the World Bank which was initiated the 1980's by the SEED consulting firm (Paris) in collaboration with CIRAD-Forêt with Danish funds.

²
The term appropriation is here taken in a wide sense, different from that of property. It refers to perceptions and representations, to customs, to modes of access and control, to modes of transfer and sharing (cf. GREEN 1994).

- to what extent can fuelwood be considered as a "common resource"?

2.1. The town-country opposition?

The urbanization process, sometimes considered anarchic, especially in Africa, is a cause for particular concern among international organizations and funding agencies. Some go as far as to talk of the "scourge of over-urbanization". According to UNO forecasts, the urban dwellers in sub-Saharan Africa will rise from 31% of the total population in 1990 (155 million) to 55% in 2025 (750 million) (U.N., 1991). There is no doubt in the minds of most authors about the "urgent need" to free towns and cities from under-development. But how is this to be done? The proposed development scenarios, inherited from the social and economic analysis of the western industrial revolution, often consider agriculture as the priority and basis for development, an argument backed up by the green revolution in Asia (Friboulet, 1993). Historically, three conditions appear to be necessary for urbanization (Coquery-Vidrovitch, 1993):

- the capacity to produce an agricultural surplus to feed the non-producers,
- trade and a trading class specialized in the collection and redistribution of provisions,
- a political power controlling the use of surpluses by non-producers.

The link between the town and commercial exchange is therefore very strong. Hence "in Africa you can find markets without towns, but never towns without markets" (Coquery-Vidrovitch, 1993). This calls for a certain control, by the political power in the town or city, over the surrounding rural areas. For the partisans of Urban Bias, the town draws on a primary economy for its own development. Other authors underline the diversity of situations (cf. Hugon and Pourtier, 1993). Beyond this ideological and sometimes sentimental debate between urbanophiles and rurophiles, it is certainly more through a form of complicity rather than of opposition between town and country that we must seek to understand and act. The decentralization processes raise the question of the "competence" of the different power levels and of the "nature" of links between town and country; in brief, the principle of subsidiarity.

2.2. Alternatives to privatization?

Empirical observation brings to light the existence of a diverse range of controls over renewable resources which cannot be reduced simply to "exclusive and absolute private property" or "common property". It is therefore not appropriate to advocate the privatization of all commons, as proposed by G. Hardin, as a unique solution to a crisis resulting from open access.

E. Leroy (1995), in a theorization of these controls, proposes around 20 different alternatives, combining in matrix form the "nature" and "object" of controls. These types of control are not specific to tropical developing countries. They also exist in Europe and ignorance of them often makes it difficult to apply certain texts of the European Union. This is the case, in France, for the agri-environmental measures covering common areas.

2.3. Fuel wood as a common resource?

Does fuelwood satisfy the 7 necessary and sufficient criteria, according to G.G. Stevenson (1991) characterizing a common property resource?

- "1. The resource unit has bounds that are well defined by physical, biological, and social parameters.
2. There is a well-delineated group of users, who are distinct from persons excluded from resource use.
3. Multiple included users participate in resource extraction.
4. Explicit or implicit well-understood rules exist among users regarding their rights and their duties to one another about resource extraction.
5. Users share joint, nonexclusive entitlement to the *in situ* or fugitive resource prior to its capture or use.
6. Users compete for the resource, and thereby impose negative externalities on one another.
7. A well-delineated group of rights holders exists, which may or may not coincide with the group of users."

Theoretically, in the situation preceding the creation of rural markets in Niger, most of these criteria were met. Criteria two was not met, in practice, to the extent that it was impossible to exert the controls required

to reserve exclusive access to certain users. The creation of rural markets does not simply aim to recreate common property resources according to a "customary" model. Its main purpose is to form an institution responsible for establishing negotiations between the various parties (from local to national levels) involved in the management of forest resources on the basis of long-term common objectives. Property is not transferred to local communities, but a mutual contract is concluded between the community and the owner, i.e., the State in the present case. Fuelwood is thus subject to local, jointly negotiated management. This process bears a certain resemblance to the notion of "gestion patrimoniale" (Ollagnon, 1990).

