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An assessment of Danish Support to the Niger Household Energy Strategy 1989 - 2003

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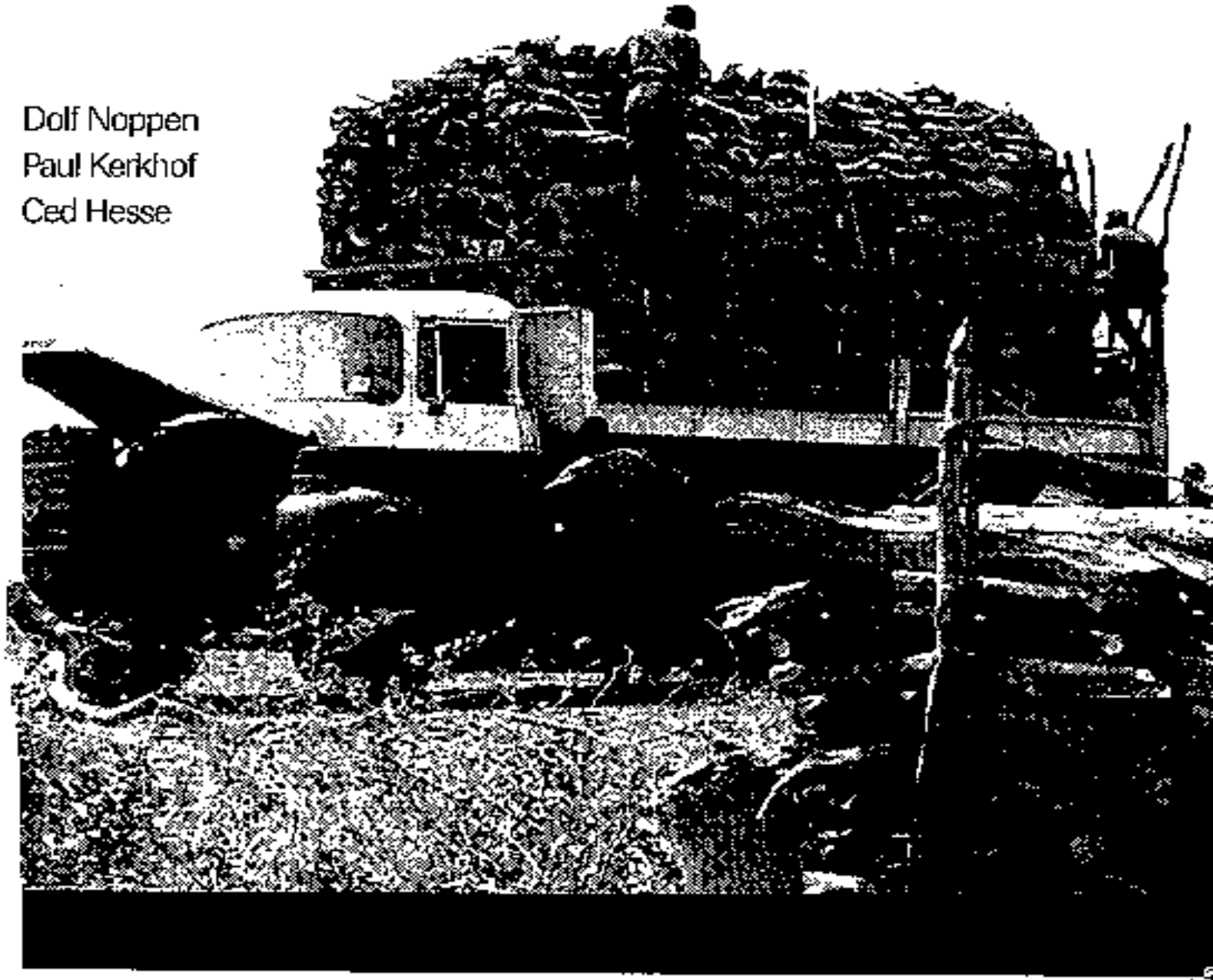

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RURAL FUELWOOD MARKETS IN NIGER : AN ASSESSMENT OF DANISH SUPPORT TO THE NIGER HOUSEHOLD ENERGY STRATEGY 1989-2003

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Abbreviations, acronyms and equivalents

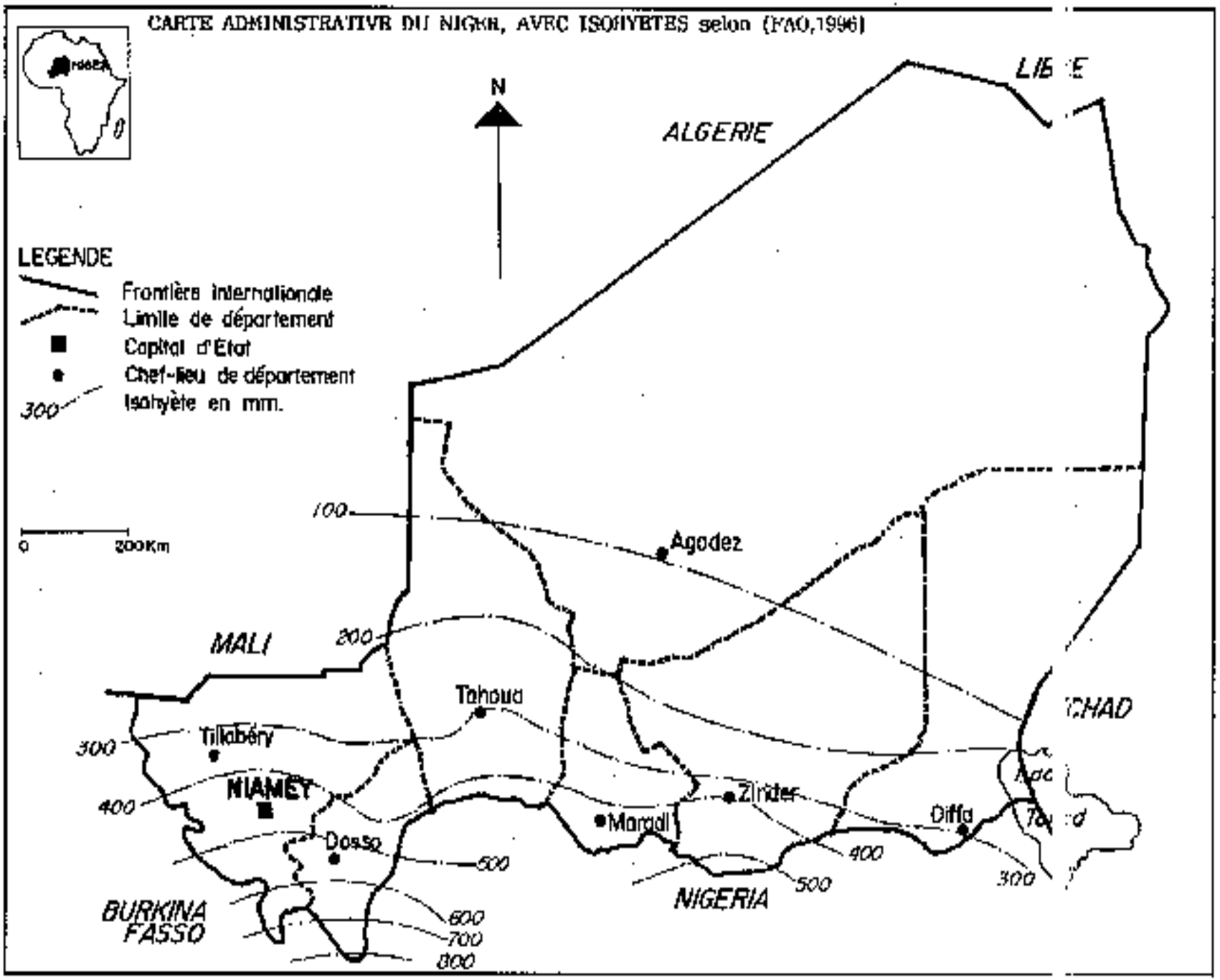
AREN	*Association pour la Redynamisation de l'Elevage au Niger* – a Nigerian pastoral association
BTPN	*Brigade Territoriale de Protection de la Nature* – the Brigades are trained foresters responsible for forestry control; they constitute an armed para-military force
FAO	Food and Agricultural Organisation
FCFA	*Franc de la communauté financière africaine*
GTA	*Groupe Technique d'Appui*
ILO	International Labour Office
PAFN	*Projet d'Aménagement des Fôrets Naturelles* (Project for the Improved Management of Niger's Natural Forests)
PED	*Projet Energie Domestique* (Household Energy Project)
RPTES	Regional Programme for Traditional Energy Strategies
SDA	*Schema Directeur d'Approvisionnement* (fuelwood supply master plans)
SLG	*Structure Locale de Gestion* (local management structure)
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme

Currency equivalents (September 2003)

1,000 FCFA = 11.32 Danish Crowns
656 FCFA = 1.0€ = 1.08 USD

Units of measure

Fuelwood quantities are measured in *steres*. A stere is a stacked cubic metre of cut wood, with the weight per stere depending primarily on the density with which the wood is stacked, which in turn depends on its size and straightness.



Map 1. Niger with administrative boundaries and isohyets (FAO, 1996)

INTRODUCTION 1

During a period of almost fifteen years, Danish development cooperation has been involved in the fuelwood supply sector in Niger, first through the World Bank (Projet Energie II, 1989 – 1998), and subsequently bilaterally, through the Household Energy Project (Projet Energie Domestique, 2000-2003). Taken together, these interventions have contributed to the development of an approach known, in Niger, as the Household Energy Strategy – a strategy which, although not a legal document, is nonetheless supported by a number of legal instruments which formalise rural fuelwood markets and which have as their objective the establishment of decentralised management of fuelwood and the financial procedures necessary for this to function.

This study was financed by Danida and was carried out by a team of international and national consultants during the last quarter of 2002 and the first quarter of 2003. It had two principal objectives. Firstly, to make an assessment of the results of this long period of intervention and to share these results with others working with natural resources management both in the Sahel as well as elsewhere. Already the Niger experience has prompted similar approaches in other countries within the region (Mali, Chad, Burkina Faso) as well as further afield (Madagascar, Mozambique). Secondly, this study is also intended to support the consolidation and further development of the Household Energy Strategy in Niger. This publication appears in both French and English versions in an attempt to address a wider audience.

The study does not follow standard evaluation guidelines but instead attempts to make a situation assessment of the results achieved at local, national, and regional level. A key element of the study being a detailed survey of rural fuelwood markets covering the sociological, financial and environmental aspects related to the commercialisation of the fuelwood sector. This survey covered a sample of 25 rural fuelwood markets located within two main zones:

- the Bassin de Niamey, where the first markets were established in the early nineties, under Energie II; markets surveyed were located in the *arrondissements* of Say and Kollo;

- the supply-zone for Zinder, where the Household Energy Project intervened after 2000; markets surveyed were located in the *arrondissement* of Gouré.

The choice of markets surveyed in each zone was based on a number of criteria, including the type of market ("directed" or "controlled"), the date when it was established and the distance in relation to its urban market. In addition, the necessity of having a representative geographic coverage within each selected zone also needed to be taken into consideration, as well as the limits imposed by both time and budget. Annex 2 presents key information relating to the rural fuelwood markets in the zones where the study took place, and identifies the markets surveyed. It should be noted that the fieldwork did not touch those areas where no rural fuelwood markets have been established and where firewood is still cut in an uncontrolled fashion.

The background and the key concepts of the household energy project approach are covered in Chapter 2. This chapter presents the context and the history of those projects which have contributed to the elaboration of Niger's Household Energy Strategy, starting with the IDA Project of 1978. This section examines how the rural fuelwood market concept was designed and implemented, focussing especially on the profound fiscal reforms which formed a necessary element.

Chapter 3 focuses on the internal dynamics of the rural fuelwood markets and the often complicated relationships which exist between the markets' local management structures, the village and the forestry service. Chapter 4 examines the principal impacts of rural fuelwood markets, particularly in relation to poverty, impact on the environment and the inter-play between the rural and the urban context, in particular in relation to the supply of fuelwood from the rural areas and the demand for this product in the towns.

Chapter 5 examines the challenges that still need to be faced in order for the interventions described in the previous sections to be sustainable; whilst Chapter 6 examines the opportunities for support provided by Niger's ongoing decentralization process. Finally Chapter 7 advances a number of conclusions and attempts to sketch some ways forward for Niger's rural fuelwood markets.

2 EVOLUTION OF THE DOMESTIC ENERGY STRATEGY

Project chronology

In 1978 a forestry project - locally known as the 'IDA project' - was launched in Niger, funded by the World Bank and French development assistance agencies. This project was inspired by the lessons drawn from the Guesselbodi National Forest Project (located to the south-east of Niamey) where village communities would be drawn into the restoration and management of the natural woodland areas and, in return, they would be allowed to harvest and sell fuelwood.[1] In 1984, this project led to the first detailed survey of the country's fuelwood supply system. During this period, many African countries were implementing fuelwood supply studies in the context of the Third World energy crisis. The survey showed, not surprisingly, that fuelwood provided almost all the cooking fuel used by families in both the urban and the rural areas. The survey's supply-demand projections predicted alarming woodfuel supply deficits emerging in the future.

Following on from the IDA project, the Energie II project was launched in 1989 with support from the World Bank. This project consisted of two components – a "supply" and a "demand" component. The **Supply Component** dealt primarily with the establishment of the rural fuelwood markets; these markets would have the mandate to control the sale of fuelwood within designated forested areas and would have the authority to retain a proportion of the tax revenues raised through the sale of fuelwood from these markets. The **Demand Component** was mostly concerned with urban fuelwood demand and focussed its activities on improved firewood stoves and appropriate kerosene cooking stoves.[2]

The project was launched in 1989 with the support of an €11.4 million grant from the Danish development cooperation. Funds for the project were provided by Denmark but the overall monitoring and supervision of the project was carried out by the World Bank. An international consortium won the tender for technical assistance and a resident expatriate technical advisor was attached to the project for a period of six years. Institutionally, the Supply Component of the project was placed under the control of the Department of the Environment, while the Demand Component being placed within the Ministry of Energy.

By 1996, a total of 85 rural fuelwood markets had been established serving essentially the capital city, Niamey. The turnover of these markets was estimated as being in the region of 100 million FCFA (approximately €150,000), with the proportion of fuelwood being supplied to Niamey coming from these markets being estimated at 16%.

[1] The Guesselbodi National Forest Project was implemented during the 1970s, funded through USAID. The project was designed to draw village communities into the restoration and management of the natural woodland areas. The intention was that local communities would be involved in woodland restoration measures, and would subsequently be involved in the management of the woodland. In return, they would be allowed to harvest and sell firewood and fodder. Initial results from the Guesselbodi experience suggested that decentralised management of the natural woodlands could contribute to improving the supply of fuelwood to urban areas whilst supporting sustainable resource use.

[2] In addition to the supply and demand components, Energie II had a third – solar energy - component. This component had little success and was terminated in 1992.

During the transition period between 1997 and 1999, while waiting for the start of a new project phase, the rural fuelwood markets which had been established during the Energie II period were left more or less to their own devices, apart from some bridging funds provided by Danida. It appeared from several assessments made during and following this transitional period that, in spite of having to face many difficulties, a good number of these markets continued to function. The difficulties faced by the markets included many cases of serious abuse of power committed by the forestry services.

Subsequent to an evaluation of Energie II, the Danish Development assistance decided to continue their support to the sector, but through direct bilateral assistance to a new Household Energy Project (*Projet Energie Domestique*).[3] The Household Energy Project was initiated in 2000 with a budget of €3 million over three years, implemented with the assistance of a Danish consulting company. The Project incorporated and followed-up on the Supply Component but it was decided not to continue the funding of the Demand component. In addition, the project's zone of intervention was expanded beyond the Bassin de Niamey.

The project's objectives consisted principally of increasing the number of rural fuelwood markets, simplifying woodland management approaches and methods, and increasing the efficiency of the (fuelwood transportation) tax system. In order to do this, the project saw the need for a close monitoring of the taxation system and of the movement of funds within the system. In time, the project proposed to arrive at a tax recovery ratio of at least 80% of the tax to be paid on fuelwood transported by vehicle from the uncontrolled zones (i.e. those zones where no markets had been established). However, the project document did not specify how this was to be achieved.

In contrast with Energie II, the creation and follow-up of rural fuelwood markets under the Household Energy Project fell under the responsibility of a national private operator (known as the *Groupe Technique d'Appui* – GTA) rather than being implemented through and under the responsibility of a project unit. The official figures at the end of the first quarter, 2003 – when Danida phased out its support – in respect of the numbers and types of markets created under the two projects revealed a total of 180 rural fuelwood markets. The geographic spread, market type, distance from market and the delimited wooded areas served by the markets (in hectares) are shown in the table below. It should however be noted that not all these markets can be characterised as being fully functional – and there are probably also discrepancies in relation to the surface area controlled by the markets.

[3] It may be noted that the term "*Projet Energie Domestique*" (i.e. the Household Energy Project) was also used to cover the several World Bank sub-projects (supply, demand and aide) of which Energie II formed a part. However, for the purpose of this publication, a distinction has been made between the Energie II (through the World Bank) and the Household Energy Project (bilateral Danida funding).

Table 1 The situation of the Rural Fuelwood Markets in 2003

Arrondissement	Total number	Directed markets	Controlled markets	*Category 1*	*Category 2*	*Category 3*	Surface area (ha)
Say	84	34	50	1	11	72	329 052
Kollo	24	2	22	0	6	18	51 730
Boboyo	15	1	14	0	1	14	37 159
Maderounfa	25	0	25	7	13	5	49 859
Mirriah	11	0	11	0	4	7	11 333
Gouré	12	0	6	0	0	12	9 911
Guidan Roumdji	2	0	2	0	2	0	852
Konni	7	0	7	0	0	7	30 706
TOTAL	**180**	**43**	**137**	**8**	**37**	**135**	**520 696**

Source: *PED-GTA (Groupe Technique d'Appui), 2003. In the table, the designation « category » refers to the distance between the market and the urban area which it serves – see Table 2.*

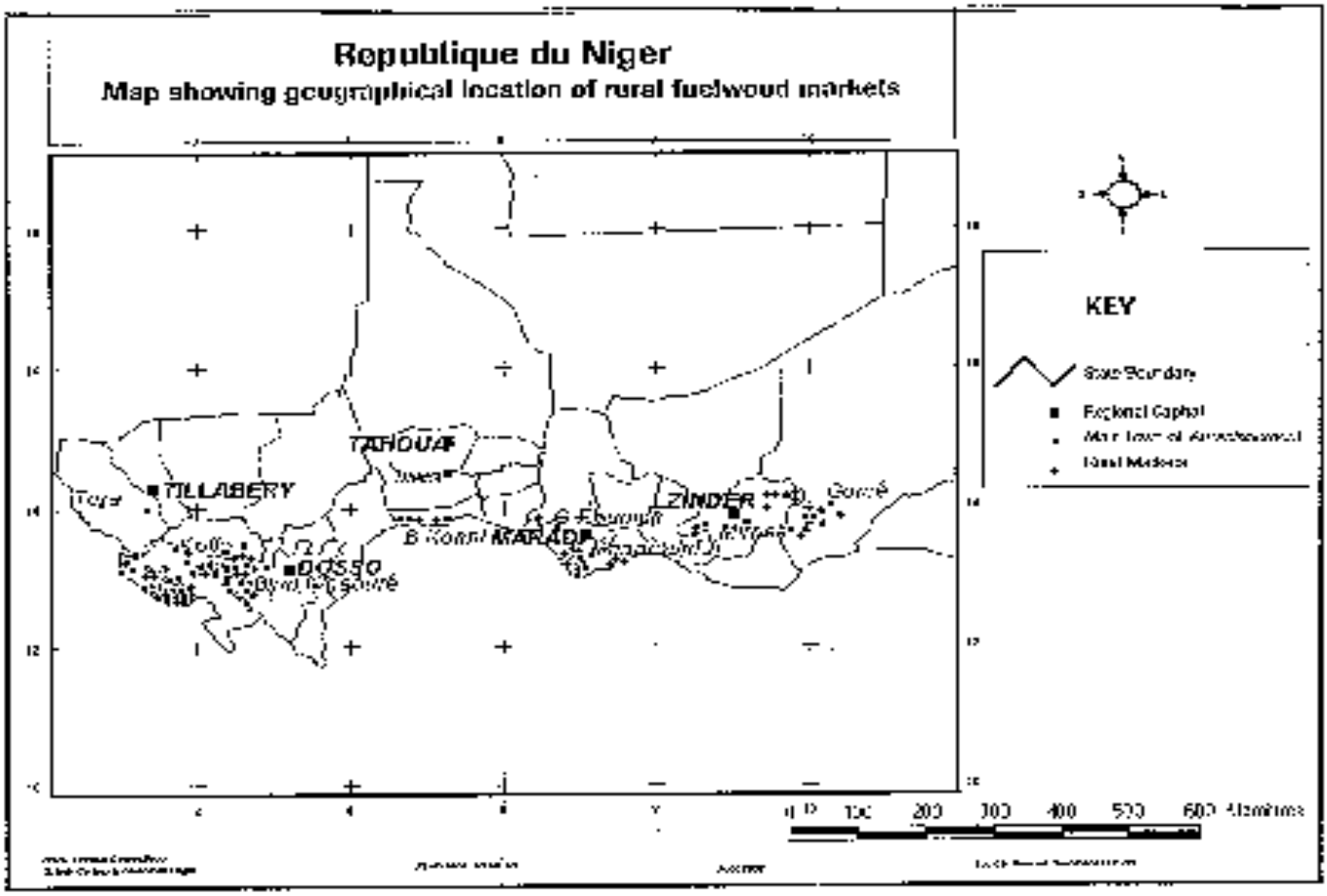
The significant breakthroughs made by both Energie II and the Household Energy Project in the way in which fuelwood is managed (from collection and cutting, through sale on rural fuelwood markets, to transport to the urban areas) has contributed significantly to the creation of a Household Energy Strategy for Niger. Even though this Strategy does not exist as an official document, it does have a certain legitimacy. This legitimacy rests on a number of legal texts and regulations which have introduced major changes in the fuelwood marketing chain, notably through the revisions of the taxation system.

