

SOCIOLOGICAL AND ORGANIZATIONAL ASPECTS OF FUEL WOOD GROWING IN
TRADITIONAL COMMUNITIES: THE CASE OF NORTHERN TOGO

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SUMMARY

As in many other African countries, wood is the most important source of energy for the rural and urban populations of Togo. Traditional attitudes towards trees and prohibitive laws explain why trees are not planted "spontaneously" by local communities even though they are facing serious woodfuel shortage problems.

Promotion of tree planting has recently been taken up by government agencies and foreign funded projects. Most of them try to get local communities to plant trees, but their efforts are not always very successful. The reasons are manyfold:

- the lack of tradition where tree planting is concerned;
- the lack of familiarity with the proposed tree species;
- the "delayed reward" when trees have been planted;
- the absence of a fuelwood problem, according to the local population;
- the location of the newly planted trees: near the house? at the roadside ? round the field ?
- the social organization of the community, and the traditional land tenure system;
- the lack of certainty about the ultimate rights to the tree and the possibilities to cut it;
- absence of protection of the stands by a lack of motivation of the planter;
- in some instances: the price of the plants;
- the persons who are asked to plant the trees are not necessarily those that will have to cut them and use the fuelwood.

Recently, it has become clear that the key to successful reforestation lies within the local communities. Small scale approaches may well be the long term solution to the problem of fuelwood and energy supply, and involving women in the project interventions a further step in a more integrated approach. As it

is, the recent "social forestry" approach might well be the long expected solution. To meet the objective of having people plant trees, however, it will be necessary to establish a good extension service which not only starts initiatives but also assures a thorough follow up once the planting has started.

The problems that have to be overcome - or bypassed - remain difficult, but recent experience has nevertheless given some insight in how to solve them!

KEYWORDS: woodfuel, Togo, reforestation, integrated development

1. INTRODUCTION

Togo has no well defined forestry policy. The exploitation of forests and natural vegetation is restricted by a very severe réglementation. The felling of trees and the utilization of wood products by individuals is controlled and limited. This might be a good measure in itself, if the natural reserves would be managed in a proper way. As it is, this is not the case.

Throughout the country and especially in the north, in the Région des Savanes, there are a few wildlife reserves and protected forested areas: Fosse aux lions, Réserve de faune de l'Oti, Parc National de la Kéran, Forêt de Galangachi. Lack of proper management of fauna and flora create a lot of problems in these reserves, but this is beyond the scope of this article.

Most of the Région des Savanes consists of farmland, with houses scattered in the landscape. Villages with houses concentrated round a market place or dispensary are only found near important roads. Remnants of the original, natural vegetation are found in places which are difficult to reach, or where the soil is useless for agricultural purposes. Apart from this, one can still find small fetish tree stands, which are kept intact by the local people. There are also a number of areas which have been planted with trees. The numerous Tectona grandis stands are worth mentioning. They have been planted in colonial times, but lack of management (it is strictly forbidden to cut branches or prune the trees) results in the teak trees' wood having only limited value for construction or furniture. In the north of the country the teak is at the limit of its ecological zone. It has become a deciduous tree there (the influence of a pronounced dry season) which limits the vegetative development.

In what follows we will have a look at the woodfuel problem in Togo, with a special reference to the situation in the northern region. We will also discuss some solutions to the encountered problems. The data for this study were collected during several

study missions in the Région des Savanes.

2. WOODFUEL SHORTAGE

As in many other African countries, wood is the most important - if not the sole - source of energy for the rural and urban populations of Togo. The wood is used as fuel for direct consumption or for charcoal production and in construction. Especially in the north of the country there has recently arisen a problem of wood fuel shortage. The older people have been witness to the degradation of the vegetation during the last 50 years.

A case study in Tidonti, a village of some 1500 people, using aerial photography and field measurements shows that all tree species of the area have decreased in number over the last 40 years (1949 - 1985), except for the mango tree (Mangifera indica). This net decrease is caused by the difference between a small increase through natural regrowth and a large decrease due to natural mortality and man inflicted death through burning and felling.