3. The experiment in Niger

3.1. Objectives

Basically, the aim is to involve local populations in the fuelwood commodity chain by legitimizing their roles through the creation of rural fuelwood markets. They set up THEIR OWN market, supplied with wood from forests under THEIR OWN responsibility, produced by woodcutters from THEIR OWN village.

The basic idea behind rural market development is that rural populations must necessarily be granted legitimate rights to manage wood resources in order to ensure their ecological, economic and social sustainability. The income they obtain gives them responsibility for their management of the resource. If they experience positive benefits at the community or individual level, they may take the necessary action to ensure sustainable management of this source of wealth.

In short, the aim is to give standing trees a value which enables rural people, by gaining awareness of this value, to protect them, grow them and harvest them for their own benefit. The legal framework must promote and amplify this awareness.

3.2. The legal framework

The legal framework established in 1993, and which became truly functional in 1994, aims to provide a number of rules to enable rural populations to appropriate resources and take control of woodcutting zones. The aim is to transform the two-way trader-transporter/forest warden relationship into a three-way relationship including villagers living around the wooded areas.

Ruling n° 92-037 authorizes the creation of wood production and trading structures³ called rural markets. The most important point of this ruling concerns tax arrangements. The production structures levy a tax on wood transport at the source, at the time of wood purchase by the trader-transporters.

A part of this tax is handed over to the State (central and local authorities) to enable it to perform its supervisory role and to provide resources for the financing of rural development projects at village level. Between 40 and 60% of the tax income going to the local authorities must be spent on forest development work, such as agroforestry projects, nurseries, fire-breaks, erosion protection, etc. A share of the sums kept by the villages (between 30 and 50% of the tax, depending on the type of operation chosen) are also assigned to development work. The rest is spent on investments chosen freely by the villagers.

The Domestic Energy Strategy, initiated in 1989, is now well established institutionally (it forms part of the forestry policy of the Environment Division) and legally (forestry supervision has been reorganized and, in particular, now has its own operating and investment resources), and has reached an advanced stage of organization. A precise methodology has been developed to ensure a rapid spread of village production systems to ensure that responsible populations take full control of their sylvo-pastoral lands and the resources they contain.

3

Initially, only for firewood

3.3. Implementation

Basically, this strategy is based around the following points:

- establishment of **wood supply plans** for the cities of Niamey, Maradi and Zinder, in order to direct and plan forest exploitation, in both spatial and quantitative terms, towards priority intervention zones;
- **transfer of responsibility** for forest resource management to the populations living around the forests (rural markets);
- adoption of the new **legal framework**⁴ effectively in force since March 1993;
- implementation of a **tax levying system** via the rural markets and forestry controls located at town entry points;
- development of an **experimental monitoring system** to monitor the regeneration of woodcutting areas and the long-term impact of rural markets on forestry resource productivity, notably the harvesting of live wood⁵.

The process of rural market development and installation, the operational tool of the Strategy, must be clearly explained to all involved, the villagers in particular, so that everyone understands their new role and stays within its bounds, respecting their stated rights and duties. Six main stages have been identified (cf. figure 1). Their primary objective is to enable organizers of the strategy to set up five to ten functional rural markets within a given zone, comprising around twenty villages, over a preset time period of three to six months⁶.

Operational modifications can be made to take account of conditions in the field. Suffice it to say that these main stages appear to be essential, especially in the context of an operation due to be developed on a large scale, and through which rural markets will be seeking to take over a substantial share of the urban fuelwood supply market.