The rural fuelwood market concept

The Energie II project developed the concept of the **rural fuelwood market** as the centrepiece of its approach. Through this approach, a local community is given control over its own area of natural woodland and exclusive rights to the sale of all the fuelwood obtained from it. From this designated woodland area, the community has the authority to organise the cutting of fuelwood through local registered and accredited woodcutters,[4] to sell the wood and, moreover, to collect those taxes emanating from the sale of this wood. The rural fuelwood markets created under this system, function through a local management structure (*Structure Locale de Gestion* – SLG) which carries out its functions under the auspices of a Village Assembly.

During the mid-eighties, before the creation of this system, urban fuelwood traders were obliged to obtain a cutting permit from the forest service which specified both the permitted quantity of fuelwood to be cut as well as the location where the cutting was to take place. These traders then dispatched teams of woodcutters into forested areas. With their permits, woodcutters were entitled to fell and remove the prescribed amount of wood from designated areas– without really being subject to either control or supervision by forest agents and without being required to give any consideration to the sustainability of the woodland resource.

[4] As a result, in those wooded areas under the control of the rural fuelwood markets, the transporters and their workers were no longer able to obtain fuelwood direct from these forests, but were obliged to buy their wood from the fuelwood market.



Map 2. Location of rural fuelwood markets (Niger) (PED, 2002)

Villagers in the areas where the resource was being harvested had no power to regulate the cutting and received no benefit from it. Neither was the forest service able to monitor how much wood was cut and where it was being taken. The specifications on the cutting permit were largely ignored and the permit simply served to allow passage through the control posts on the highway.

As part of the project, a range of surveys of the fuelwood supply chain, from production to transport and from retail sales to consumption, was carried out. In addition, inventories of the natural woodland resources around Niamey, Maradi and Zinder were implemented. For these three towns, fuelwood supply master plans (or SDAs - *Schema Directeur d'Approvisionnement*) were drawn up to plan the supply of firewood to these urban centres. These plans defined the different subdivisions of each fuelwood catchment area, the amount of wood contained in the forests, the sustainable annual yield was estimated, as was local fuelwood consumption and the potential for supplies to the urban areas. Sociological studies added information on economic and social conditions.

These master plans highlighted the areas where the surveys and sustainable yield calculations showed that natural woodlands were already being over-exploited and where fuelwood harvesting should be discouraged. They also identified areas where fuelwood resources were still relatively abundant and where setting up rural fuelwood markets should be a priority. The estimated annual sustainable yields were used as the basis for drawing up an acceptable fuelwood-harvesting quota for each market.

The creation of the rural fuelwood markets also required an enabling legislation. Draft legal texts for the establishment of rural fuelwood markets were published by Energie II at the end of 1989. After two years, final proposals were forwarded to the Government, which led to publication of a Government Order in 1992 (*Ordonnance No. 92 – 037* of 21st August 1992), which came into effect in 1993. This Order provides the principal written text and legal basis for the Household Energy Strategy.[5]

The Order stated that a "rural fuelwood market" is a location where fuelwood may be sold through an organised local management body (the *Structure Locale de Gestion* – SLG). This local management organisation must be approved by the Department of the Environment for the purpose of providing a commercial fuelwood supply to one of the main urban areas. Fuelwood sold from the rural market is cut or collected from a designated zone of woodland, the boundaries of which are agreed between the local community – represented by a Village Assembly which regroups, in principle, all the users of the forest resource – and the Department of the Environment. In return, the Village Assembly through its local management organisation – once it has been formally created in accordance with the Government Order – takes the responsibility to utilise, guard, manage and ensure the regeneration of the agreed area of natural woodland, which has been designated as its source of fuelwood supply. Utilisation is based on a management plan developed with the assistance of the project. This plan zones the forest into sections or parcels, establishing a rotation system with cutting quotas. The local organisation has exclusive rights over fuelwood exploitation within this designated area.

The Order states that only approved rural fuelwood markets and the owners of private forests are entitled to supply commercial fuelwood. The Order further states that a quota, which defines the quantity of fuelwood that may be harvested each year, will be set for each delimited area of natural woodland associated with a rural market. However, the Order also states that for a transitional period, the exploitation of commercial fuelwood from uncontrolled areas remains permissible, although fuelwood harvested from these zones will fall under the fiscal regulations established by the Government Order, in relation to the payment of tax on the transport of fuelwood.

At the level of the fuelwood market, the local management structure has the responsibility for tax collection, retaining that proportion of the tax which is its due according to the proportions laid down in the regulations. The remainder is earmarked for the higher levels: respectively local government (*the arrondissement*) and central government level (the Treasury). With the funds retained by the local management structure, the Government Order of 1992 specifies the purpose to which these funds should be utilised. Two categories are identified: the first covers activities related to forest improvement, while the remainder may be used as discretionary funds. With the

[5] In addition to this Government Order, the following texts constitute the legal framework for the "Household Energy Strategy": The *Décret 96-300* of the 22nd October 1996 detailed the conditions under which the Ordonnance 92-037 should be applied. The *Arrêté no MHF/DE* of the 28th February 1993 established the levels of fees to be collected when purchasing fuelwood, the *Arrêté 09 MHE/DE* of the 15th July 1997 laid down the requirements for the professional registration of commercial transporters (*la carte professionnelle*), the four types of transport coupons and the annual updating of the lists of fuelwood markets.

"discretionary" budget, the local management structure is in a position to fund various village level activities. By contrast, as regards the forest improvement activities, the Department of the Environment (through the forestry services) tends to dictate the utilisation of the funds, normally for plantation and reafforestation activities within the forest area.

The Government Order also makes a distinction between two types of rural fuelwood market, the **directed** and the **controlled**. In the directed market, the area of natural forest is delimited and the boundaries agreed on. An annual harvesting quota is set for **deadwood** but no formal management plan is drawn up. A **controlled** market, on the other hand, is one where a detailed forest management plan has been drawn up and where green wood may be cut according to a forest management plan and an annual cutting quota. Under this plan, the forest is divided into parcels or subdivisions, which form the basis for the rotation of wood harvesting activities. In addition, forest management and restoration measures are spelled out in the management plan.

The creation of the rural fuelwood markets follows a number of steps (as outlined below).

The six stages of the setting up of a Rural Fuelwood Market

In all, six stages were foreseen in the creation of the rural fuelwood markets and their support structures.

1. The initial information campaign
2. Selection of candidate villages
3. Detailed socio-economic and resource assessment
4. Drawing up the Rural Market Application
5. Official approval
6. Support and supervision

Source. *Guide pratique de mise en place et de suivi des marchés ruraux de bois-énergie.* (PED, 2002)

After the first contacts with interested villagers, the crucial step in the creation of a rural firewood market is the delimitation of the forest over which the village has control, and which it is willing to put aside for the market. This is an extremely complex issue as the area of land "belonging" to a village is a result of complex social and historical factors. The project accepted that it was not possible to use the introduction of rural markets as an occasion to settle land disputes between villages. In an initial phase, therefore, it was decided to limit the establishment of rural markets to villages that had undisputed fuelwood-harvesting rights to the woodlands they considered as being theirs, or in respect of which rights they were able to secure agreements on with neighbouring villages.

Once agreement had been reached between villages, project staff and village representatives officially recorded the forest limits. The forest was demarcated using the Global Positioning System (GPS) technology on which basis a map was then produced.

The tax structure

In addition to a legal framework for rural fuelwood markets, the Government Order set out a totally new set of tax provisions for the sale of fuelwood. The fuelwood-**cutting** permit was abolished and, instead, the **transport** of firewood to the towns became subject to taxation. This tax was levied in relation to the actual volume of wood sold (calculated in stere) at a level fixed by the State, and was not related to the price actually paid for the purchase of the wood itself. The Order did not interfere in the price setting arrangements which remained a process of negotiation between the fuelwood markets' management structures and the transporters. It is worth noting however that, with time, fuelwood markets operating within similar conditions tended to set the same prices. Thus, in February 2003 (when the study took place), well-situated rural fuelwood markets located on the main transport arteries sold their fuelwood at prices of around FCFA 2,000 per stere – before tax.

According to the Order, only licensed transporters are allowed to transport fuelwood for commercial purposes – although the Government Order does permit private individuals, also on payment of the transport tax, to transport a maximum of one stere per month for domestic use. Thus, under the new regulations as introduced by the Government Order 037 of 1992, instead of a cutting permit, both fuelwood traders and individuals must now obtain the appropriate transport coupons. These must specify the volume of fuelwood carried and whether it comes from a rural market or an area of uncontrolled open woodland. The rural market coupons, in turn, distinguish between whether the wood comes from a **directed** or a **controlled** market. The coupons are issued by the local management structure controlling the market where the firewood is purchased; alternatively, from the forest service, if it is for firewood cutting or purchase outside an area controlled by a rural fuelwood market.

The intention was to provide a financial incentive to fuelwood traders to favour those zones falling under the rural markets ahead of the uncontrolled zones as sources of supply. Furthermore, to differentiate between categories of markets, in order to favour the purchase of fuelwood from **controlled** rather than from **directed** markets. The coupons also specify the distance of the zone from which the firewood has been obtained in relation to the nearest urban market – with more remote markets paying less tax per stere than those closer to the urban centre. The intention here was to encourage dealers to obtain their supplies from further away, where forest resources are less heavily exploited rather than obtaining those resources from zones closer to the urban areas. In respect of the uncontrolled areas the tax level is the same irrespective of the distance between the area where the wood is cut/-collected and the urban centre. This tax, initially set at FCFA 600 per stere, was increased to FCFA 975 per stere in 1998.

Table 2 Fuelwood taxes (FCFA/stere)

Distance of market from urban area	Type of Market		Uncontrolled Zones	
	Controlled	Directed	Before 1998	After 1998
Category 1: less than 40 km	375	350	600	975
Category 2: between 40 and 80 km	340	315	600	975
Category 3: more than 80 km	300	300	600	975

Note: one stere represents the equivalent of one cubic metre of wood

The level of taxes is determined by government regulation and is supposed to be revised at least once a year. In practice, revisions are rare and the taxes remain well below the levels hoped for by the project team involved in the work leading up to the drafting of the legislation. But taxes have increased massively in comparison with pre-project levels and very significantly in comparison with other countries within the sub-region.

The Government Order of 1992 also specified the division of tax receipts between the national treasury, the local authority (*arrondissements*[6]), and the rural fuelwood markets.

Table 3 Apportionment of taxes collected

	Controlled market	Directed market	Uncontrolled areas
Rural market's management structure	50 %	30 %	-
Local authority budget	40 %	20 %	10%
National Treasury	10 %	50 %	90%

In comparison with the old system, the levels of tax retained at the local level is significant, especially in the case of the controlled markets where 50% is retained. It is an important departure from the old system that each level can now retain what is its due, and only transfers the balance up to the next level in the administrative hierarchy. This is a form of fiscal decentralisation, which is highly innovative. However, the percentage of tax revenues retained by the higher levels (the local authority and the Treasury) still remains important, with 50% being their due from the controlled markets, and 70% and 100% respectively from the directed markets and the uncontrolled zones.

In practice, the local management structures do not deposit the funds due to the State (the local authority and the Treasury) themselves. Rather this is a task which has been left to the forest services to carry out – although there is no real provision mandating this practice in the Order. Of the taxes deposited at the local tax office, one part is handed over the National Treasury, where a percentage of the funds received is destined to be

[6] Since the passing into law of the Ordonnance of 1992, Niger has re-structured its local government: one consequence has been that the former *arrondissements* have now become *départements*, with the former *départements* now being called *régions*.

used for forest control activities (through a budget line under the authority of the Director of the Environment Department, know as the 'Account 30-01').

The forest management fund

The Government Order of 1992 also specifies the way in which the rural market and the local authorities are expected to use the tax receipts.

Belief in the need for active forest management in the Sahel is deeply rooted in the forest services; a view which, until the 1990s, was also shared by donor agencies. Those concerns are catered for in the provisions of the taxation regulations, which provide for the allocation of proportions of the tax revenues retained at market level to be used for investment in woodland management, varying between the directed (60%) and controlled markets (40%).

Table 4 Prescribed use of taxes retained at village and local authority level

	Type of rural market			
	Controlled		Directed	
	Woodland management	Discretionary	Woodland management	Discretionary
Local Management structure (SLG)	40 %	60 %	60 %	40 %
Local authority (arrondissement)	40 %	60 %	60 %	40 %

The funds thus made available have resulted in the establishment of forest management funds at two levels; the village/local management structure level, and the local authority level (*arrondissement*). The District Forest Management Fund is under the direct control of the local authority, although the local forest service is expected to determine how these funds are utilised. In addition, the local forest service is also involved in the decision-making process at the level of the local management structure in respect of the utilisation of their forest management fund.

Other fuelwood management initiatives in Niger

Inspired by the model developed by the Household Energy Project, similar approaches were adopted by other donors (including the French and German cooperation), and NGO's (Lutheran World Foundation, CARE).

In addition, in the Zinder Region, the Takiéta project (implemented through SOS Sahel Great Britain) has developed a participative management system for a gazetted State forest involving a dozen villages and nomadic herders. The model has a strong multi-sectoral focus instead of the more limited fuelwood objective. Much of its focus is on local governance. The project has, however, adjusted the model to exploit the legal and fiscal opportunities put in place under the Household Energy Strategy. This has inspired others again to adjust the fuelwood market model so that broader economics and local governance are improved.

In 2001, the African Development Bank provided Niger with a loan to establish a project similar to the Household Energy Project, known in Niger as the PAFN (*Projet d'Aménagement des Fôrets Naturelles*) with the objective, as its name suggests, of improved management of Niger's natural forests. The project has an approved funding for its first five-year phase of 6 billion FCFA (USD 8.5 million).

Firewood markets in Mali

The promising progress made in developing and implementing the rural fuelwood market concept in Niger during the early 1990s led to its replication in Mali and elsewhere. The political reform and decentralisation process in Mali since 1991 created a conducive environment for a rural fuelwood market initiative. Preparation of the Mali Domestic Energy Project began in 1991 and the Project was launched in 1996. The first phase ran until December 2000 with funding from the World Bank (Global Environment Facility) and Netherlands development cooperation (€7.9 million). It was extended until mid 2002 by a bridging fund provided by the Netherlands (€0.45 million).

The project very much resembles the Niger Household Energy Project. A special project unit for the Supply Component was created under the Ministry responsible for the Environment. In line with Niger's Household Energy Project, the private sector was made responsible for the creation of the fuelwood markets. Thus the project encouraged the *setting up of small private consulting companies who were contracted for* the establishment of 5-10 rural fuelwood markets at a time in defined areas.[7] The important point, in strategic terms, is that a group of organisations outside government has been established in order to support the rural fuelwood markets.

The project has established an elaborate set of criteria for the selection of private operators as well as including performance indicators and building in four different stages of evaluation, on which payment of contracted sums is based. The private operator is responsible for all activities under the contract including transport. The establishment of the market is only contractually completed when official recognition of the market has been obtained. A typical contract with a private operator is in the region of FCFA 6-10 million and covers the establishment of five markets over a period of 3-6 months. In this way, 14 private operators created about 100 markets over the period 1997-2002.

The fuelwood taxation system introduced in Mali in 1995 differs in a number of important respects from that in Niger. Originally, all fuelwood, whether it came from markets or uncontrolled areas, was taxed at the same rate. This was changed in 1995 when a differential of 400-550 FCFA per stere was introduced in favour of the organised rural fuelwood markets. Unlike Niger, the tax payments are due in advance of sales, which can create major difficulties for market operators. Another difference is that a much greater proportion goes to the central government, and none stays in the village.

[7] These private sector operators tend to be ex-government staff, many of whom are former forest service employees. The companies are often described as NGOs but are more in the nature of small private profit-making enterprises.

Table 5 Apportionment of tax revenues: comparison between Niger and Mali (for 2002)

	Niger		Mali
Type of market	**Controlled**	**Directed**	**All**
Part of taxes retained by community	50 %	30 %	0
Part of taxes retained by locally elected government (Commune)	40 %	20 %	5–10 %
Part of taxes retained by central government	10 %	50 %	Up to 95 %

The intention in Mali is that a proportion of the tax going to the central government will be invested in forest management projects at different levels. The breakdown of the intended distribution of tax revenues is given below.

Table 6 Distribution of central government fuelwood tax revenues in Mali

	Distribution as a function of the origin of the wood		
	Controlled	**Oriented**	**Uncontrolled**
State	15 %	35 %	60 %
Forest Management	45 %	30 %	–
Forest Control	10 %	15 %	35 %
Commune	10 %	5 %	–
Chamber of Agriculture	10 %	5 %	–
For the forest agents personally	10 %	10 %	5 %

The modalities of such investments, however, had still not been established by mid 2002 and the funds remain unused. Some government officials feel that these funds should not be reinvested in the village forests where the taxes were raised, but should be invested in forests elsewhere. Irrespective of the final decision on this, it is clear that the Malian taxation policies are less attractive for the local people, including their local governments, than those in Niger.

Fuelwood coming from uncontrolled areas is not effectively taxed, and unless this improves fuelwood markets will remain at a competitive disadvantage. In an attempt to protect the rural fuelwood markets from these disadvantages, the project has invested heavily in improved tax collection, especially around Bamako, realising that this is crucial to the sustainability of these markets. Despite these investments, the tax collection rates did not increase significantly in comparison with the estimated 10 percent already being collected before the start of the project.

The process of creating rural fuelwood markets in Mali has been ongoing since the mid 1990s, and by 2002 approximately 200 rural fuelwood markets had been created. Of these, it was estimated that only about half of these could really be termed "functioning". The Evaluation of the Malian Household Energy Project[6] concluded that there were three main groups of problems: the internal management of the markets themselves; the

[6] Kerkhof, P., Berenogo, B., Tandioura, M., 2002: **Rapport d'évaluation finale stratégie énergie domestique au Mali (phase transitoire)**. Ministère des Mines, de l'Energie et de l'Eau ; Ministère de l'Environnement. La Coopération néerlandaise au Mali

absence of a favourable fiscal framework; and problems related to the forest services' control functions. Given this context, the World Bank has insisted that also the forest control services should be privatised if the Bank is to provide funding for a new phase.

Other experiences from the sub-region

The Niger Household Energy Project is not the only model for local forest management developed in Africa. Before, during and after the project, other initiatives have been implement-ed with varying degrees of success.

The Kita project in southern Mali, supported by the ILO and UNEP, dates from 1994. It was, in fact, the first rural fuelwood market system in Mali, predating the Household Energy Project. Among its features were exclusivity of commercial fuelwood production by local communities, and establishment of local fuelwood markets, later supported by the differential tax system. By 2000, it had established some 90 markets, almost twice as many as the Household Energy Project. It has developed a forest exploitation scheme but without a system of annual quotas.

Another example of the rural fuelwood approach is in the Kelka Forest in Mali's 5th Region, which is the main supplier of fuelwood to Mopti, the regional capital. The project is supported by the NGO called NEF Mali (Near East Foundation). It has been under way since 1992 and thus also predates the Household Energy Project. The project put an emphasis on exclusive exploitation and on the organisation of all villages in a union, which resolves internal problems and represents local interests.

Some countries have developed national frameworks for wood energy supplies that are quite different from the one initiated in Niger. In Burkina Faso, during the 1990s, the FAO/UNDP provided support for the development of a forest management model, called the "chantier", whereby groups of villagers interested in commercial fuelwood production are trained and organised. Various technical elements of the chantier are similar to the rural fuelwood markets.