Especially the women who have to fetch the fuelwood are conscious of the problem. The distances they have to cover to reach the fuelwood reserves are becoming larger by the year. For Dapaong, the capital of the Savanes region, the fuelwood comes from an area more than 10 km distant from the city; 15 years ago the urban population went to fetch its fuelwood itself in the vicinity of Dapaong, this is now impossible. Now, most of the woodfuel is sold on the market by people living in the rural areas around Dapaong.

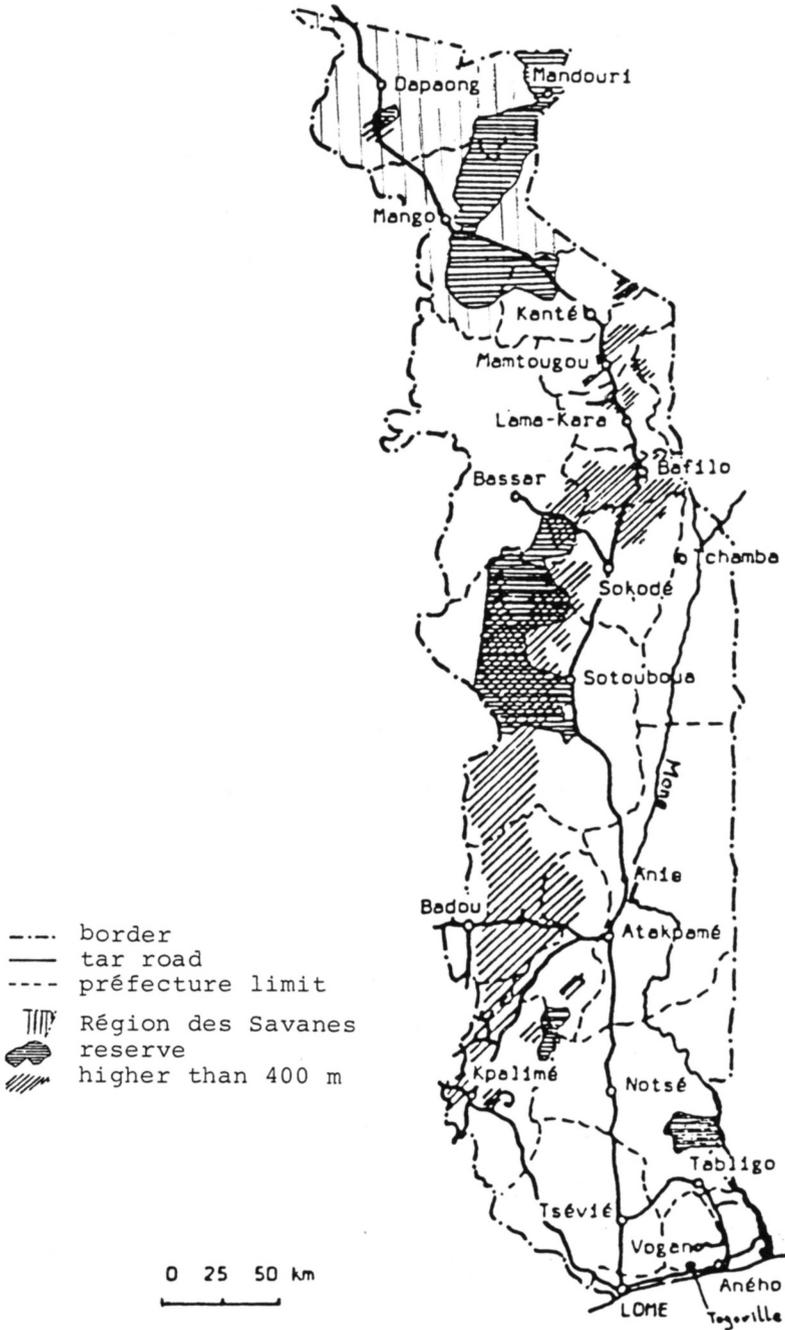
2.1. ALTERNATIVE SOURCES OF ENERGY

A direct symptom of the lack of fuelwood is the recent trend to use more and more secondary sources of energy.

Amongst the most popular are the sorgho (Sorghum bicolor) and millet stalks (Pennisetum americanum). Traditionally those are used to light a fire, in the first phase of the tchapalo preparation (traditional sorgho beer) and in pottery. In some areas, however, those stalks have become the only source of fuel "wood". They are stocked after the harvest (November/December) and used as long as possible. Once this supply is finished, the dwindling wood reserves have to be used. As a rule, stalks of sorgho have a better burning value than those of millet.