3.4 Results

At present, the network of established and functional rural markets covers around forty villages and five regions with a large production potential which were previously subject to uncontrolled harvesting by trader-transporters. The oldest rural markets have been in existence for only 3 years. They operate on a satisfactory commercial basis, i.e., the markets cut and sell their wood according to predefined criteria (quotas, cutting methods, etc.). They levy the necessary taxes and hand over the appropriate fraction to the State (local authorities and public revenue department). They supply 10% of urban fuelwood demand, i.e., around 16,000 tonnes of fuelwood per year, producing a turnover of around CFA 60 million for producers. The rural market has thus increased the "value of standing wood". The sales price to transporters has risen from 1 or 2 CFA francs/kg to 5 CFA francs/kg, sometimes up to 8 CFA francs/kg. For the consumer, the fuelwood price has only risen from 3 to 5 CFA francs/kg from 20 to 25 CFA francs/kg.

Substantial income is generated by the current rural market system, both as regards pre-tax income (shared between woodcutters, managers and village funds) and tax income (shared between the villages, local

4

Defined by Ruling n° 92-037 of 21 August 1992 and its associated texts, the Decree n° 92-PM/MIE of 21 August 1992 and the Order n° 09/MHE/DE of 23 February 1993. This reform constitutes a substantial step forward in forestry policy and illustrates the Niger Government's determination to achieve more rational and sustainable management of the country's renewable resources, of which wood is a major element.

5

For a description of this aspect, cf. Peltier et al, 1994 and 1995.

6

For a more detailed description, cf. Montagne et al., 1994.

authorities and the public revenue department) (cf. table 1). The volume of sales varies according to woodcutting practices in the area⁷.

A part of the tax income is intended to finance forestry development activities. These sums exist and a number of local investment initiatives have already launched. For the Torodi zone, projects envisaged for the 1994-1995 period include:

- creation of mini-nurseries (for which the development fund covers training and equipment costs);
- "fire-break" projects;
- tree planting projects (various types).

The income of associations, villages and woodcutters has already been used for both collective and individual investments. However, for the moment, these initiatives are few in number. The unallocated tax income has been invested by the populations in the following sectors:

- construction of classrooms in Makalondi (128,000 CFA francs);
- purchase of two carts in Lambouti (155,000 CFA francs);
- purchase of cereals to bridge the gap between harvests (72,500 CFA francs in Alondi and 132,000 CFA francs in Bouulwaga);
- repairs to the mosque (46,000 CFA francs in Djaël).

Other investments are planned for 1995, notably in the sectors of health (pharmacies), water supply (wells) and agriculture (input stocks).

3.5 Difficulties

The current operation of rural markets shows that though rural populations have understood perfectly the advantages of this "revolution", such is not the case for the trader-transporters and the forest wardens. Firstly, the trader-transporters are finding it difficult to forget their former role; they are waiting for the village production systems to fail so that they can re-establish total control over wood supply and restore their power to impose low wood purchase price at the point of cutting. The forest wardens, for their part, have lost the privileged relationship they had with traders and hence, for some, the opportunity for illicit gains... The problems currently being encountered in the operation of the system clearly demonstrate the accuracy of this diagnosis. The existence of the Strategy runs counter to numerous established interests and powers; opposition is inevitable... and it is still too early to say whether it will succeed in imposing itself as the most suitable solution for sustainable management of Niger's forestry resources.

Other types of difficulty should also be highlighted:

- as regards conception of the system: it is difficult to establish a development plan which is both simple (easy to understand by villagers and administrators) and which has no adverse effects, notably in terms of operating dynamics (hence the need for thorough controls at town entry points - forestry posts - and in rural areas - administrative supervision);
- as regards controls, notably with respect to the rural markets and forestry supervision, there is a regrettable lack of dynamism and initiative on the part of those responsible for administrative monitoring and supervision tasks. With the growing institutionalization of the Domestic Energy Strategy the administration is playing an increasing role in supervisory work, using funds obtained from wood harvesting.
- as regards implementation, the major outlines of the measures defined in 1989, notably the continuous involvement of teams from the Departmental Environment Division in study work and inventories have been more or less respected, though it is by no means certain that the trained officials are capable of performing this work alone, even if there is no problem of available resources.