The main difference from the rural firewood market is that a team, headed by a forest engineer, runs the chantiers, which cover large areas and a considerable number of villages. The cost of the team, including full-time salaries and operating expenses, is covered by a charge of 600 FCFA per stere, to be paid for by the client. In addition, an undifferentiated tax of 300 FCFA per stere is charged everywhere in Burkina Faso.

This means that the chantier, with high management overheads, finds it difficult to compete in the fuelwood market. The main response of the forest service has been to try to force transporters to buy from the chantiers. The present position is recognised to be unsatisfactory and local people engaged in the fuelwood trade increasingly want a higher level of autonomy, lower costs and improved producer prices. Producer prices lie at around 1,100 FCFA per stere for the chantiers in Burkina Faso compared with 2,000 FCFA per stere for the rural fuelwood markets in Niger (price levels, first quarter 2003).

It is generally accepted that the chantier is a model with high recurrent costs, which cannot be applied to the drier, northern half of the country where forest resources are more sparse. Alternative management models have not yet been developed but it is hoped that innovative work carried out elsewhere, like that of Kita and Takiéta, will serve as a model to improve the approach being followed in Burkina Faso. This will depend, however, on tax reforms which will need to be developed at national level.

RURAL FIREWOOD MARKETS AND VILLAGE DYNAMICS 3

Rural fuelwood markets – the internal dynamics

At the beginning of the project, when the initial promotion of the rural fuelwood markets was getting underway, there was a high degree of distrust on the part of villagers. Many were unable to believe that a real transfer of control over their village woodlands was being offered to them or that they would truly have control over the spending of funds. Much of this distrust had been overcome by 1995 and there appeared to be a growing momentum in the formation of these markets.

This took several forms. In some areas, without any intervention by the project, villages were spontaneously applying to have a market created. In already existing markets, some villages applied for a larger part of their forest to be included in the scheme. In other villages again, local people began to refuse access to fuelwood transporters/-traders while they waited for the establishment of their own market. Groups of markets organised themselves to jointly agree on sales prices instead of being played off against each other by fuelwood traders.

In all villages reached by the project, the creation of rural fuelwood markets introduced new ways of organising both the cutting and collection of fuelwood as well as its sale, thus improving the management of the supply of fuelwood in the face of an increasing demand. As described earlier, under the rural fuelwood market concept the local community is given the formal control over its fuelwood resources, as well as the exclusive rights to sell these.

In order to do this, the market is managed through a local management structure which has its mandate from the Village Assembly. While the local management structure is expected to manage the fuelwood market, the Village Assembly is tasked to oversee its functioning and to bring together and represent all those who use the forest area. As regards the local management structures, the traditional leader is represented in an honorary position, as the chairman.

Local management structure membership:-

- The Honorary Chairman (normally reserved for the village chief) (*président d'honneur*)
- The chairman of the fuelwood market (*président*)
- An administrator (*gestionnaire*)
- A treasurer (*trésorier*)
- A representative of the woodcutters (*bûcherons*)
- A representative of the (cattle-)herders (*éleveurs*)
- A representative of the farmers (*agriculteurs*)
- A women's representative

The existence of these structures, created through the intervention of the project, raises two important issues. Firstly, do these structures really represent the local community? Secondly, how functional are they and will they be sustainable over time, being able to adapt to constantly changing circumstances?

According to the guidelines prepared under the Household Energy Strategy, the village assembly is supposed to represent all the local resource users and is supposed to function as the supreme decision-making body overseeing the rural fuelwood markets. In fact, as also became apparent during the field study, the village assembly rarely meets – and when it does, it regroups only a few individuals. This structure simply does not fulfil its assigned role.

The local management structures are responsible for executing all decisions taken by the village assembly in respect of the management of the natural woodlands and the fuelwood markets. But as the village assembly rarely meets, this remains a tenuous link between the fuelwood market and an assembly that only has imaginary powers. In point of fact, there is no legal text that defines the village assembly and its role and powers.

The local management structure is the point of contact with the outside world and particularly with the Department of the Environment and its staff, with Project staff and with the support groups contracted by the project to initiate and support the local management structures. But, as with the village assembly, the local management structure is not a very inclusive body. On this structure normally only the chairman, administrator and treasurer really know what is happening; and the women's representative often doesn't even know that she holds the position.

The lack of adequate focus on follow-up of, and support to the rural fuelwood markets and their management structures is also reflected in the way that records are kept and bookkeeping is done. Neither has there been adequate focus on how to report back properly to the village assembly. Is there really a need for a village assembly if it is not involved in the supervision of the management of the fuelwood market and the village forest resource? And if the local management structure doesn't know how to report, what should the village assembly's role be? The present situation, in the absence of dialogue between these bodies, is one of suspicion between the core group and the rest of the members of the management structure; as well as mistrust between the management structure and the rest of the village, represented by a village assembly that never meets and is ignorant of the role that it should play.

The fact that certain foresters raid the management structure's cash box regularly, and that the management committee's core group may be equally tempted to take loans and advances themselves – often without leaving receipts –, does not make accounting easier. These practices hinder any form of transparency. Even if the funds spent by the management structures are sometimes used for good causes, the decision-making processes on which the disbursements are based are neither transparent nor democratic.

The Project has also facilitated the creation of federations, which group together management structures from the same area in order to strengthen their negotiating role vis-à-vis the authorities and the fuelwood transporters, in order to better protect their interests. Potentially these federations have an important role to play if they can build up a good track record of support to the rural fuelwood markets that they represent, and if they are successful in negotiating on their behalf. But in reality their legitimacy is often contested, as the following example illustrates.

Renegotiating quotas

A Federation, representing several rural fuelwood markets, had gone to Niamey accompanied by the head of the *arrondissement's* Environmental Service, to negotiate with the BTPN[9] a re-assessment of the cutting quotas. This was necessary because the local management structures were aware that they appeared to be exceeding their cutting quotas. *According to the members of the federation who were interviewed,* agreement was reached that this would be acceptable and this positive result was reported back to the structures.

Almost within a week of this meeting, the Brigades raided the markets and imposed heavy fines for illegally exceeding the quota.

Source: *interviews conducted during the field study*

The structures described above (local management structure, village assembly, federation of fuelwood markets) are a good framework for democratically and transparently decentralising natural resources management. But it is only the starting point. Simply setting up the required framework is not enough. At least two other elements are essential:

- Formal and legal recognition of the institutions
- Technical, organisational and legal support, follow-up and backstopping

The provisions contained in the *Ordonnance No. 92/037* relating to the establishment of the rural fuelwood markets and their local management structures are not sufficient for those structures to be assured of formal recognition as a legal body. Although this was foreseen in the *Ordonnance*, which recognised the need for an additional legal *Agrément*, yet ten years after the creation of the first rural fuelwood markets, the legitimacy of these institutions has still not been formally established.[10]

Despite the fact that local management structures have taken on a tax-collecting role on behalf of the State, this has not resolved the issue of their legal recognition. Local management structures have been authorised by the State to take over its tax-collecting

[9] Brigade Territoriale de Protection de la Nature - the Brigades are trained foresters responsible for forestry control; they constitute an armed para-military force.

[10] Abagbale E., et Rabo Oumarou Maïga, janvier 2003. **Cadre institutionnel, législatif et fiscal relatif à la gestion des ressources naturelles, forestières et de l'environnement au Niger.** (PAFN)

role in those areas where rural fuelwood sales are "controlled" or "directed" by these same management structures. They have been mandated through the Ordonnance, and

may now collect tax on the transport of fuelwood (in return for the provision of coupons to buyers/-transporters). Thus, with community-based structures taking over a role previously carried out by the State, this has given them a certain legal standing. But even this does not give them sufficient recognition within the legal texts to take to court persons not respecting the provisions as laid down in the regulations. For this to happen, legal texts will specifically need to recognise the local management structures and place them within a broader legal framework.

Follow-up and backstopping

There has been significant focus on the creation of markets, both under Energie II and under the Household Energy Project – but much less focus on the long-term functioning of these markets. It seems that more focus has been placed on meeting targets within a limited project time frame than on ensuring that markets, once formed, develop and continue to function. Yet after fifteen years of experience, it has become clear that the greatest challenges facing rural fuelwood markets are of an organisational or social character, rather than technical. The technical conditions have been met – woodcutters know how to cut wood so that the resource will regenerate and villagers know how to manage the resource. What is lacking is a more broad-based long-term support which also incorporates the non-technical elements.

In addition, the project guidelines relating to the local management structures focus on their creation and functioning, but do not discuss how to go about replacing incumbents. It is a real challenge to ensure that the structures are able to adapt to changes, even when the first office bearers have moved on. It is not unusual to find local management structures where the membership has not changed in ten years and where, moreover, key office bearers (chairman, treasurer, secretary) may be drawn from the same extended family.

The examples documented during the field study, where membership of local management structures had changed were often either the result of migration[11] or as a result of internal village conflicts. The latter could be related to the length of time that the incumbents had held the post, or the suspicion that village funds had been diverted for private benefits. In most cases where conflict was involved, there were no negative impacts on the management of the forest resource – the negative impacts that were identified during the study were related to the administration of the rural fuelwood market and the handling of the funds, rather than to the management of the resource.

[11] In most cases with migration, this is a temporary affair with the migrant not losing touch with his village of origin – even if the period away from home ends up being several years.

Local Management Structures: personnel replacement and training

A typical example is of a village where those originally elected or appointed as members of the Local Management Structure still hold positions after ten years in office. According to the villagers, these individuals "have become old and their energy levels have diminished". Very often, too, management structures have

grouped members of an extended family into the principal positions of authority, allowing a small group of privileged individuals access to certain resources, particularly financial. Inevitably this leads to conflict between the management structure and the villagers. In certain cases, the young men of the village are sufficiently organised to force the replacement of the members of the management structures.

Whatever the reasons behind a change in membership, there is rarely a proper handing over of functions or of training the new incumbents, especially if the legitimacy of the previous set of office-bearers has been called into question. The most frequently used solution has been to have new office-bearers trained by the secretary and treasurer of the neighbouring village's management structure.[12]

The fact that local management structures need social rather than technical support also means that this support does not need to be provided by forestry cadres. Other government cadres, non-government organisations and projects, and even elected officials (for example, members of the National Assembly) can all provide different forms of support. They can play a major role in providing support in cases of abuse of office, both external and internal.

Within this context, literacy constitutes a not to be under-estimated element of success. Facilitating the access to information in the form of written materials (legal, organisational and technical) opens up the possibility for the individual to take on more demanding roles in village organisations such as the local management structures – as well as constituting a countervailing force outside the management structures. This is an important consideration in cases where the management structure is dominated by a single extended family.

Repression at village level

When the creation of rural fuelwood markets managed by local management structures was first proposed, many forest agents found these changes unacceptable. Some expressed their resistance with comments such as: 'When did we ever see rural people managing their own woodlands?"; "What will the role of the forest services be?"

[12] In a certain fashion, the problems faced by the local management structures are similar to those faced by the forest services. Certainly in those arrondissements where the field study took place, forestry cadres were unable to describe what activities had been carried out under their predecessors; neither were they able to refer to written files or statements as these seemed simply not to exist.

Through the transfer of control of Niger's natural woodlands to local communities, Niger's Household Energy Strategy introduced a major institutional change. In fact, the steps taken to decentralise the management of natural resources, also heralded the first steps of the political decentralisation currently taking place in Niger. Within this context, as the Household Energy Strategy took shape, the powers and authority previously held by the forest and environmental services would diminish as the Strategy moved towards the achievement of its objectives.

It had already been recognised that the creation of functioning local institutions charged with the management of fuelwood resources carried with it a number of risks. Already during the design phase of Energie II, in the late 1980's, the considerable risks involved in attempting to challenge the institutional privileges held by forestry agents and the preferential treatment given to urban-based transporters were identified and recognised. For example, the World Bank's Appraisal Report of 1988 states:[13]

> The household energy strategy is new and may encounter serious social or political obstacles. Also, difficulties and abuses could be expected at all levels of the firewood regulation and management network. However, given that the alternatives are few and unpromising, and the cost of deforestation high, the risks associated with relatively small investments are well worth taking.

In fact, it has become common practice that rural fuelwood markets have become the target for repression and various forms of abuse from the forest and environment services. Particularly local management structures are targeted because they have ready access to significant sums of cash.

In virtually all the rural fuelwood markets covered by the field study, villagers stated that they had frequently been subjected to abuse and harsh treatment by the forest services. These forms of abuse can be inflicted equally upon a well-functioning fuelwood market which should have no reason to worry, as upon one which does not follow the technical guidelines. The motive for the intervention relates, pure and simply, to the funds which the management structure has available in its cashbox. Much of the harsh treatment inflicted on local communities and their management structures is arbitrary and even brutal, and very often unjustified; these actions reflect the need that certain foresters have for ready cash rather than reflecting an infringement committed by the local community. Many of the fines are based on simple pretexts and often no receipt is left behind as proof that a fine has been paid.

[13] Foley G. et al., 1992 **The Niger Household Energy Project. Promoting Rural Fuelwood Markets and Village Management of Natural Resources.** World Bank Technical Paper no 362, page 40.

An example from a large market near Niamey

"The Brigades arrived at dawn with an empty truck. An inspection of the market was made and the commander announced that the size of the stere was too small. Although the same size stere may, on other occasions, be judged as being too big.[14]

Following the inspection, the commander announced that he was imposing a fine of FCFA 500,000 on the local management structure. After negotiating until around midnight the commander finally accepted an amount of FCFA 75,000 and left with their truck loaded with wood. This time they left a receipt for the money, but that is not always the case."

Source: *as recounted to the study team during the field study*

Collective rather than individual responsibility is applied. Even in cases where the real or imagined offence has been committed by a clearly identified individual who could be held responsible or where someone from outside the village area has committed the "offence". In any and all of these cases it is the local management structure which is fined by the forest services.

The level of the fine is not fixed in any legal text. Rather it is arrived at after a process of negotiation and depends how much money there happens to be in the cash box. The management structure has very little choice, as the first action normally undertaken when the Brigades arrive is that they seize the books and the coupons – without which the market cannot function. In order to have the books returned to them, they need to pay the fine.[15]

These kinds of actions have led to mass resignations within the fuelwood market's management structures. An understandable reaction as the office bearers are not only subject to verbal and physical abuse by foresters but also have a problem accounting for the funds to the village community – especially in a situation where fines are paid but no receipts are issued.

Villagers are scared and they have every reason to be.[16] Fuelwood markets are sources of ready cash and stocks of fuelwood. When the Brigades arrive they do so carrying guns and handcuffs, and in full combat gear. Resistance appears futile. Where it has been tried, it is unlikely to be tried again, as the following example illustrates.

[14] In fact, the dimensions of the stere are based on an agreement between the woodcutters and the trans-porters in respect of the most appropriate length for a piece of wood for stacking purposes. The height and width of a stere are adjusted accordingly.

[15] In certain arrondissements, it was reported that foresters followed the practice of collecting transport tax coupon books once all the coupons had been sold. These books constitute documentary evidence of the amount of tax collected. They are supposed to be kept by the management structures as documentary evidence in respect of the tax collection activities undertaken on behalf of the State. The absence of these tax coupon books can remove the evidence necessary to carry out a proper audit.

[16] A anecdote which clearly illustrates the climate of insecurity felt by villagers related to the fact that villagers had found it curious that the Brigades had not passed by as they normally do just before Tabaski to impose fines and stock up on fuelwood. Resource persons interviewed suggested that the reason that the Brigades did not interfere with Tabaski in 2000 was because they were aware that the team carrying out the field study was in the field and consequently the Brigades thought it prudent to keep a low profile.

Resistance is useless

"On this day, the villagers refused to pay the fine and went into a stand-off situation with the Brigades, with each villager taking a piece of wood as a weapon. The Brigades simply returned with the Gendarmes and arrested a number of villagers and had them taken to jail in Niamey – from which they were released after paying a fine, but still unclear as to the offence which they had committed."

Source: *an account given by villagers during the field study*

As things stand at present, the only forms of recourse open are through less formal channels. For example the situation where a local member of parliament took up a particular case and succeeded in pressurising and shaming the Brigades into repaying, to a number of Local Management Structures, a proportion of the funds extorted from those markets following a particularly severe series of raids.

The Niger Herders Association (AREN), which is a legally recognised body, has had similar success in taking up cases on behalf of its members who have been bullied and fined by forestry officials.[17]

The pattern of abuse by the forest services has passed through several phases. During its lifetime, the Energie II project managed to tone down the worst of the abuses by the forestry agents. However, no sooner had the project shut down then the country witnessed a series of punitive forays by the same agents, targeting rural fuelwood markets and local management structures during the dormant period between the two projects. During this period the Brigades did their utmost to re-establish their pre-project dominant situation through a mixture of physical abuse, removal of the admin-istrative accoutrements necessary for markets to function, and imposition of fines.

The worst of these abuses stopped with the start-up of the Household Energy Project. It is to be hoped that a similar scenario does not repeat itself with the phasing out of this project. However, progress has been made since the early days. A number of factors may hinder a repeat of the same situation: the fact that many of the markets actually managed to continue operating even during the worst abuses, suggests that what had been achieved was not going to be given up easily; the steady progress being made towards decentralisation in Niger is likely to support the formation of responsible, self-managing institutions at village/community level; and finally, a new project (the PAFN funded by the African Development Bank) has taken on board the Household Energy Strategy, thus ensuring an institutional counterweight within the sector whose task it will be to continue to support the development of the strategy.

[17] AREN has documented cases of herders being handcuffed to trees, and having to wait for a family member to pay their fine.

Even so, in order to consolidate the Household Energy Strategy, local management structures will still need formal legal recognition; a recognition which will leave them less vulnerable to abuse and which will open up the possibility for legal recourse. The legal framework has never been formally established, with the result that a local management structure (even though it was created based on the provisions of the *Ordonnance*), is not recognized as a legal person or a legal body, and cannot take legal action when faced with instances of abuse of office.[16]

[16] Reference is made to: Allagbada, Eliane & Baba Oumarou Maïga, January 2003.

THE IMPACTS OF THE STRATEGY

4

Impact on rural poverty

The objective of the Household Energy Project took the original objective of Energie II a step further by specifically expanding the potential target groups and broadening the scope from a more technically focussed approach to one with a broader social vision. Thus, by focussing on the transfer of financial resources directly to villages and on the sustainable management of resources by the communities themselves, the Household Energy Project had the intention of concentrating on the poorest and most marginalized of the rural population, with a specific focus on women and marginal groups.[10]

Direct impacts on the poor were neither measured nor quantified as part of the field study. No socio-economic baseline existed to use as a basis for comparing changes during the project period. Therefore a detailed quantitative survey would have generated substantial quantities of data but no comparative data. Instead the study was based on a sample of 25 rural fuelwood markets in three *arrondissements*. A qualitative assessment followed of those rural fuel-wood markets which had been included in the sample – as well as a few neigh-bouring markets which had not been sampled. These additional markets were visited mainly for purposes of controlling inform-ation and following-up particularly interesting issues. The choice of markets to be studied took into consideration a number of criteria including that of assessing the situation away from the Bassin de Niamey and including fuelwood markets in more remote locations into the study. This explains the prominence given in the study to the markets sampled from Gouré (in the Zinder region), where most of the markets are still "directed" rather than "controlled". In addition to the sample, the study also included the experiences of other rural fuelwood markets in Niger, such as those supported by Care Niger and SOS Sahel (notably the case of Takiéta). As already noted in the Introduction, Annex 2 gives a detailed list of the sites where the field study took place, as well as their geographic position.

The evaluation has concluded that rural fuelwood markets have had a direct and positive impact on poverty levels within the communities affected by rural fuelwood markets.

The greatest single indicator is the fact that there is now a direct cash injection into the rural economy around the rural fuelwood markets. As a result of the creation of local management structures linked to rural fuelwood markets, the incomes of village woodcutters have increased substantially. Before the project, woodcutting in the natural forests surrounding rural villages was controlled by urban-based transporters, with very

[10]Although the Household Energy Project started in 2000, the planning had actually taken place at least one and a half years earlier. As a result of these delays, the Danish consulting company retained by the Danish cooperation to support the Household Energy Project prepared an "Inception Report" which had, as its purpose to update the project document and, in particular, the logical framework. In fact, the original project document only identified one single immediate objective (the acceleration of the creation of rural fuelwood markets) with nine outputs, some of which, in fact, could just as well be considered as being objectives. The Inception Report, in its turn, identified four immediate objectives. Thus, in its present form, under the bilateral financing of the Household Energy Project by Denmark, the overall development objective is stated as being: to assure the sustainable management of agricole resources for the benefit of those rural populations having the usufructuary rights to these resources and for the benefit of the urban populations using fuelwood resources".

few benefits being retained at the local level.[20] Through the rural fuelwood markets, the revenues generated by the forest resource are controlled by the community itself, and the transporters are obliged to purchase through these structures.

A mechanism has been established, through project intervention, which allows for a direct transfer of funds from the urban areas to the rural. This transfer involves the purchase by urban dwellers of a commodity that is in relative abundance in its natural state in the rural areas, with a supply which can be maintained as long as the management practices created by the strategy remain in place. There is an ongoing need in the urban areas for fuelwood and this is a demand that will continue, as there are no alternatives to fuelwood in the foreseeable future, neither in Niger nor in the sub-region.