In some rare instances, animal dung is also used as a source of energy.

Map of Togo



2.2. THE TRADITIONAL ATTITUDE TOWARDS TREES

Another characteristic illustrating the fuelwood shortage is the disappearance of certain species of trees whose wood has properties that are especially appreciated by the local consumers. People are complaining that a lot of valuable species are no longer available.

In this respect, it is worthwhile to mention that the local people know their trees very well. The forest, with its trees and vegetation, is an integral part of the socio-cultural organization of the society. Every clan and each family within the clan has a very specific taboo tree. This tree is designated by the traditional medicine-man (boka). He is also the person in the community who knows all about the properties of the local flora. These properties have been accumulated through generations of experience. The trees that are under taboo are, traditionally, completely protected. Apart from these, this is also the case for a number of other trees, whose products are used, or sold, by the local people. The shea butter tree (Butyrospermum parkii) yields seeds whose oil is used in making butter. The dried seeds are also sold to be used in the cosmetics' industry. The West African locust bean (Parkia clappertoniana) gives fruits whose pulp and seed are regarded as foods of value. In Togo, people traditionally prepare a local "mustard" with it. The false kapok tree (Ceiba pentandra) has been planted in German colonial times; the fibres are used to fill mattresses. The African fan palm (Borassus aethiopum) is locally important for its fruits. The mango tree (Mangifera indica) is omnipresent. The red kapok tree (Bombax costatum) is appreciated for its flower which is used in the preparation of sauces.

The species which have been enumerated here are respected whenever they are present in the fields which are used for growing annual crops. Until recently they were, however, never planted actively by the local people. In general, they consider trees as a gift of God (yendù). They can have a social religious meaning or carry a special property (taboo tree, traveller's tree, the tree hit by lightning). In this context, it is clear that "to plant a tree" is a meaningless activity! This explains the lack of tradition in this field and the difficulties one encounters to promote tree planting by the local people. It is only during the last few years that people have started planting trees under the monitoring of several development projects.

2.3. REGLEMENTATION

The least one can say about the regulations for cutting trees and getting hold of and using uprooted trees and broken branches is that they are not very "consumer oriented". Each of these activities requires a permit. For each quantity of wood thus taken, one has to pay an amount of money that is equivalent to the weight of wood or the length of the stem. These sums have to be decided

upon by the head of state but this has not been done yet. This opens the possibilities towards "irregularities" with the controlling services.

3. TREE PLANTING

Promotion of tree planting has recently been taken up by government agencies and foreign funded projects. Most of them try to get local communities to plant trees, but their efforts are not always very successful. The reasons are manifold:

- the lack of tradition where tree planting is concerned;
- the lack of familiarity with the proposed tree species;
- the "delayed reward" when trees have been planted;
- the absence of a fuelwood problem, according to the local population;
- the location of the newly planted trees: near the soukhala (house)? at the roadside? round the field?
- the social organization of the community, and the traditional land tenure system;
- the lack of certainty about the ultimate rights to the tree and the possibilities to cut it;
- absence of protection of the stands by a lack of motivation of the planter;
- in some instances: the price of the plants;
- the persons who are asked to plant the trees are not necessarily those that will have to cut them and use the fuelwood.

Through several years of practice and experience we are, however, able to make a few suggestions of how to improve on certain of these points, or how to overcome them.

3.1. LACK OF TRADITION

In spite of the fact that the local people are not familiar with growing trees for woodfuel (cfr. supra), they seem aware of the fact that something has to be done. This is especially true in those areas chronically hit by excessive drought. In northern Togo people are also becoming interested in tree planting. They seem to prefer fruit trees and are not inclined to plant wood species, a fact which has also emerged from a good many studies discussing why people grow trees (if and when they grow them): they want them for fruit, shade, timber and renewal of soil fertility. If they plant trees for these purposes, the trimmings and dead branches, however, will come as a positive surplus product, meeting at least part of their fuel needs.