The quantities cut replace previous uncontrolled cutting by trader-transporters, by no means constituting additional cutting; urban consumers have not increased their consumption as a result of these rural markets.

3.6 Prospects

For 1994, a net sum of almost 60 million CFA francs flowed from the town to the country, corresponding to the turnover of the woodcutters. To this sum must be added the total amount of tax, of which a part remains in the villages and can be reinvested, either in the forests to maintain the productive capital, or in other economic sectors of village life, such as agriculture (purchase of inputs, equipment), livestock production (purchase of animal husbandry inputs), health (pharmacies) and water supply (well repairs, drilling).

Responsibility for forest management has been effectively transferred from the State to the population in operational rural markets. The aim now is to develop the production system spatially in order to give these populations permanent control over the upstream end of the fuelwood commodity chain. The proposals made by the Niger government in May 1994, recommending that 330 rural markets be established, are a positive step in this direction. It should be noted that 40% of the financing for these development projects will be provided by the State itself from income generated by taxation, estimated to total more than 700 million CFA francs per year (provided that the supervision system operates effectively).

During the period 1995-1999, the Domestic Energy Strategy will enter a large-scale development process aiming to establish village production and trading structures as widely as possible over the country. It is clear that officials from the Environment Division will be unable to perform this task alone. Rural markets are set to multiply and the Environment Division, even with the support of the project, does not have the means to perform all the essential consultancy, training, support (credits) and supervision tasks involved. Support for the actions of the Domestic Energy Strategy downstream of rural markets must therefore be provided by other bodies, able to carry out operations on the scale of village "territories". Outside the priority zones already targeted by the strategy, there are opportunities for other partners to become involved, taking as a basis for development the overall legal and logistic framework already defined. The methodological tools already exist, even if they must be adapted to suit local human and physical contexts.

With an estimated installation cost of around 4 to 5,000 CFA francs per hectare (less than 10 \$US/ha), rural markets probably constitute the least-cost solution for rational management of forestry resources. Under similar soil and climatic conditions, the mean costs for rural forests are 50 to 100 \$US/ha and between 500 and 1,000 \$US/ha for plantations operated under concession (Madon et al., 1994).

4. The specific characteristics and broader lessons of the Nigerian experience

Some consider that the experiment under way in Niger is worthwhile, but very specific, inapplicable outside the Sahelian zone or for resources other than fuelwood (firewood and/or charcoal). How should we react to this objection ?

We will first examine whether the general conditions considered to be specific to the situation in Niger are really essential to the success of the experiment under way. We will then see whether these solutions can be envisaged for renewable resources other than fuelwood. Lastly, we will discuss the importance of commercial aspects in the better economic use of renewable resources and the relation between improved economic use and the long-term sustainability of renewable resources.

4.1 Features specific to the agricultural context in Niger?

Among the features, considered to be more or less specific to the rural context of Niger, that have doubtless had the greatest influence on the development of rural fuelwood markets and have highlighted their relationship with the local development process, the three following points can justifiably be underlined.

The lack of cash crops prevents escape from subsistence farming

The severe climatic conditions (drought) set drastic limits on agriculture. Though in the Sudanic zone, the development of cotton, a quintessential cash crop, has led to a certain intensification of agricultural

production, this is not the case in Niger (apart from the irrigated areas along the river valley) where cash crops are non-existent (and, for the present, cannot exist). Rain-fed millet and sorghum cultivation is almost exclusively devoted to satisfying local rural population needs, making any accumulation and agricultural investment required for intensification impossible (Milleville, 1991). In a context characterized both by a relative pastoral regression following the successive droughts over the last two decades and by a significant reduction in income from the rural exodus, Nigerian rural society remains restricted to the use of crude, relatively unproductive agricultural techniques, whose essential aim is to minimize the risk of harvest failures due to unfavourable weather while making little attempt to increase yields. (Bosc et al., 1992).