As a result of the creation of local management structures linked to rural fuelwood markets, the incomes of village woodcutters have increased substantially. Before the start of Energie II, woodcutting in the natural forests surrounding rural villages was controlled by urban-based transporters who, arriving with a centrally-issued cutting permit and a lorry, would cut and load firewood – sometimes with a work-gang hired in town, or sometimes hired locally. This has now changed in those areas where rural markets operate. Here, within the limits of the defined quota, villagers now have the possibility of drawing important benefits from the forests.

Besides the fact that woodcutters incomes have increased substantially, there is a whole network of other activities around the process that allows for money to circulate. Examples which may be mentioned are: the management of the rural fuelwood market by the administrator (*gestionnaire*); the activities undertaken by the "forest improvement fund" (*Fonds d'Aménagement Forestier*) which involves payment locally for physical work carried out; the renting out of scotch-carts (charettes) to collect and transport wood; as well as the purchasing of wood-stocks from woodcutters by villagers living near the market – often women – who will then re-sell to the transporters.[21] The latter practice allows woodcutters a quicker access to cash and eliminates their risk – at the cost, obviously, of a lower price per stere. These risks – which includes the risk that the wood is appropriated by the forest services, etc. – are then carried by the intermediary.

Apart from direct financial benefits to those engaged within the fuelwood sector, the village and local community also draw major indirect benefits through the Village Discretionary Fund – the fund which is fed by the tax revenues collected through the sale of the transport coupons. This fund has been used to fund a range of community priorities. These include: repairs to boreholes and construction and repair of wells; construction of classroom facilities; construction of health facilities, purchase of vaccines and payment for medical assistance (meningitis injections, mother and child health care, etc.); construction/-repair of mosques, etc. The fund is also used to finance adult literacy

[20] At best, the transporters would hire local labour to either cut or collect wood. But in all cases, payment was derisory and bore no relation to the value of the resource which was being removed.

[21] There is an added advantage for the woodcutters in those cases where the transporters, for diverse reasons, are not able to pay the local management structure immediately for the wood which they will sell in the urban areas and where the sellers will have to await the return of the transporter to receive the full payment.

classes. Loans to women's groups also form part of the activities funded. One unexpected benefit, which the study noted, was that local management structures were more than willing to loan money to the village's women's groups. The two reasons stated were that, firstly, there would be no money in the cash box when the Brigades raided the market, and secondly, that the money was absolutely safe because the women always repay their loans.

The discretionary fund is also used for committee activities – notably travel, for example to attend meetings of the local Federation of management structures. But the fund is also used to provide committee-members with loans, which are not always paid back. Finally, the Fund is also used as a kind of social fund, helping families in distress with small gifts or loans of cash.[22]

It can be concluded that where rural fuelwood markets generate financial resources for discretionary use at the village/-community level, they in fact take on what many would consider to be the role of the State in terms of provision of social services.

Even the funds held under the forest management fund have direct spin-offs for the common good through payments to villagers for carrying out certain activities related to forest management (work in tree nurseries, planting of seedlings, etc.).

There are also indications that the existence of the fuelwood markets is having an effect on migration patterns. The existence of a regular source of cash income at the village level seems to have provided a strong incentive for men to remain at home with their families rather than leaving the village in order to find temporary work elsewhere (be it in Niger's own urban areas or, more often, in neighbouring countries).[23] This apparent effect on the reduction in migration illustrates the importance of a well-functioning rural fuelwood market.

There is little evidence of major direct benefits to women as part of the Household Energy Strategy. The direct beneficiaries are limited to those directly engaged in woodcutting and fuelwood sales. This tends to be monopolised by men although there are examples of women taking more active roles. But, in most cases, women remain marginalized and even the women's representative on the local management structure often does not always know herself that she holds the position – until she is called to a meeting when there are outsiders present.

Apart from cultural norms, a major barrier to increased participation by women – and indeed by marginal groups in general – is illiteracy. Here a great deal of progress has been made. Literacy is a requirement for certain key positions on the local management structures (treasurer, secretary) and when the project started in the late 1980's, there

[22] the guidelines for the use of the discretionary funds indicate that they can be used to fund community projects; but that they can also be used to help families in need – for example as a result of illness or death.

[23] It should be noted that most migrants follow a fairly typical pattern - with groups from one village going to Libya, and from another to Ghana, Ivory Coast, Nigeria, etc. Migrants normally link up with a network of individuals from the same village or area, which acts as a support and safety net when away from home.

were very few functional literates in the rural areas and the choices available to fill those positions on the management structures which required literacy, were very limited. Today the number of villagers who are literate has increased, thanks to the adult literacy programmes, which have been run by a number of projects, including the Household Energy Project.

Apart from literacy classes, the Household Energy Project was also involved, to a limited degree, in experimenting with radio as a form of communication. The limited experiment carried out by the Project with Listening Groups using radio-cassettes, which focussed on specific topics related to the household energy strategy, was very successful. It would have had an even wider effect if local radio stations had been able to make use of the materials developed by the project.

The project was also involved in the promotion of improved stoves, with two different designs (a metal stove and a clay stove).[24] Although a number of improved stoves were in evidence in the rural areas, this tended to be in those villages where there was a distance to be walked in search of firewood. In those areas where there was firewood in plenty, improved stoves were not seen as an interesting option, not because the idea of using less firewood was not appreciated but simply because the fire is also used to light up the evening. Often a fire provides the only light after dark – kerosene is expensive, as are kerosene lamps. Therefore it is only when there are serious shortages or where there are alternative sources of light, such as in the towns where there is electricity, that the qualities of the improved stove come into their own.

Environmental impact on forests managed by rural firewood markets

Various studies have extensively monitored the income generation aspects of the household energy projects including the financial benefits to the community through the village fund. By contrast, the ecological sustainability of woodcutting has hardly been monitored. Nonetheless the obligation of the rural fuelwood markets to follow forest management plans has formed an integral part of their function. These plans had, after all, the objective of assuring for the villagers both a sustainable and a profitable utilisation of the resource.

The most important difficulty in respect of the ecological monitoring of a given area is that it is difficult to know exactly what is going on in the relative isolation of a forest and, secondly, that it is difficult to ascertain the exact source of the fuelwood being sold on the markets – as this can also include, for example, dead wood which villagers have collected from their own fields or from the open bush. Forest inventories, if they have at all been done, are too complicated a tool to use to follow ecological changes in the village forest. Neither were remote sensing techniques used to track ecological changes of the demarcated forests.

[24] The advantage with the clay stove is that women trainers can be taught how to teach other women to make these stoves themselves from locally available materials; whilst the advantage of the metal ones is that they are portable, but they are more expensive.

Faced with these constraints, the present study has used two methods for measuring ecological changes. Firstly, the local woodcutters were interviewed on location, inside their own forest, about the condition of the woodland resource, and how this has changed since the establishment of the rural fuelwood market. Secondly, independent forest experts, who were members of the study team, and who were actually involved in carrying out surveys in the village forests at the time of market establishment, have compared the past and present condition of these forests using baselines established during the early years of Energie II.[27]

While the results have no statistical value, they are surprisingly uniform in their conclusion. The village forests included in the study sample are well managed and if exploitation has deviated from the prescribed scheme, it is mostly by under-, rather than over-exploitation of the quota. Rural fuelwood markets have generally under-exploited their forests during the first 4 to 8 years of their existence and only more recently have some attained or exceeded their annual quota.

The forest composition has changed somewhat as a result of the difficulties which one of the key species, *Combretum nigricans*,[28] has had to regenerate. Other local species, such as *Guiera senegalensis*, have regenerated very well and has become more important as a result. This tendency (already noted during the 1980s) is not a generalised one, and in fact in certain forests the tendency is reversed. Other than that, the ecology of the tiger bush has not changed. The selected harvesting scheme developed by Energie II has generally been effective and it has respected the Sahelian ecology.

None of the sampled forests are threatened by clearing for agriculture, which is a major factor in deforestation elsewhere in the country. Although many villages have had one or two cases of illegal clearing, they have quickly dealt with transgressors. Illegal clearing in the demar-cated forests is a reason for villagers to approach the forest service with requests that they deal with the offenders. As villagers seldom approach the forest service for assistance in respect of other offences committed, this demonstrates that agricultural clearing in village forests is regarded as an important issue in their environmental sustainability.

Woodcutters are very well aware of the technical recommendations developed by the project, and these are generally respected. In some areas, they have refined and adjusted the technical package with the experience they have gained themselves. Thus, according to some villages, the prescribed cutting height of about 20 centimetres for certain species was not appropriate. It was increased for these species to avoid damage by termites.

In all areas, woodcutters have adjusted the technical package in at least one way. The project wanted villagers to limit their harvesting to a specific parcel each year, but woodcutters decided that this makes no sense if there is deadwood available elsewhere

[25] The audit of this work was carried out by Dr. Aboubacar Ichaou, now a researcher and independent consultant. During the time of Energie II, Dr. Ichaou, as head of the development-research unit in Energie II, was responsible for establishing these first forest baselines.
[28] The aforesaid variety of the combretaceae family appears to be quite sensitive to cutting. Guiera senegalensis is another species typical for the zone, and has many uses, including fodder during the dry season.

– whether inside or outside the designated forest compartment, or inside or outside the forest. They are generally not interested in cutting greenwood as long as there is still deadwood available.

It is worth noting that the woodcutters themselves are involved in the training of other woodcutters, including training in both traditional knowledge and practice but also in those new aspects related to the rural fuelwood markets: how the structure functions, the geography of the forest and its sub-divisions, the different tree species, which trees may be cut and when, etc.

Statistics available at the national level confirm the conclusions that the environmental impact of the Project is both positive and important.[27] Although data are often incomplete the statistics suggest that there is a significant increase in the volume of wood sold on the urban markets which has been bought from a rural fuelwood market. The number of rural fuelwood markets has increased from 85 in 1959, to around 150 functioning markets in 2002.[28] During this same period, the sale of fuelwood within the Bassin de Niamey has increased from 75,000 stere to 162.000 stere per annum; the share of fuelwood sold on the urban markets of Niamey, which can be attributed to the rural fuelwood markets, has doubled during this period, increasing from 16% in 1995 to 33% in 2002.[29]

Nonetheless the impact remains well below the optimistic outputs that were anticipated in the project document. The proposals (prepared in 1995) relating to the Project's second phase envisaged the creation of 380 rural fuelwood markets. The result achieved by 2002 did not even achieve half of the 1995 estimate. The total estimated woodland area managed by functioning rural fuelwood markets in the Bassin de Niamey amounted to 450,000 hectares at the start of 2003; this out of a total of between 1.2 to 2 million hectares.[30]

In addition, the study of the Niamey fuelwood markets suggests that fuelwood is also coming from the low-lying and the agricultural/fallow areas and that this should be added to the fuelwood coming from the natural woodlands.[31] This underlines again that it is still urgent that the Strategy expands to also cover those areas not yet "controlled".

Impact of the Forest Management Funds

The Forest Management Fund generated at village level through the payment of transport tax, as discussed above, has been used to finance various forms of tree-growing activities. Such activities almost invariably focus on tree nursery establishment, creation of mini-catchments (*demi-lunes*) and the planting of tree seedlings in the forest.

[27] In addition, the energy approach supported by the project fits in with the Kyoto protocol's objectives related to the reduction of greenhouse gas emissions and the potential role played by sustainable forestry practices in the achievement of emission targets.
[28] The percentage of functioning markets in Niger has been estimated at over 80% of markets created that are still functioning. This is quite high and can be compared to Mali where this figure is only around 50%.
[29] 1995 figures based on World Bank, 1997; 2002 figures based on GTA/PCD 2003 and on the report Structure baselines. **des prix de vente en gros de bois-énergie dans la ville de Niamey. Ichaou, A. et al, april 2003.**
[30] The exact figures are somewhat uncertain as there are no precise estimates of the extent of the ligneous resource.
[31] This deduction can be made based on the species composition of the fuelwood on sale on the urban markets. Reference is made to: **Rapport d'enquete sur la structure des prix de bois-énergie dans la ville de Niamey** (april 2003).

Seeds and other inputs may be bought and village labour is generally paid for out of this Fund. For example, the total amount of cash generated for these Funds, for the *arrondissement* de Say by the end of 2002 amounted to some 9 million FCFA.

However, very little has been done to monitor the impact of the activities financed by the Funds. For example, how have tree-planting schemes, which were undertaken, say 10 years ago, contributed to forest ecology? In order to address this issue, plantations created by means of the forest management fund have been reviewed in those villages included the field study. The conclusion, without any exception, is that the visited plantations have had no meaningful environmental impact and will almost certainly not have any impact in the future either.

In some cases, the water catchment techniques used are very rudimentary. In other cases, plantations have been located in the bare strips of land in between the natural "tiger bush" formations of Niger's woodlands. A practice which would have been destructive to the natural forests if the plantations had flourished.[37] However, in none of the sampled plantations was tree planting successful.

Where tree-planting has succeeded this has been in those cases where external projects – such as the World Food Programme - have co-financed tree planting schemes within the forests themselves. With a great deal of inputs such tree planting schemes can be technically successful but the approach is not replicable with the limited funds available through the forest management funds.

Based on this finding, the impact of the forest management fund on the ecology of village forests can safely be estimated as having been negligible. This is not at all surprising in the light of the many forest plantation projects implemented in the Sahel since the 1970s. Starting with large, peri-urban plantations in the 1970s, through to the village woodlot schemes of the 1980s and the more mixed tree planting schemes of the 1990s, the results are essentially identical. As a general rule of thumb, tree planting in natural forests is bound to fail. What is of concern here is that these conclusions are already well know – yet both financial as well as human resources continue to be wasted on tree planting schemes.

Small plantations intended for high value produce in which the local population is very interested and which can be closely monitored form the exceptions, as do agroforestry activities, when these are locally perceived as being a sensible investment. It is in these directions that the forest management funds are now developing in Niger. And rather than investing financial resources in the natural forest, the preference is to plant trees closer to the village. Generally, these will be shade and fruit trees, gum producing trees or any species considered locally as being useful. Notwithstanding both the research results and the wishes

[37] The "tiger bush" represents the ecological optimum in these areas where it is found and is not a form of degraded woodland. This research has shown that management measures aimed at increasing woody coverage in the non-wooded strips, in addition to being expensive and unsustainable, are actually counterproductive in terms of woodland productivity. See, Foley, Gerald, et al: 1997 The Niger Household Energy Project. Promoting Rural Fuelwood Markets and Village Management of Natural Resources. World Bank Technical Paper No. 332; and Peltier, R., Lawali M., et Montagne P., 1994, Aménagement villageois des brousse tachetées au Niger, Revue Bois et Forêts des Tropiques no 242.

of the local population, the forest services continue to put pressure on the local management structures to engage in reforestation projects – with all the problems attached to this, including that of surveillance, especially if planting is carried out at a distance form the village. The impacts of such activities are still more difficult to measure since they are dispersed and informal. Many forest agents put pressure on villagers to establish plantations inside the demarcated forest area, while villagers have found it more sensible to plant trees close to the village. In those instances where this has occurred, planting close to the village is quite possibly an important impact of the forest management fund, and basically the only one.

In many villages, the forest management fund is also a milk cow for use by the forest agents and other officials. Payments from the Fund for such expenses as "contribution to tree planting day", "fuel for the forest agents" or "traditional fighting" are more or less imposed on the village and the money from the Fund is lost to the villagers. It is clear that this aspect of the forest management funds has no impact either on the environment or on the local economy.

Development of the private sector

As a general rule, the private sector is seen as including both consultancy agencies and NGOs. Although in Niger a distinction seems to be made between private operators and NGOs, whereby the former are profit making while the latter are more based on voluntary work. But, in reality, the distinction is often not clear, with many NGOs functioning as if they were private companies.

Until the mid 1990s, Energie-II and other forestry projects relied entirely for their implementation activities on the forest service supported by staff under contract. The inefficiencies that characterise the public sector made forestry interventions very expensive, while success rates remained low.

As a result of structural adjustment and the process of decentralisation, the role of the public sector is in the process of being re-defined, with a greater role being given to the private sector and to civil society. Therefore, as opposed to the approach taken during the first phase (Energie II), the new project, the Household Energy Project, was supposed to facilitate the creation of NGOs (*designated as Groupes Techniques d'Appui*) whose task it would be to train villagers and undertake all the preparatory work necessary for the creation of rural fuelwood markets.

As a result of this new situation, several NGOs were established by Nigerien former staff members of Energie II in order to take advantage of this opportunity. These private operators/NGOs were to have, as their specific objective, the provision of support to the creation of Rural Fuelwood Markets. For unknown reasons, no tendering procedures were followed, and only one NGO was retained. This NGO – which took the name *Groupe Technique d'Appui* - was given an exclusive contract for the duration of the Household Energy Project.[53]

[53] The choice of name for the NGO reveals, to some extent, which process took place. While the project document clearly defined the need for several support groups (*groupes d'appui*) the project ended up with only one support group (*le groupe d'appui*).

There is little doubt that the NGO in question has been more efficient than the forest service would have been in the creation, transformation and activity monitoring of Rural Fuelwood Markets. The contract with the NGO specified a rather modest allocation of between 900,000. FCFA for an oriented market to 1.9 million FCFA for a controlled market.[34] And even though the financial resources allocated in the contract were rather low, the NGO concerned managed, in broad terms, to fulfil its contractual obligations.

There are a number of weaknesses which are important to mention. The choice of a sole private operator to the exclusion of all others, was in clear contradiction with the spirit of the Household Energy Project which had foreseen a much greater diversification to the private sector, through provision of support and training to several NGOs. The choice of a sole private operator is contrary to the very idea of privatisation because it creates a de facto monopoly situation which blocks the emergence of any form of competition within the fuelwood sector.

The exclusion of other actors has hampered the process of competition and diversification needed for a robust, independent private sector. Yet, parallel to the rural fuelwood sector, Niger has seen the emergence of a large and growing number of private operators in matters such as literacy training skills, accounts keeping, action-research and community development. These private operators/NGOs have been excluded from contributing to the creation of and/or support to rural fuelwood markets.

Rural fuelwood market creation in Mali by the Household Energy Strategy Project has followed a different approach. In Mali, a total of 14 different operators have been contracted to create a total of 90 markets over a 5 year period. While the results of some of them have been disappointing, the majority have demonstrated good performance. The project has also made deliberate efforts to train Malian private operators and, as a consequence, a good number of agencies are now able to engage in contracts within the sector.

The Malian experience is identical to that of the Household Energy Project in Niger, however, with respect to the narrow technical focus of the approach. The organisational skills necessary for strong, legitimate market structures, able to defend their own interests, have not been imparted by these operators. Such skills were not envisaged by the project and they have not been included in contracts with private operators. This has had consequences for the viability of Malian Rural Fuelwood Markets, where an estimated 50% of markets are no longer functional.

34 These figures amount to only 10-20% of the cost estimates made at the time by Energie-1 for market creation by private operators.

Impact on planning capabilities at national level

The major planning tool conceived by the Household Energy Strategy is the Woodfuel Supply Master Plan which was to be prepared for the country's major urban centres: Niamey, Maradi and Zinder.[35] As a general rule their figures tend to become outdated within a very short time. Like virtually all of the previous scenarios, the Woodfuel Supply Master Plan strongly overestimated fuelwood demand. For example, when the Woodfuel Supply Master Plan for Niamey was produced in 1992, it estimated the demand in Niamey at 132,000 tonnes for 1990, and it predicted an annual increase of fuelwood demand of 4,000-5,000 tonnes per year. In 2003, the fuelwood demand in Niamey was estimated at 164,000 tonnes, thus, in reality, the annual increase for the period 1990-2003 was only about 2,500 tonnes.

The Woodfuel Supply Master Plans should have been reviewed and updated every 5-10 years, which has not happened. Donor agencies have also started to see these master plans as exercises which are too expensive to carry out. The new Natural Forest Management Project in Niger (the PAFN) funded by the African Development Bank, for instance, has rejected the idea of using PAFN funds to update the plans.

The experience to date suggests that if woodfuel supply planning should be realistic, then its results should be applicable and the capacity to implement these activities should be mastered by many actors. It can only be low cost if applied by national experts and if it is relatively modest in scope. Complex, long term planning is expensive and often quite useless. By contrast, regular updates of the situation in relation to the woodfuel supply for a major town could be very useful both as a process and for the results which it produces.

At the formal strategy and policy level, the Household Energy Strategy has not had much of an impact either. With the laws, which define the markets and fiscal framework, being the only form of official recognition which exists.

Urban-rural trade-offs

During the Energie II phase, the project had a two-pronged approach. The **supply component** focused on the management of the natural woodlands in the fuelwood catchment areas of the major towns. The **demand component** concentrated on the promotion of substitute fuels (kerosene and liquefied petroleum gas - LPG) and improved stoves (fuelwood, kerosene and LPG) as a means of limiting the growth in fuelwood demand. The achievements of the demand com-ponent were modest at best and the prospects of substitutes for fuelwood were further damaged by the 50 percent devaluation of the FCFA at the beginning of 1994, a devaluation that substantially increased the price of petroleum products.[36]

At the same time, it became clear that the fuelwood situation was not as critical as first assumed and that sustainability of fuelwood supply under community management was

[35] Initially a fuelwood master plan was also to be prepared for Tahoua, but this was shelved due to the armed rebellion which affected that part of the country.

[36] For a more in-depth analysis of these conclusions, see Foley, G., et al : 1997 **The Niger Household Energy Project. Promoting Rural Fuelwood Markets and Village Management of Natural Resources. World Bank Technical Paper No. 362.**

a viable option. This, together with its very modest achievements, contributed to the demand component being given a lower priority. In fact, for the reasons stated above, the Danish Development Cooperation decided not to provide funds for fuelwood substitution activities during the project's second phase.[37]

Energie II was not very poverty-oriented nor poverty-focussed. Its principal concern was with the survival of the natural woodlands. Neither was the demand component very poverty focussed – its major objective was to cut woodfuel consumption, not to provide cheaper sources of fuel for the poor. By contrast, the poverty focus was introduced as a major and over-arching objective of the Household Energy Project when the project came under bilateral funding from Denmark.

The concern has been expressed that by focussing on the rural fuelwood markets and by imposing levies on the transport of fuelwood, the result would be increased prices for fuelwood in the urban areas – and hence would imply increased burdens being placed on the urban poor. The scenario that could be sketched would be one of decreasing rural poverty on the one hand, with increasing urban poverty on the other.

Although most urban households use woodfuel for cooking, and its price is obviously a major factor, yet the importance of increases in the price of fuelwood is probably less significant than the price increases for other commodities. There are so many other factors involved, not the least of these being the devaluation of the FCFA, as well as the repercussions following the military coup of 1996 - notably the freezing of donor assistance as a result of the coup. In the faced of these uncertainties, the current study was unable to draw any important conclusions in respect to the links between urban poverty and the Household Energy Strategy.

However, it has been possible to conclude that, although there has been an overall increase in the quantities of woodfuel being consumed in Niamey, the *per capita* fuelwood consumption has declined since the 1990s,[38] this could be due to a number of factors.[39] At the same time, an increase on 4% can be observed in bulk fuelwood prices (in constant money terms) between 1996 and 2003.[40] This tends to show that while the Household Energy strategy has contributed to increasing the supply of wood available on the urban markets, and at the same time having a significant effect on rural poverty, this has not resulted in significant increases in the price of wood for the urban consumer.[41]

[37] Reference is made to: Danagro Advisor 1998 (August) Dossier du Projet. Projet Energie Domestique. Ministère des Affaires Etrangères/Danida.

[38] Reference is made to the woodfuel supply chain surveys carried out in 1991 and 1996, and the survey carried out under the auspices of the present study (Ichaou, A. et al 2003)

[39] It is not possible to conclude one way or the other whether the decrease *per capita* is due to increases in the price of fuelwood, or due to increased poverty in the urban areas, or simply due to more fuel-efficient practices.

[40] This calculation takes into consideration annual inflation during the period 1990-2001, as well as the devaluation of the FCFA (based on UNDP figures)

[41] In 2003, when the field study was carried out, the normal sales price for a stere of wood on a rural fuelwood market was in the region of 2,000 FCFA (before tax); the same stere of wood is resold on the urban wholesale market for 4000 FCFA.

It is not the transport levies that have a major influence on the price paid by the urban consumer, nor the cost of the stere on the rural fuelwood market; other factors play a greater role in determining the final price charged in the urban areas. In fact, as concluded in a recent study on the structure of fuelwood costs in Burkina Faso, the price of diesel fuel is the single most important factor influencing the price of fuelwood on the urban market of Ouagadougou. In addition, the final costs are also influenced by the "voluntary contributions" made by the transporters to the officials in charge of the checkpoints on the main transport arteries; a practice which the study team observed was also current in Niger.[42]

[42] The study carried out in Burkina Faso showed that a very important element making up the costs of transporting fuelwood is the "voluntary contribution" which needs to be paid in the gendarmerie and the forest services at the control barriers through which the trucks need to pass. In the Burkina study, the average contribution for firewood transported with a valid permit is 400 FCFA per stere; the "contribution" made by those travelling without permits is likely to be considerably higher.

CHALLENGES TO BE MET

5

The attitude of the transporters to the rural fuelwood markets

While rural fuelwood markets have much improved the lives of many rural people, certain powerful groups of the Niger society have lost influence and income as a result of their establishment. In the past, two influential groups benefited from the uncontrolled cutting of fuelwood. These were the firewood traders and the forest agents.

The traders used to purchase wood cheaply, paying very low prices to local people for wood sold along the roadside, or by paying a dismally low daily rate to labourers (whether hired locally or brought along in their trucks). The rural fuelwood markets have raised prices considerably over the period 1992-2003. The creation of these markets in 1992 sharply increased the price paid for fuelwood at source in the rural areas, with prices more than doubling; since then, prices have only continued to increase.[43] Moreover, the share of the total price paid in the urban wholesale market which remains in the rural areas is substantial; at the time of the survey, a stere of wood sold for 7,000 FCFA on the urban market with traders paying both for the fuelwood itself – at around 2,000 FCFA per stere structure – as well as being obliged to pay the transport tax (at prices varying from 300 FCFA to 375 FCFA per stere).

Traders therefore continue to have a financial interest to purchase firewood in other (non-controlled) zones if they can find outlets. This they have done to some extent, which has also encouraged the project to attempt to set up rural fuelwood markets in those same areas or even to create markets before the arrival of the transporters into these new zones.[44] Nonetheless, it seems clear that the effects of the differential taxation has had only limited effects on a reorientation by the transporters towards zones controlled by rural fuelwood markets. In a parallel process, traders also tried to undermine the system once established, through attempting to cut prices or make shady deals with corrupt forest agents and market managers.

During this same period (1992-2003), which saw substantial increases in the price paid for fuelwood in the rural areas, urban consumer prices increased by only about 50% in current prices. Thus, increases in the price paid for fuelwood in the rural areas has not been translated into an urban price increase of the same proportion. The impact of an increased producer price on the price structure of firewood sold in, for example, Niamey has been rather modest.

There are, however, a number of aspects of the fuelwood marketing chain which the field study was not able to cover but which merit further research: how have the fuelwood traders managed to revise their profit margins to absorb the increased prices which they now have to pay on the rural markets? Have they developed business strategies that

[43] Over the period 1992-2005, well-organised rural fuelwood markets in the Niamey basin have increased their sales price by about 100%. If this figure is compared with the pre-rural market situation of the 1980s, the increases are even greater.

[44] It seems that the creation of a differential tax system favouring the purchase of fuelwood from more remote locations with lower taxation rates per stere has had little influence on the behaviour patterns of the transporters. Nonetheless, although fuelwood on, for example, the Niamey market still comes from both fuelwood markets and uncontrolled zones, the share of fuelwood coming from rural fuelwood markets is now significant.

incorporate purchasing of fuelwood both in those areas where there are rural fuelwood markets as well as from the uncontrolled zones, in an effort to keep their profit margins? And how will they react to a continued expansion of the rural fuelwood markets which limit even further the zones where uncontrolled cutting can still take place?

Repression and fines: the behaviour of the forest agents

The field study has confirmed what everybody already knew; namely that, in the course of time, the forest services have developed a multitude of ways of personally drawing profit from the existence of the rural fuelwood markets. Even in terms of the formal legal texts, the forest agents are authorised to personally retain 25% of the value of the fines which are paid and 25% of the cash raised through the sale of wood which has been seized as a result of a real or imagined contravention.[45] This has tended to pervert the behaviour of forest agents, since it encourages their search for fraudulent practices (real or imaginary), which then form the basis for a fine. Fines are rarely accompanied by the obligatory formal written statement (*procès-verbal*) as stipulated in the Order 037 of 1992 (article 40), and they are frequently imposed without the issuing of a receipt.

The opportunities for private rent extraction are numerous and diverse. The laws and rules on forest exploitation are rather vague and adherence to rules is so difficult in practice, that a forest agent with the intent to impose a fine will always be able to find a reason or an excuse to do so. The paramilitary status of the forest agents,[46] which allows them to arrest and imprison, has instilled deep fear among the rural people. As described earlier, villagers – and the local management structures – have no recourse in case of a conflict between forest agents and themselves.

The result is that forest agents, for private enrichment, extract significant amounts of money and local products (fuelwood, small livestock, etc.) from the local population that they are supposed to serve. Fines are paid by local people without issue of receipts, herders are forced to hand over small livestock, markets are forced to fill up a fuelwood lorry without being paid for the wood, etc. Numerous 'gifts' are enforced on rural people: 100,000 FCFA to assist a forest agent on transfer, 50,000 FCFA to fuel up the forest service vehicle, a sheep for a visiting officer, and so on.

The fuelwood markets have witnessed the same excesses. Forest agents have a formal responsibility to control the markets. But in the absence of clear rules, many agents have inter-preted control in a way to include also control over the funds generated by the markets. As a result, forest agents have always been aware of the monies held by the local management structure. Thus, whenever there was a need for cash, they were in a position to extract it. Fortunately not all agents have used these opportunities but actions similar to those described above had taken place in all the markets visited.[47]

[45] This is provided for under Article 42 of the Ordonnance 37/1992. It is also worth noting here that, in addition to cash raised through fines and sale of fuelwood, it is the custom that forest agents retain 10% of the tax money paid by the markets to the local government (the *arrondissement*) as a form of service fee for transporting the cash collected from the markets.

[46] The paramilitary status of the forest service – inspired by the French system – is not unique to Niger but found throughout the Sahelian region.

[47] Rent extraction by the forest agents in neighbouring Mali was particularly harsh, until the political revolution of 1991, which was to an important extent a reaction to this behaviour. These practices have continued since 1991, but at a more modest level.

The legal and illegal ways of revenue generation are therefore much more important to the forest agents than their low and irregularly paid salaries. In contrast with the fuelwood traders, many forest agents have a great deal of private income to loose if fuelwood markets manage to streamline forest exploitation according to well-defined laws and regulations. This goes a long way towards explaining the resistance of forest service agents to allowing and encouraging management and control of forest *exploitation by local communities*. For all these reasons, it is difficult to imagine that individual forest agents will change their behaviour before a complete revamp takes place of the forest services and the way they function

Implementing the tax system

While the financial regulations in respect of the fuelwood sector in Niger are very progressive, the implementation of these regulations remains poor. In 1988, before the start of project implementation, the level of (fuelwood) tax collection was rather low, in the region of 15%. Following considerable efforts organized *through the project during* the 1989-93 period, this level of tax collection improved considerably and rose to a level of 47%, only to drop again at the end of the project period. During the transition phase between Energie II and the Household Energy Project, the collection rates fell to their pre-project levels. Annex 3 provides some of the principal sources used for the figures quoted here.

The field study has estimated that, for the year 2001, tax collection levels for the Bassin de Niamey (including both controlled and directed markets, and fuelwood coming from uncontrolled zones) amounted to some 20%,[48] slightly higher than for the rest of the country. This level is not markedly higher than that the 1980 levels, despite the *considerable invest-ments in control measures* made by the two projects, and despite the existence of rural fuelwood markets which regularly register tax collections levels largely superior to those received from the uncontrolled zones. This raises a number of questions. What happens to the money which is registered by the local management structures as having been received (and formally accounted and signed for) by the forest agent, but which does not reach the tax collector at the *arrondissement*? Is this a simple case of forgetfulness or is the non-reception of tax revenues a result of fraud? Since the tax collection system has been in existence for a good eleven years, it is reasonable to assume that all the principal actors (the transporters and the truck drivers, the foresters manning the check points, etc.) are all aware of the rules and that the reason for the low figures can probably not be attributed to a lapse in concentration.

Taking into consideration these poor results, one alternative would be to consider looking towards the private sector to implement the forestry control function on the checkpoints on the main roads.[49] Experience from other Sahelian countries may be useful in this *regard. In Chad, forestry control* around the city of N'Djamena has recently been

[48] Regionally similar circumstances prevail. In Mali, tax collection levels amounted to some 10% in 1991, despite the heavy investments made through the Strategic Fuelwood Supply project while in Burkina Faso, tax collection levels are only a little higher than in Niger.

[49] In Niger, the road toll system has recently been privatised: first results with this have been encouraging whilst also revealing certain limitations.

privatised and the first results are very encouraging. The control has increased to a level of between 50 to 60% with the private operator in charge of the control posts retaining a contractually defined percentage of the tax collected. One of the results has been that the Malian government has also started to show an interest in implementing the Chadian model. The new and very recent examples with privatising the control functions also demands close monitoring, in order to draw the lessons for a tool which has enormous potential for improving tax collection on fuelwood throughout the Sahelian sub-region. First experiences indicate that for privatisation to work, existing laws and regulations need to be adapted to the realities of the private sector in order for this to become effective.

The onward payment of the transport tax from rural fuelwood markets and local management structures to the local government level also poses problems. As previously explained, a proportion of the tax revenues collected by the local management structures has to be deposited with the local receiver of revenues at the arrondissement – with a percentage then being transferred to the National Treasury. There is a problem here as tax collection rates in the rural fuelwood markets are significantly higher than the 20% overall level referred to earlier – suggesting that there are leaks in the stages between the market level and the *arrondissement*.

For the arrondissement of Say (in the Bassin de Niamey) which was sampled as part of the field study, there was a large discrepancy between the amount of funds paid to the foresters who collected the funds; and the amount of cash received by the receiver of revenues. Only 35% of the amount received by the forest services was actually paid to the *arrondissement*. (These figures are based on a verification of the local management structure's tax coupon books and the receiver of revenues accounts books.) Substantial amounts of cash seem to disappear somewhere along the line as these pass from one institution to the next; if was not possible during the course of the study to determine with certainty exactly where and at which levels these funds were diverted.

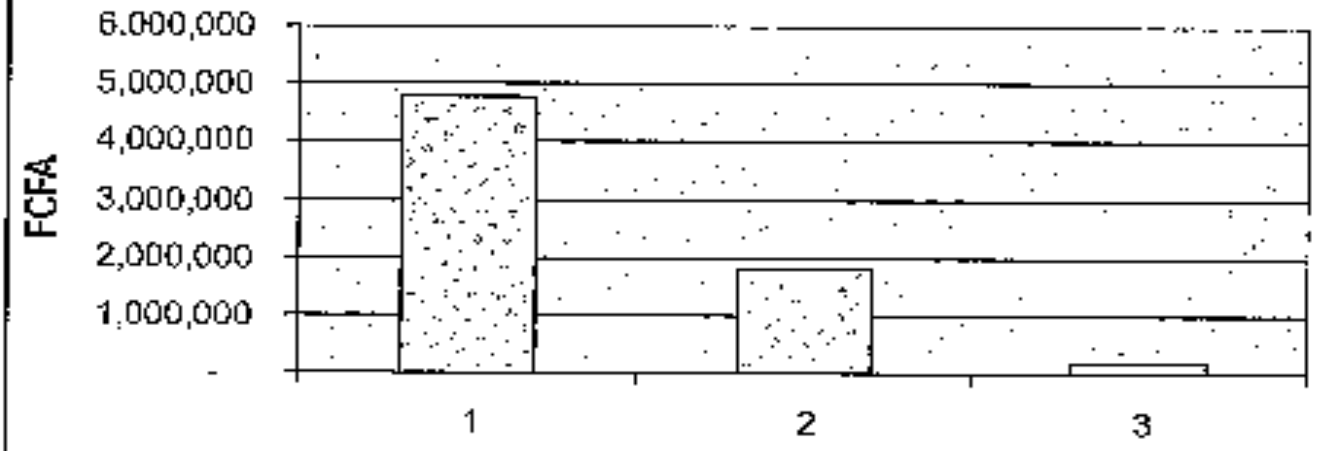
Thus only some 10% of the funds, which could have been used by the *arrondissement* for forest management and improvement activities, were ever used for this purpose.[50] The main reason put forward by the local authority for not allowing the use of that proportion of the funds which they had received for forest management purposes, is that they have many financial priorities which need to be addressed; and forest management is not one of them. It is interesting to note that the villagers advance the same argument. They may also decide that taxes destined for forest management may be better used for more crucial needs such as well repairs or vaccination campaigns (reference is made to the earlier discussion on these aspects). It is, however, more difficult for forest agents based in the arrondissement to challenge the authority of the *sous-préfet* than it is for these same agents to impose their power on the local management structure.

[50] It is also worth noting that the forest services were unable to show the study team how the funds allocated for forest management activities at the arrondissement level had actually been used; no trace of these activities could be seen, neither were they documented in the files.

Tax collection, transmission and utilization: the example of the Say forest management fund

The graph presented below provides an idea of the large discrepancies which exist between the amount of tax collected by the local management structures; the amounts received by the *arrondissement*; and the amount used by the local government for the purpose for which it was designated – i.e. forest management. The example comes from the *arrondissement* of Say and follows the path of those funds which should have been destined for use as forest manage-ment activities at the local government level. Column 1 represents the amount of money collected from the management structures by the forest agents – amounts which were verified by checking the books of transport tax coupons – destined for use by the arrondissement for forest improvement activities (FCFA 4.8 million). Column 2 represents the amount of cash actually received from the forest agents and accounted for by the Receiver of Revenues in Say (FCFA 1.8 million). Finally, column 3 shows the funds actually disbursed by the *arrondissement* for forest improvement activities (200,000 FCFA). The situation presented here is the rule rather than the exception, as the data gathered elsewhere during the course of the study confirms.

Collection and utilisation of forest management funds



The rigid norms imposed on the rural fuelwood markets

A great deal of progress has been made since the 1980s in the understanding of the Sahelian ecology. This includes a better awareness of the effects on the environment resulting from the instability of the annual rains and of the climate itself. Equally, the vegetation dynamics of certain ecosystems, such as the tiger bush ecology (*la brousse tigrée ou tachetée*), which is so characteristic of the Sahel, has greatly improved.

The Energie II / Household Energy Project have made significant contributions to this improved understanding by funding research and through the many experimental plots which were created and maintained. The results of this research have helped to explain why attempting to create plantations within the plateau forests is not only economically inefficient and unsustainable, but also potentially damaging to the Sahelian ecology.

The characteristics of the tiger bush consist of strips or patches of vegetation interspersed with denuded areas.[51] It is important to maintain this balance between vegetation and denuded areas as these denuded areas contribute to determining the quantity of rainwater supplied to the vegetated areas. Thus, the creation of plantations on the denuded areas can have important negative consequences on the ecology of the natural forests as this would cut off a significant supply of surface water run-off necessary for their survival. Planting of trees on the denuded areas could thus have serious ecological consequences and lead to a die-back and degradation of the natural forests. That such serious consequences have been avoided is mostly due to the rate of success of the plantation schemes, which, as has been discussed earlier, were very low. The results of the research in this domain should have led to the abandonment of such "reforestation" efforts, particularly given the fact that large percentages of the village's forest management fund were consumed by such wasted investments.

Although the results were widely published and many forest agents were provided with training on these new insights, the mission of many forest agents continues to be plantation establishment within the natural forests. In all sample areas visited by the study team, forest agents insisted on the importance of plantation establishment, usually within the boundaries of the village forest. They interpreted the objective of the Village Forest Management Fund essentially as being that of a fund that serves to create such plantations.

Not infrequently, forest agents also prescribe the number and type of species to be raised in the village nurseries, which are financed by the Village Forest Management Fund. Some also proscribe the planting sites, usually inside the demarcated village forest. Such stipulations prevent effective participation by villagers who may have very different – and better - ideas about the use of their funds.

Villagers prefer to grow a wider range of species in their nursery than those recommended by the forest agents, and prefer to keep the number of plants in the nursery at a more manageable level. Fruit and shade trees are particularly appreciated and these are normally planted near homesteads and in the fields used for agriculture. Plantations in the more distant village forests do not raise much enthusiasm, particularly if protection against browsing by livestock and game is a major problem.[52]

The annual quota system in respect of the quantities of woodfuel that a management structure is permitted to "harvest" during a calendar year, is another example of an outdated technical package. The Energie-II/Household Energy Project put in place an annual fuelwood harvesting scheme whereby a certain volume of wood should be cut from a defined forest parcel, for any given year of the rotation. This annual quota system proved to be entirely inappropriate. In many fuelwood markets, the quota was established in highly arbitrary ways. In the arrondissement of Say, for example, 38% of the rural fuelwood markets have had their annual cutting quota fixed at 1,500 stere

51 The striped appearance of this terrain from the air has led to its nickname, "tiger bush".

52 Plantation in the forests also poses the problem of surveillance to make sure that seedlings are protected. Distance from the village poses problems and the effects of surveillance are usually rather limited.

notwithstanding the fact that the surface areas covered by these markets vary between 1,700 hectares and 42,000 hectares. And even in those markets where serious efforts have been made to arrive at a realistic quota, the annual quota is not necessarily appropriate.