In this context, the development of fuelwood trading activities to supply spiralling urban populations appears to be one of the rare and sole opportunities for the rural world to obtain the income needed for agricultural intensification. The rural populations of Niger see the creation of rural markets not only as a means to legitimize the local community monopoly over wood resources, and as a way to raise the value of wood resources in the face of the commercial operators in the fuelwood commodity chain, but also (and, in some cases, above all) as a means to invest in agricultural equipment or in improved rural living conditions.

The forest thus constitutes a key rural development factor in Niger (Bertrand et al. 1994). Niger is doubtless an extreme case, but we observe that forest income is, to a lesser extent, essential for the simple reproduction of agrarian systems in countries and regions as different as southern Benin (Bertrand et al. 1991) or the Madagascan highlands (Bertrand, 1992). A farmer from the Atlantique department of Benin told us one day: "You have to be either crazy or a millionaire not to be interested in fuelwood". For farmers in the Manjakandriana region of Madagascar, the rural plantations of *Eucalyptus robusta* which cover more than half the total area of local lands, are an essential source of income for the purchase of rice, produced in insufficient quantities in the narrow valley rice paddies.

The absence of alternative opportunities for rural income other than the fuelwood trade nevertheless appears to be relative. All rural communities need additional income sources and cannot generally neglect the importance of forest revenues of all kinds.

Drought, rural exodus, urban growth and the impact of development projects

Niger, like the Sahelian zone, but also like sub-Saharan Africa as a whole, has witnessed spectacular urban population growth. Niamey now has more than 600,000 inhabitants. This rapid urbanization has been reinforced by a substantial rural exodus, especially during periods of drought. However, this rural exodus⁸ has not led (unlike Europe in the last century) to a reduction in the rural population, which has also continued to grow. After the droughts in 1972-1974 and 1984, the large-scale emergency programs and development projects initiated in the Sahel, and in Niger in particular, had a number of adverse effects. Very often and very generally, rural populations were placed in a passive role, and expected to wait for outside aid and development projects to be brought to them. The new legitimacy of local natural wood resource management instituted by the creation of rural markets has established the conditions required to return responsibility to rural populations.

Here again, the case of Niger is not exceptional, though it appears more marked than elsewhere due to the severe climate and natural environment.

Relations between town and country and the structure of commercial commodity chains

For the last 25 years, the urban-rural terms of exchange have deteriorated at the expense of rural populations. Urban population growth and the rural exodus alone provide proof of this long-term evolution. In the forestry sector, this has led to a structuring of the fuelwood trading system in favour of those involved downstream,

8

The Sahelian rural exodus is highly diverse and complex: "seasonal" rural exodus to towns in the interior or on the coast, multi-year exodus to coastal towns, almost permanent exodus of populations uprooted by drought and the failure of agrarian systems.

while, paradoxically, fuelwood supply to urban markets tends to outstrip demand. The structure of the fuelwood commodity chain, as presented in the figure 2, clearly demonstrates that until the recent legal reform and up to the creation of rural fuelwood markets, rural populations had lost effective control over the wood resources on their land and were therefore unable to negotiate harvesting rights under any sort of favourable conditions. The standing tree had a nil or residual value. The commodity chain structure that the legal reform and the creation of rural markets aims to institute (and is starting to do so) is based on exclusive control by rural populations over the wood resources on their land. The aim of local community management of renewable resources must be to make better economic use of these resources.

Nothing here is truly specific to Niger, and this explains why, for example, a country as different as Madagascar is able to launch a decentralization policy aiming towards local community management of renewable resources (Bertrand et al., 1995). Here again, for example, the operation of forestry product trading structures (nevertheless very different in nature) has led to a significant long-term reduction in forestry income and very poor economic use of natural wood resources (as for all renewable resources).

4.2. Solutions limited to the case of fuelwood or applicable to all renewable resources ?

Fuelwood, timber, dry forests or dense humid forests?