Commercial fuelwood production is not an isolated activity in the rural economy; in fact, it is very much dependant on the broader village economy. During certain years, particularly when the agriculture season has been good and when there is a lot of work that needs doing in the fields, villagers may not be much interested in commercial fuelwood production. In other years, there is much interest in fuelwood cutting, especially when agriculture and off farm income earning opportunities are poor. An annual quota based on purely technical criteria and which does not take these yearly fluctuations into account does not make sense - certainly not to the villager.

The management parcels are another example of an inappropriate technical package. Woodcutters attached to rural fuelwood markets are supposed to operate in a designated parcel of the forest as dictated by the management plan. But from time to time, the dis-equilibrium ecology of Sahelian forests creates a massive die-back of trees. It then makes no sense to cut green wood in a designated parcel while there is a lot of dead wood available throughout the forest and even outside the designated zone. It has become obvious that a much more flexible, locally sensitive management system is required. This includes incorporating the "trees outside the forest" into the commercialisation of the fuelwood markets. This is, of course, already happening unofficially. The study of the urban market of Niamey carried out within the overall context of the present field study, has documented that fuelwood from tree species originating from non-forest areas (agricultural fields, fallow land, low lying areas) is also being sold on the urban market.

It is not surprising to find that woodcutters do not adhere to inflexible and inefficient management prescriptions. But it goes without saying that such transgressions constitute another occasion for the forest agents to impose fines on villagers.

Another example is the use of the stere as the unit of firewood sales. According to the rules, firewood has to be fashioned in stacks of one cubic metre for sales on the market. But trucks are not designed for one metre long logs and traders prefer different dimensions for easier stacking. Nevertheless it is fairly simple to estimate the quantities loaded onto a truck into the corresponding number of steres, thus allowing for the calculations to be made in respect of the amount of taxes due on the total number of steres being transported. For the most part, the trucks used for fuelwood transportation are standard models, and everyone (from woodcutters, to transporters and foresters) already knows how many steres a truck of a given model will hold anyway.[55] Nevertheless, many Forest Brigades have insisted on fashioning fuelwood displays on the market more according to form (i.e. one metre by one metre by one metre) than

[55] In fact, the *Arrete* 0039/MHE/DE of 16th July 1992 contains the list of modes of transport (from Dellist trucks to camels) and their capacity, calculated in steres, as well as the corresponding amounts of tax to be paid.

according to volume, and consider deviance from this norm as sufficient grounds for the imposition of a fine.

The technical standards (management plans, quota systems, etc.) imposed on the rural fuelwood markets may appear modest to developed countries but they are very demanding to both the forest service and the market structures. The forest service does not have the capacity neither to prepare nor to update forest management plans, in spite of the various sources of funds that are theoretically available - not only from donors but also from revenues deriving from the payment of the transport taxes. Even with the assistance of projects such as Energie-II and the Household Energy Project, many of the management plans are superficial to the point of being of little use as a guide to forest management.

The fuelwood markets' management structures and their woodcutters, as the ultimate forest managers, have seldom had access to forest management plans. But even if they had, the type of plan produced would be of little use to them. Neither does the fact that these documents are long (twenty to thirty pages) and written in French contribute to making them more accessible locally. Furthermore, as part of the sample, it was established that in only the rarest of cases does the local forestry office posses a copy of the management plan. Instead, a locally useful management plan is needed, which is based on both external and local knowledge.[54] In a few cases though, the Household Energy Project has prepared maps based on local knowledge; this could be a starting point for a new, more useful management tool for fuelwood markets.

The absence of a reference document understood by both parties involved – in this case the local management structures and the forest services – has negatively affected the functioning of the rural fuelwood markets. This has resulted in a lack of transparency with, as one consequence, the difficulty of questioning the validity of decisions taken by the foresters in the absence of an agreed reference document. In order for there to be stakeholder ownership of a management plan, the document has to be simple and be accessible at all levels, and be available both in French as well as in the local language. It also needs to have a formal status so that it can be used to ensure that there is a form of recourse, should this be necessary.

Experience has shown that it is possible to develop forest management plans that are both short and prepared in such a fashion that they are also accessible for a community where literacy levels are low. In order for there to be local "ownership" of such a management plan, the contents of the plan must be based on the knowledge, experience and expectations of the local community vis-à-vis their forest.[55]

[54] In fact, the Arrete 0039/MHE/DE of 16th July 1997 contains the list of modes of transport (from Berliet trucks to camels) and their capacity, calculated in steres, as well as the corresponding amounts of tax to be paid

[55] In comparison, a simple management plan for large-scale forested areas in a country such as France does not fill more than four pages. No quantitative inventory is demanded; instead a qualitative visual inventory is seen as being acceptable.

Rethinking the relationship between the local management structure and the village assembly

Within the new context of decentralisation, the opportunity exists to transform the Village Assembly into a more dynamic and legally recognised body; a body which would also have the capacity to supervise the work carried out by the local management structures.

This will open up the possibility for the village assembly to manage funds and to manage the forest resource in its totality in a rational and sustainable manner, and for the assembly to decide on the best use of village development funds raised through the tax on fuelwood. In time, restructuring the role of the village assembly can lead to it becoming a recognised and democratic body functioning as a counter-weight to the local management structures – which presently monopolise rural fuelwood markets both strategically and operationally.

It is therefore essential to improve the support to these institutions so that they become more adapted to the needs of the local management structures and the village assemblies, particularly as this relates to internal controls and financial transparency. In addition, villagers in general also need to be made more aware of forest resource issues and related legislative texts, the infringements contained therein and those sanctions that may be applied. This is important, as it will facilitate both the internal control by the resource users of other resource users, as well as empowering resource users in their dealing with foresters and other agents of the state. As a consequence of this, appropriate training tools need to be designed, tested and developed for use by adults, many of whom are illiterate or only partially literate.

The urgent need for a change in behaviour

During the transition period between the two projects (the years 1997 – 1999), fuelwood markets were very badly abused. The majority of the markets had their village funds ransacked. Falsified coupons were printed and introduced in some zones by the forest agents themselves, and many markets had their books confiscated and destroyed by corrupt agents in order to remove evidence, which might point to cases of fraud. The paramilitary nature of those responsible for these activities prevented villagers from defending themselves.

The presence of projects, and particularly those with much financial and technical assistance, has tempered the intensity of the abuse, but never to the extent that it disappeared completely. Far from it. Therefore, unless the regulatory framework is profoundly reformed and such changes are made to work, the situation for the rural fuelwood markets is likely to re-deteriorate now that the Household Energy Project has come to a close, and donor support has been withdrawn.

Genuine reforms from within the Nigerien society will be required to achieve this, as the issues raised do not only relate to the management of the forest resource, but are much more broadly related to improved governance at all levels. It is to be hoped that decentralisation and the emergence of a strong civil society in the country will contribute to this. The encouraging fact is that there are already signs of improvements in

governance. The role of NGOs and the private sector is more important than in the past, and such organisations have been very critical on issues of abuse by forest agents.

Federations of fuelwood markets have been effective in defending their rights in a number of cases of serious abuse, by going through their Member of Parliament,[56] or publicly pursuing their case through newspapers. Such checks and balances are slowly evolving and will be essential to improve governance and minimise abuse. However, the structural nature of the abuse of power observed in the rural fuelwood markets requires a more profound response. The question is whether decentralisation will come in time and in sufficient force to allow the markets to survive and thrive.

[56] One example is where the local MP for the arrondissement of Gouré (in the Zinder region) intervened on behalf of a number of fuelwood markets that were ransacked by the Brigades, and where all the management structures resigned as a result and closed their markets. The intervention of the MP re-opened the dialogue and the management structures reconstituted themselves after the forest agents repaid a large amount of the cash which had been taken from the markets.

6

THE POTENTIAL WITHIN THE DECENTRALISATION PROCESS

Raising revenue from natural resources

Many hopes and fears are riding on the successive waves of decentralisation sweeping the Sahel over the past ten years. Promises of greater efficiency in the provision of services coupled with opportunities for local economic growth and the more active involvement of local people in the management of their affairs are fuelling these expectations. In practice, however, the success of these reforms largely hinges on newly elected local government bodies being able to deliver appropriate, cost-effective and affordable services to their constituents.

In the short term, local people in the Sahel are less concerned with the principles and potential benefits of democratic governance. Instead they want to see their everyday problems of poor health and education facilities, inadequate water supplies, lack of employment, marketing and investment opportunities, impassable roads, etc. being addressed. If locally elected government cannot deliver on these issues fairly quickly, their legitimacy and ability to bring about structural changes to the manner in which local affairs are managed will be severely compromised.

Paying for the cost of local development and service delivery, particularly in remote, rural areas is thus the immediate challenge facing the decentralisation process in countries such as Niger. Clearly, the State and the donor community will have to meet some of these costs, but in the longer term sustainable income sources will need to be found at the local level. This will, necessarily, involve raising revenue from natural resources such as forests and forest products, as these are the major sources of income and wealth for the majority of people in the Sahel.

In this respect, rural fuelwood markets offer enormous potential not only to be the motors of local development and to contribute significantly to reducing poverty levels in Niger, but also to support, in the longer-term, democratic and equitable processes of natural resource manage-ment in the Sahel. For all these reasons, the rural fuelwood markets should represent a valuable asset in the eyes of the future *communes*.

However, this will demand a policy and legislative environment which effectively decentralises meaningful powers of decision making to the most appropriate levels, and mechanisms that permit equitable sharing of benefits, accountability, and justice.

A reluctant and indeterminate transfer of authority

After years of controversy and delay, Niger is finally on the threshold of decentral-isation. Parliament has passed a series of laws defining the overall framework of administrative and political decentralisation in the country, and regulations for their implementation are being drawn up. These laws define the new administrative and local government divisions of the country, the core principles underpinning the free administration of local government bodies, the specific responsibilities and powers to be transferred from the

State to local government bodies and the financial provisions to support the process. The regulations necessary for these texts to be implemented are being prepared. And, in principle, local elections of council members at the commune level should take place during the first quarter of 2014. Annex 4 summarises the main provisions within these laws. The text box below highlights some key characteristics of the decentralisation process in Niger.

Key principles and characteristics of the decentralisation programme in Niger

- Three levels of local government bodies: Region, Department and Commune (rural and urban).
- These bodies are self-governing with independent resources, with 4-year terms of office.
- Communes based on territorial limits of customary entities (e.g. Cantons).
- Customary authorities as lawful members of the local government council with consultative functions.
- Separation of roles between local government and the State administrative apparatus.
- Local government decisions legal on publication and only checked *a posteriori* by the State.
- Recognition of the principles of subsidiarity and inter-local government management arrangements for development activities.
- The State may transfer part of its private estate to local government bodies.
- Local government bodies have decision-making powers over local taxation, budget setting and implementation, development planning, environmental protection, disposal of their private estate.
- Principle of devolved responsibilities to be accompanied by a simultaneous transfer of funds.

The laws allow for the creation of legally recognised local government bodies with their own budget, personnel and estate (*domaine*) with decision-making powers over a range of matters that directly concern their jurisdiction. The laws recognise the principles of subsidiarity and the need to ensure that devolved responsibilities are also accompanied by a simultaneous transfer of funds. The laws also acknowledge the right of local authorities to establish agreements for development cooperation with other public and private bodies, both within Niger and internationally.

Superficially, these provisions are very positive, but a number of issues still need to be resolved. The Government of Niger, while acknowledging the right of elected local government bodies to manage their own affairs, significantly fails to provide them with the necessary powers and resources with which to do so effectively. Critically, the two laws spelling out the core principles underpinning the free administration of local government bodies and the specific responsibilities and powers to be transferred from

the State to them,[57] fail to give local government, and the communes in particular, any discretionary decision-making powers over the management of natural resources – the major source of income and wealth in Niger. These powers have been almost exclusively retained by State.[58]

Although the law provides for the State to transfer part of its private estate to local government, it is not legally bound to do so. While the laws do allow future communes to raise taxes from local activities and investments within these areas, it is far from clear how in practice they are to raise significant levels of revenue when they do not have any discretionary decision-making powers over the use and management of natural resources. Furthermore, the clearly stated principle of devolving authority in accordance with the principle of subsidiarity is not backed up with clear legal provisions that would enable powers of decision-making over natural resources to be devolved to the most appropriate level.

The situation in Mali is significantly different in this regard. Firstly, the overarching laws do specify in some detail how local government authorities are to acquire lands that will fall under their jurisdiction (*domaines public et privé*).[59] Secondly, there are clear provisions, which give local government bodies the authority to manage agricultural, forest, pastoral, fishing, and mining resources on their estates in collaboration with government technical services. The laws also recognise the principle of subsidiarity in allowing local government the right to delegate some of their powers for resource management to village authorities, individuals and other professional bodies. In theory, the decentralisation process in Mali has given local government bodies the wherewithal for meaningful local governance. In practice, however, very few of these powers have actually been transferred, even though on the ground there are many examples of de facto decentralised resource management activities being carried out by rural councils and community groups often in collaboration with government technical services.

Given the central role of natural resources in generating income and wealth, and by extension in developing and maintaining political patronage, it is no accident that the State and the forestry service in Niger have failed to relinquish powers of decision-making in this domain. However, by not doing so, it does threaten the economic viability of the future communes as well as compromising the very legitimacy of the decentralisation process in the eyes of local people. Meaningful local democracy needs to be accompanied by real powers of decision-making and the necessary resources to deliver on issues of local concern, otherwise the people will abandon the whole project.

This failure also threatens the future of the rural fuelwood market sector in Niger. In the absence of the communes having formal authority for the management of natural

[57] This refers particularly to two laws: La loi n° 2002-12 du 11 juin 2002 déterminant les principes fondamentaux de la libre administration des régions, des départements et des communes ainsi que leurs compétences et leurs ressources; and the loi n° 2002-15 du 11 juin 2002 portant transfert de compétences aux régions, départements et communes.

[58] The laws provide for rural communes to be responsible for environmental protection, for managing local livestock corridors and designing local development plans in accordance with regional plans.

[59] *Loi 96-059 portant principes de constitution et de gestion du domaine des collectivités territoriales, & Ordonnance 00-027 sur le Code domanial et foncier.*

resources within their estates, the markets will remain under the authority of the forest services, and subject to the limitations of the existing legislative framework, as well as being vulnerable to improper and illegal abuse. This, as the preceding chapters, have shown may well spell the collapse of the rural fuelwood markets in Niger, and with it a unique opportunity to contribute to making decentralisation work for the citizens of the country.

Although the decentralisation laws do not devolve management responsibilities for natural resources to local government bodies, there are other legislative tools, and precedence for their use in Niger, which may enable the future communes to establish recognised rights of management over rural fuelwood markets operating in those areas under their jurisdiction. Whether or not this will contribute to more equitable and sustainable resource management is a moot point, and will depend on the mechanisms established to ensure that local government operates in an accountable, responsible and socially just manner.

For example, there are provisions within the *Code Rural* for local government authorities to grant rural leases (*concessions rurales*) to legally recognised bodies over a fixed period and according to pre-determined management plans. These provisions, though not ideal, have been used with success by the *Projet de la Basse Vallée de Tarka* in Niger to transfer responsibility for the day-to-day management of restored forest and rangelands to community groups under the overall responsibility of the local government body.

Having said this, the process itself remains a difficult one. Fuelwood markets and their management structures do not have a legal status which permits them to enter into contracts with the State in respect of a forestry concession. Neither is it certain that even by so doing, their position would be improved. In fact the concession formula is far from being ideal for the rural fuelwood markets. It requires a considerable investment in time and resources, as numerous hurdles need to be passed in the process. Acquiring a rural lease is a complex and overly bureaucratic process that requires a considerable investment in time and resources. This approach also carries with it many technical difficulties and is dominated by technical and production-oriented considerations (such as preparation and following of management plans), which will simply continue to make the markets accountable to the forest services.

The rural concession formula can be advantageous for the new communes which already have well-established rural fuelwood markets within their boundaries. The fact that fuelwood markets already have management plans only makes this easier. However, it is the nature of the relationship between the fuelwood markets and the commune which remains uncertain. Communes may be able to function as an effective cushion between the forest services and the fuelwood markets, protecting the latter from abuse and repression. But at the same time, the communes are in an ideal position to, themselves, become the new predators.

Fuelwood taxes to fund good governance

There is relatively little experience of fiscal decentralisation in Africa, and those examples that do exist tend to be based in urban rather than rural areas. The 14-year experience of the Household Energy Strategy in Niger has a significant contribution to make to the institutional and legislative debate on this subject of how to manage the Sahel's natural forests.

Compared with other Sahelian countries, such as Mali, the fiscal provisions taken by Niger through the enactment of the Ordonnance 037/92 and its associated regulatory orders are very progressive.

In Niger, the tax payment relating to the sale of fuelwood is paid to the management structure by the transporter who purchases the wood. In Mali, by contrast, fuelwood market managers have to buy wood cutting permits in advance of any sales, thus severely limiting their levels of turnover.

Within the system in Niger, a very considerable proportion of these taxes actually remain at the level of the community (50%) and the local government authority (40%), of which a significant percentage can be spent on community development activities at the discretion of the village council or local development body. Those taxes that are destined for local development activities (at village and commune level) are retained at the moment of sale, and managed, by the local management structures and commune officials respectively, rather than by the forestry services. This ensures that the benefits of the fuelwood markets are controlled by the community and the local government bodies rather than by the forestry administration, as is the case in Mali.

Table 7 Comparative features of Niger's and Mali's fiscal system

Mali's fiscal system	**Niger's fiscal system**
Local management structure (LMS) pays taxes before selling wood	LMS pays taxes after sale of wood Those taxes destined for community-level NRM activities are retained and managed by the LMS.
Those taxes destined for community-level NRM activities are not retained by the LMS. Those taxes destined for use by local government are not retained by the local government body.	Those taxes destined for use by local government are retained and managed by the local government body.
The proportion of taxes destined for use by local government bodies and the LMS is relatively low.	The proportion of taxes destined for use by local government bodies and the LMS is relatively high.
The forestry agent is responsible for collecting taxes and checking that taxes are collected.	The forestry agent is responsible for receiving and passing on taxes. This is to change with new legislation where the forestry agent will only check that taxes are collected.

Source: *Kerkhof, P., Beredogo, B., Tamboura, M., 2002: Rapport d'évaluation finale stratégie énergie domestique au Mali (phase transitoire). Ministère des Mines, de l'Energie et de l'Eau; Ministère de l'Environnement. La Coopération néerlandaise au Mali.*

The system in Niger hinges on a differential taxation system, which provides fiscal incentives to encourage fuelwood traders to purchase wood from distant markets practising sustainable management techniques, rather than from natural woodlands in uncontrolled areas. This, as earlier discussed, is based on a taxation system which encourages fuelwood transporters to purchase fuelwood from rural fuelwood markets, rather than from uncontrolled zones (where the tax payment liable is higher than when purchasing from fuelwood markets). The tax also takes into consideration the distance between the location where the wood was purchased and the urban centre being served. The objective of the exercise being to structure the supply of fuelwood on the basis of a sustainable management of the fuelwood resource by the villagers, in order to avoid the uncontrolled felling of the natural forest by the woodfuel traders.

The system is not working as effectively as it could, particularly with respect to the collection of taxes by the forestry department on wood originating from non-controlled areas. The recently passed laws with respect to fiscal decentralisation give to the future communes the authority to raise their own taxes, although they do not specify how this will be put into practice. Neither do the laws indicate whether the communes will have access to the taxes collected by the markets' management structures. Other key issue issues that will need to be clarified include who will be responsible for setting taxation levels on the rural fuel-wood trade, the proportion of the taxes to be retained by the fuelwood markets versus the communes and the forestry department, and who will decide on how those taxes retained by the commune will be spent. Moreover will the decentralisation laws take precedence over the Ordonnance of 1992, and will there be an internal coherence between the existing sectoral legislation and the decentralisation laws? Until these details are spelt out in the regulatory orders, which will accompany the decentralisation laws, the provisions within the existing law regulating the fuelwood sector are likely to prevail.

The new law on the financial regime of the future communes[fn] does differentiate between two types of expenditure (recurrent and investment costs), and does require local government bodies to spend at least 45% of their budget on investments. Putting a ceiling on recurrent expenditure such as salaries and office running costs is clearly important, but ensuring compliance will be far more difficult in practice. According to the legislation, local governments will be entitled by law to receive adequate funds to cover the costs of meeting their responsibilities. Should this support not be forthcoming from the State, the spectre can be raised of the future communes attempting to control and tax the rural fuelwood markets, and to appropriate funds from the cash held by the local management structures in order to meet their obligations vis-à-vis the State.