The experience of rural fuelwood markets in Niger shows that by initiating independent local development, local community management of renewable resources results in improved management of wood resources and makes long-term sustainable management a realistic objective.

But does this mean that local management of forestry resources and the creation of new commons, restoring, in new forms, the customary legitimate rights of populations over the resources in their environment, should be seen as a universal panacea? Can what is valid in the context of fuelwood harvesting in Niger also apply to a timber forest in Côte d'Ivoire? Should there be a distinction between what lies in the domain of management, often requiring in-depth technical knowledge, from what lies in the domain of profit redistribution?

First of all, why exclude timber from local forestry resource management?

A first response concerns dry zones. Mali is currently examining the idea of forestry development for timber production through village management of *Isobertinia doka* forests in the west of the Third Region. This is doubtless the only way to prevent the deforestation of these valuable natural wooded areas in a region of intense agricultural development.

Similarly, why exclude timber from the local management of forest resources in dense humid forest zones, i.e., where wood often plays a major economic role in the international tropical timber trade?

Current attempts at sustainable management of dense, humid tropical forests still come up against two obstacles.

The first concerns the problem of the space reserved for local rural populations. Even if it is recognized that these populations must "**be involved**" and "**take part**" in the implementation of development projects (indeed, the sustainability of such a project depends on their agreement and their respect for development plans), current initiatives seem to be limited to "giving a back seat" to these populations, limiting them to "peripheral areas" in "buffer zones" on the edges of the forest. This strategy, which merely reproduces exclusion in a new form, appears doomed to failure.

The second concerns the objectives of sustainable development itself. Times are changing, biodiversity is becoming an important economic factor in the preparation of the forthcoming "technological revolution". Timber production is not the only way to make use of the tropical forests. Already, it is often not necessarily the principal means to draw economic benefits from the forest. Increasing numbers and quantities of products of extractivism for the pharmaceutical and cosmetics industries, among others, are coming out of tropical

forests. Though little is known about these activities and their importance is difficult to assess, the involvement of rural populations as full partners in timber forest developments cannot be achieved without including the sustainable management of resources on the basis of gathering-extractivism among forest development objectives. The problem is now to design and operate multi-objective tropical forest development projects.

A problem of type of resources or of local management of renewable resources?

The example of Niger already shows that local community management of renewable resources does not mean that the State's point of view is secondary to that of local communities (cf. Montagne et al, 1994), or to that of the forest operators (trader-transporters in Niger). It should not be forgotten that the State is far away, "present-absent" according to A. Karsenty's expression, and that forest operators come and go, operating over variable periods of time. Local communities remain in the same place. No viable solution guaranteeing the long-term existence of the forest cover can be found without an agreement on new resource management and harvesting methods between all three parties. This calls for "négociation patrimoniale" (which lies at the heart of intra-village discussions prior to the creation of rural markets).

It is clear, therefore, that the justification for the creation of new commons, taking account of all social constraints at the various national, regional and local levels, is not based on the type of forest to be managed, but on other considerations which bring to light the advantages of local, community management of resources.

One of the outstanding comparative advantages of local management is the fact that diversity is taken into account; the diversity of land use, natural environments, human and social groups, the variety of social practices and strategies, their wide-ranging effects on resources, etc.

4.3. Rural income, effective economic use and sustainable management of renewable resources?

The commercial income obtained from renewable resources provides opportunities for their effective economic use and for local development through exclusive local management by rural populations.

We have seen that local management provides opportunities for local development and for the improved economic use of renewable resources which had previously lost all value due to a situation of free access (Weber, 1994). This explains the decision made in Niger to focus the creation of rural markets on the commercial harvesting of fuelwood. This is clearly an advantage which gives meaningful content to state policy regarding the transfer of legitimacy for local management to rural communities while providing the necessary means for local development, previously held back by a lack of resources and a low accumulation and investment capacity.

Local management of renewable resources is based on the restoration by the State of exclusive local rights of access to renewable resources. But does local management automatically guarantee sustainable long-term management of renewable resources?

Does essential income guarantee sustainable management?

For many years, the income drawn from wood and forestry activities, though small and limited in amount (due to the free access enjoyed in practice by trader-transporters), was considered by rural populations as essential to the survival of rural households. However, this did not prevent a variety of practices which deteriorated forest resources. For rural people, necessity knew no law and in a legal and economic system favouring those further down the commodity chains, the very low income drawn from wood resources and from primary harvesting made sustainable management of natural wood resources impossible. This shows clearly that without an overall legal and economic framework... it is illusory to assume that the State can take responsibility for instituting sustainable management of renewable resources. The first measure required to establish this framework is, of course, to legitimize the local community management monopoly. But the example of Niger shows clearly that other measures must be implemented simultaneously.

Bibliography :

Bertrand A., 1992. - Approvisionnement en combustibles ligneux d'Antananarivo et de Mahajanga. Synthèse des travaux réalisés, perspectives d'évolution des filières d'approvisionnement et propositions pour la planification des actions publiques. UPED, Direction de l'Energie / Nogent sur Marne, CIRAD-Forêt.

Bertrand A., Ahouansou T., Petit J.M., Schenkel Y., Agbo V., 1991. - Pénurie de bois et passage de l'auto-consommation à la commercialisation rurale et urbaine du bois de feu dans le département de l'Atlantique au Bénin. Opération STD II (Communauté Européenne) / Nogent sur Marne, CIRAD-Forêt.

Bertrand A., Idrissa K. (coord.) 1994. - Les marchés ruraux de bois de feu au Niger et l'autogestion locale des ressources naturelles. La problématique et les leçons de l'expérience. Niamey, Projet Energie II-Energie Domestique / SEED / CIRAD-Forêt.

Bertrand A., Rajaonson B., Randriamarolaza L.P., Randrianaivo D., Ratsimbazafy E., Rejotsiresy V., 1995. - Vers la gestion locale communautaire des ressources renouvelables : propositions d'une politique de décentralisation de la gestion des ressources renouvelables. Antananarivo, ONE, OSIPD.

Bosc P.M., Dolle V., Garin P., Yung J.M., 1992. - Le développement agricole au Sahel. Montpellier, CIRAD-SAR, col. Documents Systèmes Agraires, (17).

Coquery-Vidrovitch C., 1993. - La ville coloniale "lieu de colonisation" et métissage culturel. *Afrique contemporaine*. Paris, La documentation française, n° spécial "villes d'Afrique"(168) : 11-22.

Friboulet J.J., 1993. - Développement économique et social. In : *Encyclopaedia Universalis* (7) : 308-316.

GREEN, 1994. - Workshop "renewable resources and appropriation regimes". Paris, CIRAD-GERDAT-GREEN.

Hugon Ph., Pourtier R. (dir.), 1993. - Villes d'Afrique. *Afrique contemporaine*. Paris, La documentation française, n° spécial "villes d'Afrique" (168).

Karsenty A., 1992. - Sécuriser l'Etat... Développement rural, gestion des ressources naturelles renouvelables et décentralisation en Afrique noire. In : *La mobilisation de la terre dans les stratégies de développement rural en Afrique noire francophone*, E. Leroy (ed.), Paris, APREFA-LAJP.

Leroy E., 1995 (à paraître). - Les solutions foncières des sociétés pastorales africaines et le droit moderne. In : *Pastoralisme : espaces, troupeaux, sociétés*. Paris, Hatier-AUPELF.

Madon G., Tounao K., Lawali E. H. M., Jambes J.-P., Montagne P., Bertrand A., 1994. - Propositions pour une deuxième phase de mise en oeuvre de la stratégie énergie domestique. Niamey, Projet Energie II-Energie Domestique / SEED / CIRAD-Forêt.

Milleville P., 1991. - Conditions sahéennes et systèmes de culture du mil. Régional seminar on cereal of the semi-arid tropics, Garoua, 1989, ORSTOM IFS, Stockholm.