Technical decentralisation

Technical decentralisation is seen as being the local capacity to cope with the technical elements of resource management. Technical decentralisation rests on a combination of two elements: firstly, human resource capacity building and secondly, the adaptation of technical procedures to local capacities.

[fn] *La loi n° 2002-17 du 11 juin 2002 déterminant le régime financier des Régions, des Départements et des Communes.*

Technical skill and procedures related to the management of forestry resources can be made so difficult that it remains out-of-reach for those at the local level; alternatively, efforts can be made to adapt procedures so that the skills required to work with these procedures can also be acquired at the local level. Thus, for example, the demands on cartographic work can be so technically demanding that it must be carried out in the capital city; forest inventories so difficult that these can only be done by international experts; management plans so comprehensive that they need one hundred pages of specialised technical terms. With this approach, skills remain centralised and local structures will never be able to build the capacity to manage these aspects themselves, despite the advantages of political and financial decentralisation.

In respect of management plans applied in gazetted forests, there have been some moves to attempt to simplify certain technical aspects, although the technical framework remains one that is defined, essentially, by the forest services. To all intents and purposes, the frameworks put into place remain a product of a centralised technical administration which, all too often, is in contradiction with local conditions and with the needs and interests of the villagers. Faced with these problems, a number of projects in the Sahel have attempted to adapt technical procedures to local settings, thus providing alternatives to a too centralised approach.

Table 8 Centralised technical procedures – and alternative decentralised procedures

Centralised procedures	Decentralised procedures	Project / country examples
Geometrically defined plots	Plots definition based on the local setting: hills, water courses, sacred sites, etc.	Some project experience with this: for example, Takiéta -I- elsewhere.
Numeric toponymy (e.g. plot 1a, 1b, 2,...)	Local toponymy (using the local names and designations)	
Classical forest inventory	Initially carrying out an inventory using simpler methodologies (4th tree[61] method); subsequently initiating a more participative process based on local knowledge (of soils, vegetation, etc.) and the use of GPS.	'4th tree' as used in Mali and adopted in Niger; also used by: RPTES[62], Burkina Faso.
Annual quota	Multi-annual quota	Kita and elsewhere in Mali; Takiéta and elsewhere in Niger
Quotas calculated on the basis of classical forest inventory or on '4th tree' method	Quota calculated on the basis of a participative inventory and regularly negotiated and revised; use of non-quantitative methods	
Generalised management guidelines based on national rules and regulations	Negotiated regulations based on national guidelines and local realities. For example, local rules may already forbid utilisation in certain areas, or of certain species, etc. Whereas national regulations, by their nature, are far too general.	Being experimented with in Kaya (Burkina Faso), and other projects (Takiéta...)
Voluminous management plans, written in French, and generally neither publicly available nor user-friendly	Short reference document, with a map and one page of text, available in both French and the local language, and widely available.	

[61] The "4th tree method" is used in Mali within the framework of their Household Energy Strategy in an effort to simplify the preparation of a forest inventory.
[62] RPTES – Regional Programme for Traditional Energy Strategies.

CONCLUSIONS: WHAT FUTURE FOR NIGER'S RURAL FUELWOOD MARKETS? 7

The fourteen years of Danish support to the Household Energy Strategy, through the Energie II and Household Energy Project, has had a number of positive results.

From an environmental viewpoint, the rural fuelwood market formula has clearly shown that the commercialisation of fuelwood can contribute to meeting urban energy demands, without having a negative effect on the national biomass reserve. The impact on the natural woodlands in those areas where rural fuelwood markets have been established is also positive. The resource is regenerating well and is in good condition more than ten years after the first markets were established and village forests were demarcated. The forests are effectively protected by the villagers themselves, against attempts to encroach into the forest to open up areas for agricultural expansion.

From a financial viewpoint, the existence of the rural fuelwood markets is based on a highly innovative form of fiscal decentralisation, which changed the way in which fuelwood was taxed. In fact, and contrary to systems operating elsewhere in the sub-region, the fiscal system adopted in Niger gives real possibilities for rural communities to generate funds at their own level, and to use those funds to finance local development activities. To this can be added that the level of tax collection for wood sold at the rural fuelwood markets is much higher than in the uncontrolled zones, where no markets have yet been established and where tax collection remains the responsibility of the forest services.

From a social and an economic viewpoint, the fact that village communities are able to generate financial resources in their own areas, with considerable amounts being reinvested locally, has had a significant impact on the local poverty situation. Revenues have been generated which have benefited local woodcutters and other villagers, and significant social investments have been made which have benefited the community as a whole. It is also clear that the impacts of the Household Energy Strategy at the local level will be even greater when the fuelwood markets function with even greater efficiency and transparency, and when the Strategy is also implemented in those zones which are still uncontrolled.

Fears had been expressed at the start of the project that, by supporting local income generation through fuelwood markets, this would carry with it increased prices for fuelwood in the urban areas. Thus becoming a factor in increasing urban poverty, while at the same time contributing to rural poverty alleviation. In fact, this does not seem to have happened. Although urban per capita fuelwood consumption decreased, this decrease needs to be seen in a far wider socio-economic context and is not simply a function of the fuelwood supply chain.

As regards research, project activities have contributed to the making of detailed assessments of different woodland situations thereby arriving at a better understanding of the vegetation dynamics both in relation to water management (particularly in relation to run-off, changes in rainfall patterns as a result of seasonal droughts, etc.) and human activity (methods of tree felling, reforestation, access by herders to grazing within the woodlands, etc.). This is particularly pertinent as regards the ecological dynamics of the tiger bush formations found throughout most of the project's zone of intervention

As regards decentralisation, the rural fuelwood market system has marked new advances in the local-level management of the natural forest resources. This is a difficult area as it involves the management of resources which are used in common and which, as a consequence, are more difficult to manage than village agricultural lands. The results also underline the determination shown by the villagers to involve themselves in the decentralised management of their woodland resources. Thus, even during the difficult years between the two projects, when the repression and abuse by the forest services of local management structures, rural fuelwood markets and villagers reached new heights, markets continued to function despite the difficulties faced.

The results of the study also show that local level management can be introduced at village level, well below that level at which decentralisation is supposed to operate, namely that of the canton. The lessons which can be drawn from this are important when questioning the future role of the rural communes and, in particular, their links with lower administrative levels, such as villages, administrative tribes of herders (*tribus administratives d'eleveurs*) and rural fuelwood markets.

These conclusions argue in favour of an extension of the rural fuelwood markets into those zones where they do not yet exist, an extension from which the country as a whole will also be able to draw profit. In fact, one of the most positive aspects of the rural fuelwood market formula is that – when functioning correctly - it will result in an increased availability of financial resources not just at the village level but at all levels, including increased resources at the national level to finance the monitoring and support of the rural fuelwood markets. Therefore, the quality, content and continuity which can be provided through the new forestry support project to Niger, the PAFN (the Project for the Improved Management of Niger's Natural Forests - *Projet d'Aménagement des Fôrets Naturelles*) is critical, now that the Household Energy Project has been phased out.

It could be argued that more results could have been expected from the Niger Household Energy Strategy. Rural fuelwood markets have not enjoyed sufficient back-stopping and support, the functioning of the local management structures still leaves much to be desired, and the fiscal system is still not very effective – notably where this involves the forest services' role in the handling of cash. In addition, at the national level, the zones covered by the rural fuelwood markets are still significantly less important than those zones which are still uncontrolled.

As regards the system which has been put in place, serious weaknesses still exist, particularly in the relationship between the rural fuelwood markets and the forest

services. The creation of the rural fuelwood markets has opened up the possibility for village communities to collect taxes on the transport of fuelwood, and to retain a portion of these taxes for their own use. This power of taxation should have given the markets higher legitimacy vis-à-vis the fuelwood transporters and the forest services. But, in reality, this has yet to happen. Taking into consideration the unequal relationship between the rural poor and the forest services, the risk of serious abuses had already been identified during the projects' planning phase as being a factor likely to influence project implementation. As it turned out, these problems are, in fact, extremely widespread and the abuse and oppression which takes place – including the possibility of extreme physical violence - are not acceptable by any standards. Unfortunately the system seems to allow those guilty of such actions to act with virtual impunity.

The issue of repression is therefore at the heart of the debate as regards the future of the rural fuelwood markets, with the forest services taking the centre stage. In fact, the forest brigades and the forest agents have been given the several responsibilities of controlling the state of the forests and of the rural fuelwood markets, of imposing fines, of collecting taxes, and of physically transporting cash between the market and the local administration level. One therefore easily ends up in the absurd situation where the same forest agents who should be helping the local villagers with the management of their forests are, in fact, seen as their enemies. The absence of mechanisms of recourse and the lack of an independent financial audit process makes it difficult to change this situation.

There are, of course, differences from one market to the next, with each local management structure having its own particularities. Local management structures have their own imperfections, faults which can often be attributed to the control of the management structures being left in the hands of a small minority. These structures are vulnerable both to abuse from outside, but also from within, from their own members. An improved monitoring of local management structures focussing on social and organisational aspects would certainly help, but would not resolve the whole problem. The rural fuelwood markets are just one link in a whole chain and their problems need to be tackled within this broader context. Thus, for the local management structures, no matter how well they perform organisationally or financially, their greatest threat actually comes from those who are supposed to be helping them. This contradiction needs to be addressed if progress is to be made.

Within the new context of decentralisation, a redistribution of roles between the local management structures and the forest services will be required. Such a reform will also serve the interests of the State which, at present, finds itself in the situation where funds intended for use by the State, including for forestry control activities (the Compte 30-01), are now diverted, lost somewhere in the system. The stakes are important as the rural fuelwood markets represent a sure source of finance. As providers of both employment and revenues, the fruits of improved forest management may well become the subject of envy and of competition between the newly elected local authorities, the villages and the forest services.

Options and experiences already exist for redefining the role of the forest services. As regards forestry controls on main roads and checkpoints, and following the example of neighbouring Chad, it should be considered to introduce the privatisation of the forestry control function around the major urban areas. Also in the rural areas, a reorganization of roles has become necessary, so that the forest services are no longer authorised to handle funds, whether within the framework of their dealings with the local management structures or within that of their forestry control duties. As a consequence of this, the implication would be that the local management structures themselves – and not the forest agents – take on the responsibility of depositing with the receiver of revenues at the level of the arrondissement, the local government's share of the transport tax revenues collected by the local management structure.

The system of fines must also be revised and made more uniform, in order to avoid arbitrary sanctions based on the amounts of funds available and not on the nature of the misdemeanour. Linked to this, it is necessary to firmly establish the local management structure's rights of appeal in the face of injustice, and to revise the legal texts as these relate to the sanctions which can be applied, which also take into consideration the new sets of responsibilities discussed above.

Another weakness which the study found, was the very limited role played by the village assemblies. In reality, it is often the local management structures that have taken on the real decision-making powers, both in relation to the functioning of the fuelwood markets as on the way in which the village's tax revenues are utilised. Yet village assemblies could be the facilitator of a much wider debate involving the whole local community on how to manage the forest, incorporating all its resources and all the resource users in the debate – not just focussing on fuelwood and the woodcutters, but on the multiple uses of the forests. Here too the legal texts are unclear, as the Ordonnance of 1992 details neither the composition nor the rights and responsibilities of these assemblies.

In addition, the position of the local management structures and the rural fuelwood markets remains equally delicate as they, too, have no formal legal status, apart from the rather general statements included in the Ordonnance of 1992. Given this, their opportunities to take legal actions are extremely limited.

How the decentralisation process will integrate the rural fuelwood markets remains uncertain: which functional and hierarchical relationships will be established between the markets, the communes and the arrondissements? What power will the local management structures have when faced with official and legally recognised local governments? How will the new communes react to the rural fuelwood markets controlling access to important natural resources?

Most forests have had their boundaries demarcated in relation to traditionally recognised rights of individual villages. This leaves unanswered questions related to the management of shared woodland resources. In this context it is important to note that, in many cases, the creation of rural fuelwood markets has led to a tendency to exclude other users from the sections of the forest where fuelwood is being cut, to the detriment

of those other users, such as, for example, the cattle herders. If one adds to this the protectionist attitude adopted by the local management structures towards the clear-cutting of forest areas for agriculture, a conclusion may be drawn that the rural fuelwood market formula is one which incorporates a tendency for exclusive use rather than one of priority rights, rights which remain open to negotiation with other, more temporary, users of the resource.

Looking into the future, this kind of attitude from the rural fuelwood markets carries with it the risk of major land conflicts in the future. In addition, it is by no means sure that rights to forest resources, which are seen as being too exclusive and limited to selected individuals, will be acceptable within the context of the decentralisation process. A process which, after all, would tend to favour a sustainable use of a resource shared equitably among users, and not exclusively by a minority. In this sense, the Household Energy Project could have drawn inspiration from other projects, such as, for example Takiéta, which has managed to create a pluri-usage dimension to forest management, including not only the inhabitants of several villages sharing the same forest space, but also sedentary cattle-herders as well as transhumants. But it can also be concluded that the way in which the system functions today, works against allowing freer access to other users. For the local management structures, the fact that others come into "their" forest increases their own risk of being fined and abused by the forest services.

As regards the position of women, and despite the fact that certain advantages have been gained through the establishment of the markets, women still occupy a very marginal role. Too often women are still relegated to the typical post of "women's representative" – a post with no influence. Improvements in literacy as a result of the efforts of different projects – including the Household Energy Project - may open up for possibilities which are more interesting and demanding in the future.

Lessons may also be drawn from the project preparation and implementation process.

Firstly, the two projects (Energie II and the Household Energy Project) focussed essentially on the technical aspects of woodland management (management of the resource, tree-cutting practices, respect of quotas, etc.), rather than on the social and financial aspects linked to how the markets functioned. This also relates to the training given to the key personnel of the local management structures in charge of managing the market and keeping the accounts. One of the results of this are the cases of embezzlement of funds experienced by many management structures where accounts registers are incomplete and where committee members have become accustomed to the possibility of taking non-registered loans.

Secondly, the importance of a close monitoring of the rural fuelwood markets has been seriously under-estimated. Projects are too often focussed on the importance of achieving numeric and visible targets, rather than on creating conditions which will ensure that what has been started will also continue to function in a sustainable fashion. The project logic and the rigid framework accompanying this do not favour a more flexible approach incorporating action-research. Arriving at a balance between the need

for measurable indicators and the ability to follow through an evolutionary process is necessary, but not easy. As the experience from Takiéta shows,[63] the transfer of responsibilities relating to the community's natural resources (forest, pastures, water resources) is a long process, which needs to be flexible and evolving, and which demands time.

Thirdly, the option chosen of employing a team of national experts for the total duration of the project has not been very effective. In fact, as implementation moved forward, the composition of the team should have been adjusted to take this into account; at the same time, an effective performance monitoring system should have been introduced. In the absence of this, numerous frustrations emerged between project partners, the line ministry and the donor. Equally, the decision taken to sub-contract tasks linked to the creation of rural fuelwood markets to a single private contractor rather than opening this up to a larger number of contractors – as was done in Mali – is regrettable.

Finally, the absence of reference documents, such as simple forest management plans, well understood by all involved parties – including the villagers – has certainly had a negative effect on the performance of the rural fuelwood markets. The absence of a clear common understanding between the different stakeholders – notably the local management structures and the forest services – has negatively affected the functioning of the rural fuelwood markets. This has resulted in a lack of transparency at every level, and has contributed to a climate of abuse and repression.

[63] See: Voyt, J., *et al*, 2000, Hannu Bigni Ko Ichuda Juna - Strength in Unity: shared management of common property resources. A case study from Takiéta, Niger, IIED, *Securing the Commons* no 2.

Annex 1

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STATUS OF THE RURAL FUELWOOD MARKETS VISITED (SAY, KOLLO, GOURÉ) AND IDENTIFICATION OF THE 25 MARKETS SAMPLED

Note: the markets sampled for the field study are highlighted in grey

Arrondissement of Say

No.	Market	Date established	Distance category	Type of market	No. of woodcutters	Woodland area	SLG members	Status
1	Allanciai	1996	3	directed	19	16737	11	not operational
2	Balguiti	1995	0	controlled	40	4211	9	operational
3	Balifa	2000	3	controlled	50	5285	9	operational
4	Beesara	1995	3	controlled	28	5280	9	operational
5	Bolsi1	1995	3	directed	10		9	not operational
6	Bosangai	2000	3	directed	50	3480	8	being established
7	Bossey bangou	1995	3	directed	11		11	not operational
8	Boulaba	1999	0	controlled	28	2133	8	not operational
9	Boulwaja	1993	3	controlled	40	2211	9	operational
10	Boumga-boumga	1994	3	controlled	20	2889	9	operational
11	Dabeguiti	1997	3	controlled	35	10436	9	operational
12	Degma	1992	3	controlled	20	3357	9	operational
13	Djael goulma	1995	3	controlled	30	4123	9	operational
14	Djael peul	1994	3	directed	17	06911	9	operational
15	Djandjandiri	1998	3	directed	15		9	not operational
16	Djangalo	1995	3	directed	19	2719	9	not operational
17	Dogona	1998	3	directed	10	41825	9	operational
18	Fourniougou	2001	3	directed	25	3303	11	operational
19	Golgawa	1995	3	controlled	20	6003	9	operational
20	Guesdoundoul1	1998	3	directed	23	6754	9	operational
21	Guesdoundou2	2000	0	directed	15		9	operational with Guesdoundoul
22	Haiandi	1994	3	controlled	25	41198	9	operational
23	Ibove	2001	1	controlled	14	9079	9	operational
24	Kakou	1996	3	directed	23		9	not operational
25	Kankani	1993	3	controlled	60	9921	9	operational
26	Kiki-boumga	1999	3	controlled	27	9079	9	operational
27	Kodiori	2000	3	controlled	40	4191	9	operational
28	Koka	1998	3	directed	25	6204	9	operational
29	Konandere	1995	3	directed	16	4331	8	operational
30	Korogoussou	2001	3	directed	21	9119	11	operational
31	Kourfa	1995	0	directed	20	7527	9	operational
32	Koutougou	1995	3	directed	10	3892	9	not operational
33	Lanabouga	1993	3	controlled	15	4484	9	operational
34	Mandare	1996	3	directed	15	9025	9	operational
35	Mangoni	2000	3	controlled	45	1894	9	operational
36	Mayonga	1990	3	controlled	20	1790	9	operational
37	Massinga	1992	3	directed	60	7671	11	operational
38	Nambiri	1993	3	controlled	14	5313	9	operational
39	Natchiboma	1999	3	controlled	25	2796	9	operational
40	Nyaro-bajera	2000	3	directed	45		8	not operational
41	Nouvelma	1990	3	controlled	27	3352	11	operational
42	Oura-ambere	1995	0	controlled	17	2041	9	operational