Montagne P., Bertrand A., Babin D., 1994. - Rural markets of wood energy in Niger. Subsidiarity, planning and democracy for sustainable development. Intern. Conf. of the Intern. Society for Ecological Economics, San José, Costa-Rica, 24-28 october 1994.

Ollagnon H., 1990. - Stratégie patrimoniale pour la gestion des ressources et des milieux naturels. Approche intégrée de la gestion du milieu rural. In : *Colloque "Gérer la Nature?"*, Ansérème 17-19 oct. 1989. Région

Wallone, Direction Générale Ressource Naturelle et Environnement? Travaux Conservation de la Nature n° 15, t. I : 195-222.

Peltier R., Mahamane E.H.L., Montagne P., 1994 et 1995. - Aménagement villageois des brousses tachetées au Niger. *Bois et Forêts des Tropiques*, 242 : 59-76 et 243 : 5-24.

Stevenson G.G., 1991. - Common property economics. A general theory and land use applications. Cambridge University Press.

U.N. Department of International Economic and Social Affairs, 1991. - World Urbanization Prospects 1990. Estimates and projections of urban rural populations and of urban agglomeration. U.N., New York, 223 p.

Weber J., 1994. - L'occupation humaine des aires protégées à Madagascar. Diagnostic et éléments pour une gestion viable. Colloque international "Occupation humaine des aires protégées", Mahajanga, Madagascar, 21-25 novembre 1994. ONE-ANGAP-DEF.

TABLE 1: Production, marketing and incomes of rural fuelwood markets (francs cfa)

	trade fuelwood (stere)	Turnover	Share			Taxes	Taxes				
			market management	village fund	woodcutter		Local Management Structure		Local communities		Public revenue department
							Forest management	Free	Forest management	Free	
Torodi	33 779	42 182 250	3 101 450	2 261 075	36 613 675	10 116 450	1 828 666	1 200 060	1 200 060	800 040	5 049 600
Gombewa	4 982	5 284 250	259 700	754 550	4 246 900	1 679 600	302 333	201 559	214 411	142 933	839 800
Say	2 769	2 769 000	276 900	554 100	1 931 100	870 220	174 503	261 759	139 603	209 403	87 256
Kirtachi	6 163	7 259 500	308 150	1 230 600	5 719 550	1 949 428	348 764	233 710	234 027	155 959	975 110
TOTAL	47 693	57 495 000	3 946 200	4 800 325	48 511 225	14 615 698	2 654 266	1 897 088	1 788 101	1 308 335	6 951 766

Figure 1 : the main stages in the creation of rural fuelwood markets in Niger

1) Information

national information campaign: TV, radio, brochure in three languages
at the local level (village) : visit by a project agent
*"presentation of the new legal framework enabling villages to manage
their own woodland areas (brush management)"*
result: candidate villages

2) Contact with candidate villages

further information about rural markets and the management structure
rough assessment of resources, sociological survey
result: initial choice of villages

3) From village diagnosis to...

woodcutter / wood harvesting / tenures / pasture surveys
negotiation between and within villages on forest boundaries
inventory of resources and productivity
result: choice of priority villages

4) support for the development of a rural market structure

preparation of statutes and regulations
election of members of the management structure and
training of managers: general manager, treasurer, chairman
negotiation of annual harvesting-sales quota
result: creation of the local management structure
application for official approval and launching of activities

5) Officialization

approval of the rural market
setting of legal forest boundaries
promulgation of the act of rural concession
information to local and national professionals in the fuelwood commodity chain
distribution of coupons to the local management structure

6) Support for independent management / supervision

organizational / administrative / technical / commercial / accounting / financial support
a postiori supervision, levying of taxes by the administration
annual quota reassessment
[possible operational modifications]

Figure 2 : the dominant model of uncontrolled harvesting prior to the 1992 reform in niger (DUHEM. C et al., 1991)