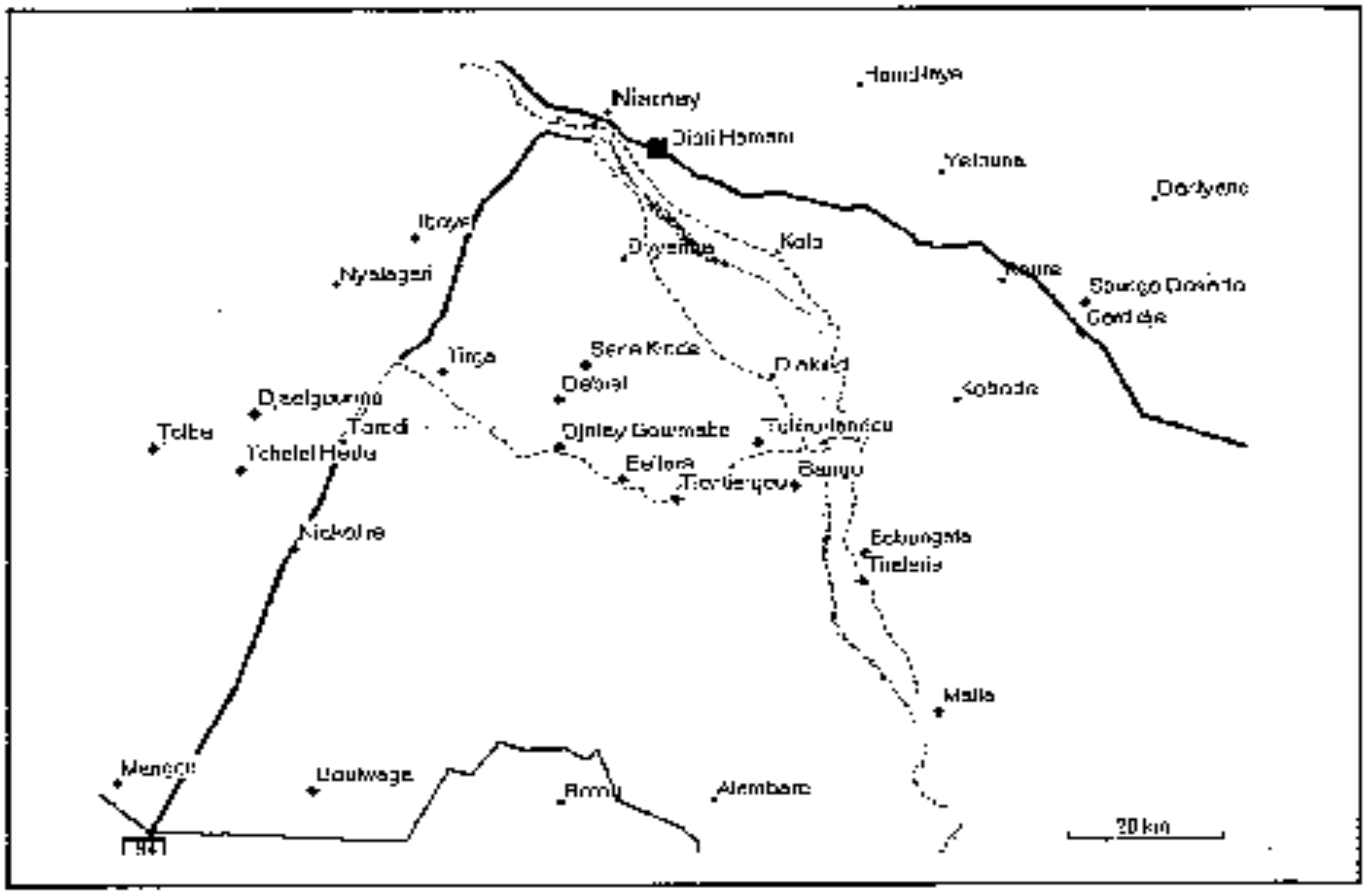
43	Ouro-barké	1996	3	directed	12	2525	9	operational
44	Sanayaura	1993	3	directed	20	4072	9	operational
45	Sandagou	1995	3	controlled	20	4277	9	operational
46	Saoura	1998	3	directed	11	6997	9	not operational
47	Kogoucl	1990	3	directed	17	37174	9	not operational
48	Tabaré-diéna	1991	3	controlled	20	962	9	operational
49	Tanpotigo	2000	3	directed	20	4165	9	operational
50	Tapaqué	2003	3	directed	11	8597	9	not operational
51	Tchamboli	1999	3	controlled	30	8995	9	operational
52	Tchangali	1995	3	directed	23		9	not operational
53	Tchégué	1998	3	directed	18	6754	9	not operational
54	Tchékel-pékel	2006	3	controlled	37	3353	9	operational
55	Pauli	1995	3	directed	13		9	operational
56	Tyga	2001	2	controlled	31	8650	9	operational
57	Tulba	1998	3	directed	28	11173	9	operational
58	Tombolo	1995	3	directed	20	10365	9	operational
59	Bangu	1992	2	controlled	52		9	operational
60	Bellaré	1993	2	controlled	50		9	operational
61	Dérnari	1994	2	controlled	50		9	operational
62	Dékiel	1994	2	controlled	32		9	operational
63	Fatobarotye	1992	2	controlled	22		9	operational
64	Foumbo	1994	2	controlled	40		9	operational
65	Yantidé	2000	3	directed	35	2211	9	operational
66	Seyni Jango	1993	2	controlled	10		9	operational
67	Tchélel béli	1995	2	controlled	30		9	operational
68	Tchiro fandou	1992	2	controlled	32		9	operational
69	Tiandiangou	1992	2	controlled	30		9	operational
70	Bandiora	2002	3	controlled	23		9	operational
71	Tchirboye	2002	3	controlled	37		9	operational
72	Panoma	2002	3	controlled	16		9	operational
73	Gassira	2002	3	controlled	22	6285	9	operational
74	Niakaina	2002	3	controlled	39	4782	9	operational
75	Bodal	2002	3	controlled	10	3216	9	operational
76	Tatol	2002	3	controlled	18	4926	9	operational with Banteri
77	Sofoya	2000	3	controlled	19		9	not defined
78	Tchélel Hefa	2002	3	controlled	20	1510	9	operational
79	Banteri	2002	3	controlled	32		9	operational with Tatol
80	Tongouga	2002	3	controlled	46		9	being established
81	Makalondi	1995	3	directed	46		9	operational
82	Potol2	1995	3	directed			9	operational
83	Djolay Tiélikaou	1995	3	controlled			9	operational
84	Djolay Gourmatie	1995	3	controlled	35		9	operational

Arrondissement of Kollo

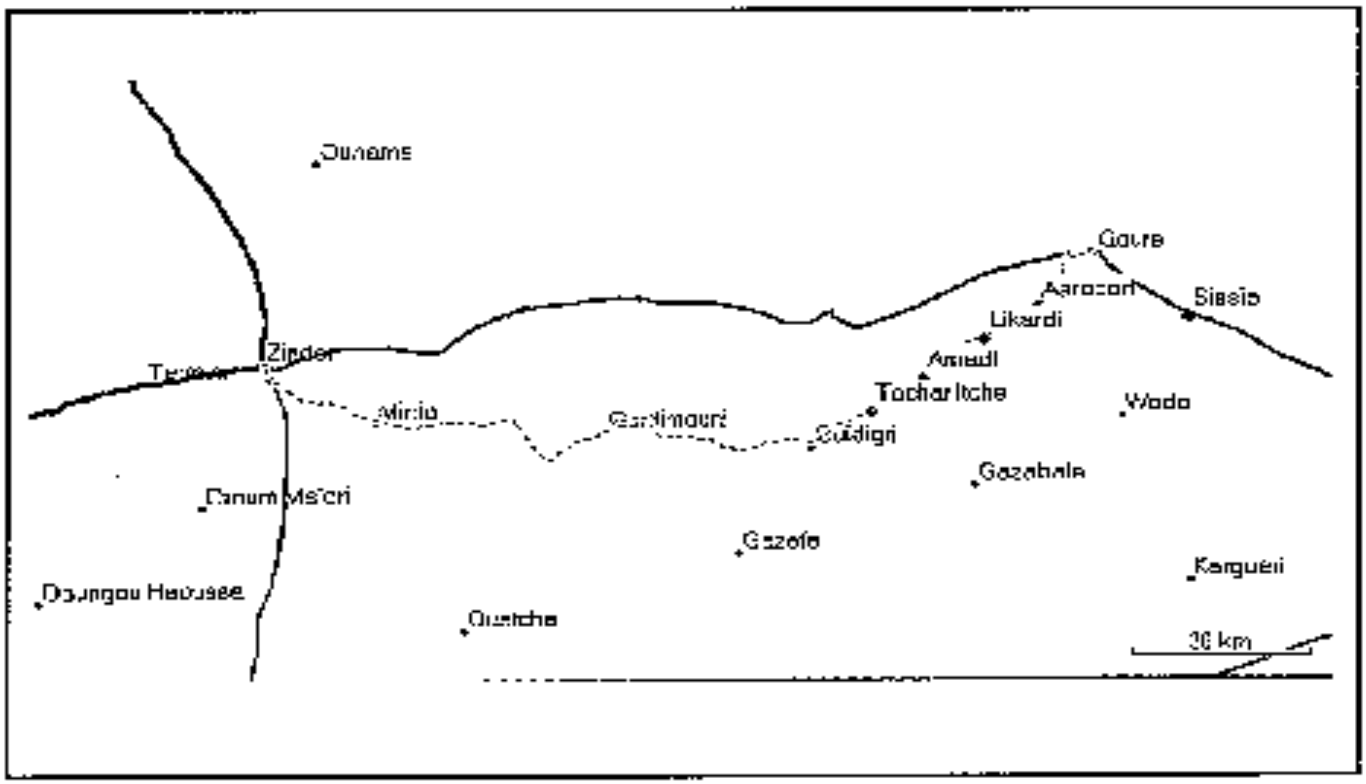
No.	Market	Date established	Distance category	Type of market	No. of woodcutters	Woodland area	SLG members	Status
1	Babangarbi	1994	3	controlled	34	5156	9	operational with Tirafari
2	Tirafarie	1994	3	controlled	40		9	operational with Babangarbi
3	Banizoumbou	1965	3	controlled	30	6143	9	operational
4	Kirtachi Seybou	1994	3	controlled	15	654	9	operational
5	Kirtachi Zero	1987	3	controlled	27	5451	9	operational
6	Korogoungou	2001	3	controlled	16	8405	9	not operational
7	Malli	2002	3	controlled	15	1971	9	operational
8	Seyo	1995	3	directed	25	915	9	operational
9	Sounga Bon	1995	3	controlled	35	2958	9	operational
10	Sounga Kaina	2001	3	controlled	27	868	9	not operational
11	Soungui Dossodo	1994	3	controlled	32		9	operational
12	Tondikou	1993	3	controlled	22	4894	9	operational
13	Manga Kouara	2002	3	controlled	27	2447	9	not operational
14	Toulaye	1997	3	controlled	16	1342	9	operational
15	Bagney Bangou Zero	1998	3	directed	32	956	9	operational
16	Bagney Bangou Tegui	2001	3	controlled	30	1109	9	not operational
17	Dolhy	1997	2	controlled	25	3543	9	operational
18	Gandidjo	2001	2	controlled	17	2202	9	operational with Simakoutana
19	Karabedji	1997	2	controlled	30	2188	9	operational
20	Kourou	1995	2	controlled	31	2483	9	operational
21	Sina-Kouara	1997	2	controlled	25	2212	9	operational with Gandidjo
22	Tchoubi	1997	2	controlled	27		9	operational
23	Tondey	2001	3	controlled	30	2715	9	not operational
24	Bolourousoye	1995	3	controlled	15	2658	9	not operational

Arrondissement of Gouré

No.	Market	Date established	Distance category	Type of market	No. of woodcutters	Woodland area	SLG members	Status
1	Arnedi	1993	3	controlled		810	9	operational
2	Fay Fay	1993	3	controlled		1377	9	operational
3	Tchoi Tcho	1993	3	controlled		2510	9	operational
4	Aeruguri	1998	3	controlled		2372	9	operational
5	Likaridi	2000	3	controlled		1547	9	operational
6	Issoufouri	1993	3	controlled		1035	9	operational
7	Sissia	2001	3	directed		759	9	operational
8	Gaessala	1993	3	directed		431	9	not operational
9	Arémari	1993	3	directed		61	9	not operational
10	Abori	2001	3	directed		34	9	not operational
11	Abki	1993	3	directed			9	not operational
12	Dan Adji	1993	3	directed			9	not operational



Map 3-A. Rural fuelwood markets visited in Say and Kollo (Bassin de Niamey)



Map 3-B. Rural fuelwood markets visited in Zinder Region

FISCAL DATA SOURCES

3 Annex

A. Fiscal data gathered from the BTPN. In February 2003, fiscal data for the year 2001 was made available. The fiscal receipts in FCFA have been converted into steres according to the relevant tax level: 975FCFA for the uncontrolled zones; and 315 FCFA (controlled) and 340FCFA (directed) taking the middle distance category as an estimated average distance (40-80 km.) for the rural fuelwood markets.

B. The data for the Niamey woodfuel consumption are based on the studies carried out in 1996 and 2003, with estimates for the year 2001 being arrived at through a linear model.

C. Project Data PED/GTA on the basis of the figures for stock in hand, Bassin de Niamey

D. Fiscal data provided by the Audit Company Panel, Kerr and Forster for the Collectivité de Say (see bibliography), notably data gathered from the Receveur de l'Etat and the Secrétaire de la Collectivité.

E. Data gathered by the study team during February 2003, for the rural fuelwood markets in Say, based on the information contained in the tax coupon books in respect of the funds received by the forest agents, and confirmed by their signature acknowledging acceptance of the cash.

KEY PROVISIONS WITHIN THE DECENTRALISATION LAWS

Annex 4

Seven laws have been passed providing the overarching framework of the decentralisation process in Niger:

- *la loi n° 2001-23 du 10 août 2001 98-30 portant création de circonscriptions administratives et de collectivités territoriales;*
- *la loi n° 2002-12 du 11 juin 2002 déterminant les principes fondamentaux de la libre administration des régions, des départements et des communes ainsi que leurs compétences et leurs ressources;*
- *la loi n° 2002-13 du 11 juin 2002 portant transfert de compétence aux régions, départements et communes;*
- *la loi n° 2002-14 du 11 juin 2002 portant création des communes et fixant le nom de leurs chefs-lieux;*
- *la loi n° 2002-15 du 11 juin 2002 portant création de la Communauté Urbaine de Niamey;*
- *la loi n° 2002-16 du 11 juin 2002 portant création de la Communautés Urbaines de maradi, Tahoua et Zinder;*
- *la loi n° 2002-17 du 11 juin 2002 déterminant le régime financier des Régions, des Départements et des Communes.*

La loi n° 2001-23 du 10 août 2001 98-30 portant création de circonscriptions administratives et de collectivités territoriales. This is a short bill outlining how the country will be divided into:

- Three levels of local government ("*collectivités territoriales*"): Regions, Departments and Communes (art 2); and

- Three levels of administrative structures representing the State at local level, having no legal status (*personalité morale*) or independent financial resources (*circonscriptions administratives*): Regions, Department and Arrondissements (art 4). Moreover, communes act as agents of the central state (i.e. constitute also a *circonscription administrative*) for certain functions: publication of laws and regulations, maintaining public order & security, etc. (art 5).

There are two types of communes: commune urbaine (two criteria: dominant economic activity is services and more than 10.000 inhabitants) and commune rurale (two criteria: dominant economic activity is primary sector and at least 5,000 inhabitants) (art 3). Customary territorial units (e.g. villages, cantons, *groupements*) are part of the administrative structures.

La loi n° 2002-12 du 11 juin 2002 déterminant les principes fondamentaux de la libre administration des régions, des départements et des communes ainsi que leurs compétences et leurs ressources. This is a fundamental and substantial piece of legislation (180 articles) specifying the key principles underlying the decentralisation process in Niger.

The law confirms that the Regions, Departments and Communes are local government bodies administered by an elected council and an executive authority elected by the council with a legal personality, financial autonomy, and having their own personnel and estate. The government meanwhile is represented by a Governor at regional level, a *Préfet* at department level, a *Sous-Préfet* at arrondissement level, and by the commune level.

The councils are elected for a term of 4 years on the basis of proportional representation. Although customary leaders cannot stand for office they are lawful members of the council with consultative functions.

All elected councils have been granted decision-making powers and responsibilities in a number of areas:

- Participation in formulation and implementation of their development plan including budget setting and approval, and the collection of taxes consistent with current fiscal legislation;
- Authorisation for the acquisition and cession of their private estate consistent with existing legislation, and the ability to request funds either from the government or other funding sources.

Specific responsibilities have been accorded to the different levels of government. Regions have overall responsibility for environmental protection and the design of plans for the management of natural resources including livestock corridors. Departments have been accorded responsibility for the implementation and the coordination of development programmes determined by the region including the construction, management and maintenance of public wells and livestock corridors. Communes are responsible for all public services that by their nature or importance are not the responsibility of the state, the region or the department including the construction, management and maintenance of public wells, environmental protection and promoting development activities on agriculture, pastoralism, fisheries, etc.

Although decisions taken by the municipal authorities are immediately effective on their publication, the representatives of the state have to confirm their legality and can ask for them to be modified or repealed. An innovative feature of the law is its provision for the councils of two or more regions, departments or communes to associate to manage services of an interregional, inter-departmental or inter-commune scope.

Various provisions have been made regarding the manner in which local government bodies will raise income to meet their budgets. These include transfers from the state either as subsidies or as transfer of revenues from taxes; local taxation within the

confines of the law; and loans and other potential sources of funds. Provision has also been made for local government bodies to have their own public and private estates, although it is not clear how in practice these are to be determined.

Finally, the law spells out how the decentralisation process will be monitored by a *Haut Conseil des Collectivités Territoriales* under the presidency of the Head of State.

La loi n° 2002-1 du 11 juin 2002 portant transfert de compétence aux régions, départements et communes. This is another substantial piece of legislation (161 articles) spelling out in more detail the discretionary decision powers to be transferred to local government bodies.

The law specifies that the principles of subsidiarity and distinctive competence determine the respective roles and responsibilities of the State and the elected government bodies. In this respect, local government have the right to manage the affairs for which they are responsible, and do so in collaboration with the State, but the latter is finally responsible for defining all sectoral policies, controlling *à posteriori* the legality of the decisions taken by local government, coordinating development activities, and ensuring national security and unity.

The law specifies that the transfer of responsibility from the State to local government bodies will also be accompanied by the transfer of adequate resources either through the right to receive a part of the State's taxes, direct taxation, grants or all three.

The table below highlights the more important of the discretionary decision making powers that have been accorded to local government with respect to natural resource management.[55]

La loi n° 2002-17 du 11 juin 2002 déterminant le régime financier des régions, des départements et des communes. This law, spelling out the fiscal regime of local government bodies, specifies three sources of potential income local government bodies can tap: tax receipts ceded by the State, local taxation and grants. There is also provision for a decentralisation fund at each level of local government, which, according to the law, will be supplied by the treasury as well as an "adjustment fund" to balance those budgets from poorer areas with funds from richer areas.

The law also makes a number of provisions with respect to expenditure specifying that local government be formally required to spend at least 45% of their budget on investments. Provision is made for local government to receive by right adequate funds to cover the costs of meeting those costs for which they are responsible.

[55] Other powers have been transferred in the fields of education, health, social development, administration and finance, transport and infrastructure, communications and culture, tourism, and sports.

Summary of transfers of responibillities to the Region, Department the Commune with respect to NRM issues

Area	Region	Department	Commune
Land Tenure	•To have a public and private estate. •Will be consulted in decisions regarding the management of the State's public and private estate.	•To have a public and private estate. •Will be consulted in decisions regarding the management of the State's public and private estate.	•To have a public and private estate. •Will be consulted in decisions regarding the management of the State's public and private estate.
Land use planning and urbanisation	•Participate in the design and implementation of the national development plan and national land use plan. •Design the regional land use plan in accordance with the national plan. •Establish contracts with the State to design and implement development projects. •Coordinate regional, inter-departmental and inter-commune land use projects.	•Participate in the design and implementation of the regional development plan and regional land use plan. •Design the departmental land use plan in accordance with the regional plan. •Establish contracts with the State to design and implement development projects.	•Participate in the design and implementation of the departmental development plan. •Design the urban development plan.
Environment	•Design regional environmental action plans. •Design regional forest action plans. •Design specific regional risk management plans. •Protect and manage forests and natural sites in accordance with the law. •Create conservation areas, gazette forests, protect and rehabilitate degraded land. •Authorise the clearing of its forest estate for farming. •Create and manage protected areas (including ranches) and protect wildlife.	•Assure the protection of the environment. •Design the departmental environmental action plan. •Participate in the re-organisation of rural tenure and equipment. •Manage the bushfire service. •Manage tourist sites.	•Assure the protection of the environment. •Design communal-level environmental action plans. •Set up and supervise the tasks of local bushfire committees.

Area	Region	Department	Commune
Livestock, Agriculture, Fishing, Hunting and water Development	•Design animal health programmes. •Manage inter-departmental livestock transhumance routes. •Design and implemental regional action plans for the development of agriculture, livestock, fishing, etc.	•Ensure the construction and maintenance of public dams, boreholes and wells. •Design animal health programmes. •Manage inter-commune livestock transhumance routes and pastures. •Design and implement regional action plans for the development of agriculture, livestock, fishing, etc. as defined by the State.	•Ensure the construction and maintenance of public springs and wells. •Provide support to development activities in agriculture, livestock, fishing, etc. •Construct, manage and maintain abattoirs and drying centres. •Design and implement regional action plans for the development of agriculture, livestock, fishing, etc. as defined by the department.
Administration and Finances	•Vote the regional budget. •Collect taxes within the confines of the law. •Arrange to borrow funds as necessary from various sources (State, national and international organisations) and within the confines of the law.	•Vote the departmental budget. •Collect taxes within the confines of the law. •Arrange to borrow funds as necessary from various sources (State, national and international organisations) and within the confines of the law.	•Vote the commune budget. •Collect taxes within the confines of the law. •Arrange to borrow funds as necessary from various sources (State, national and international organisations) and within the confines of the law.

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During a period of almost fifteen years, Danish development cooperation has been involved in the fuelwood supply sector in Niger, first through the World Bank (Projet Energie II, 1989-1998), and subsequently bilaterally, through the Household Energy Project (Projet Energie Domestique, 2000-2003). Taken together, these initiatives have contributed to the development of an approach known, in Niger, as the Household Energy Strategy – a strategy which, although not a legal document, is nonetheless supported by a number of legal instruments which formalise rural fuelwood markets and which have as their objective the establishment of decentralised management of fuelwood and the financial procedures necessary for this to function.

This study is an assessment of the results of this long period of involvement and is aimed at others working with natural resources management both in the Sahel as well as elsewhere. The Niger experience has already prompted similar approaches in other countries within the region (Mali, Chad, Burkina Faso) as well as further afield (Madagascar, Mozambique). The study also supports the consolidation and further development of the Household Energy Strategy in Niger.

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