When asked which species they would like to plant they mention (in order of preference): Mangifera indica (mango), Anacardium occi-
dentale (cashew), Psidium guajava (goyave) and , to a lesser degree, Borassus aethiopum, Parkia clappertonia and

Butyrospermum parkii. Apart from these they mention one construction wood species: Tectona grandis and one woodfuel species Azadirachta indica (neem). The above mentioned species are ecologically well adapted to the Savanes region. The mango requires a short dry season for a good fruit set. The cashew requires a rainy season with at least 1,000 mm rain; this, together with a dry season of a few months results in a good production. In dry areas (500-1,000 mm rain per year), the cashew is also a good woodfuel tree.

Although people understand they have to plant trees, their choice is oriented towards those species they know already, or those they think will give them a product they can harvest regularly. They usually do not choose woodfuel trees. This might be due to the fact that the fuelwood shortage is still too recent a problem to be considered as really serious. They still have the alternative gramineous stalks they can use as a fuel source. Tree planting has not been promoted since too long either. So, most of the farmers are not aware there is a problem and, as a consequence, not of a solution either.

More efforts will be needed to make people realize there is an increasing wood supply problem, and that there are means to deal with it. Initiatives such as a national "Day of the tree" (in Togo: 1 June) where every man has to plant a tree are good ways to try and get the message across. Passive "indoctrination" through posters, radio and television broadcasts, postcards, and songs are other helpful means.

3.2. DELAYED REWARD

Most trees take a long time to develop. Therefore, the reward received for the effort of planting is sometimes long to come.

When first confronted with tree planting it will be advisable to offer a mixture of pure woodfuel trees and fruit trees. The fruit trees will start producing after 3-5 years and thus bridge the period that farmers have to wait before they can cut the wood trees. While the trees are growing the plantations will have to be maintained. Cutting of undergrowth, thinning and pruning will give the farmers small firewood.

When Eucalyptus is grown, trees can be cut after 6-7 years. The coppice regrowth guarantees repeated harvests without the cost and efforts of replanting seedlings each time; these subsequent harvests are on 5 years' rotations.

Projects promoting planting of trees can contract farmers to grow seedlings for them. This guarantees a revenue for the farmer (price paid per seedling). Moreover, the project will give assistance to the contracted farmers thus transferring new techniques and knowledge to them, and probably providing them with new production factors. When the project ceases its extension activi-

Bantan Siraa

Siraa!...Siraa!...
Siraa ne repond pas,
Siraa ne repondra plus.
Le grand et bel arbre,
Le fromager millénaire,
Majestueux Bantan Siraa!

Souvenir d'enfance,
Bantan Siraa!
Au marché du village,
Bantan Siraa!

Le vautour mélancolique
Et l'épervier nostalgique...
Pas d'ombre,
Pas de vie.
Rien, plus rien!
Bantan Siraa!

Une main meurtrière,
Un maudit
A fait retentir sa hache,
Un vandale
A taillé tes racines.
Bantan Siraa!
Bantan Siraa est mort.

Karamoko Oury Wann - Guinée



EEEEEE

Oh! Oh! Oh!
sans arbres
Pas de pluie!
Sans pluie, tu ne pourras
faire pousser ni manioc,
ni riz, ni fonio, ni plantation!

Décidément,
je dois être plus intelligent,
mieux informé que toi!

Du secours! Du secours!
Du Vandale!
Qui coupe les arbres,
Qui met le feu à la brousse!
Qui attire la sécheresse!
Du Secours!

ouf!
Il me faut beaucoup d'espace
pour mon champ de manioc!

ties, those farmers can continue to produce seedlings which can then be sold on the local market if and when the project took care to sell the trees to costumers instead of giving them away for free.

3.3. KNOWLEDGE ABOUT THE PROPOSED SPECIES

As described before, the farmers do not always choose the "right" tree species, when asked which (woodfuel) trees they would like to plant. Local communities, however, know a lot about their own traditionally used species, but unfortunately enough, these are often species that have hardly been studied by western science. Research should therefore be oriented towards testing native fuelwood species, confronting them with the properties of exotic species, that are used worldwide in reforestation and planting. It will take some years, though, before good, "new" and locally adapted species will be derived from this kind of research. Moreover, some of these native trees might have limited diffusion possibilities, e.g. if and when they are considered to be taboo by local communities.

It will, therefore, remain necessary to implement universally known species that have been succesful in similar ecological circumstances. For northern Togo this could mean: Eucalyptus camaldulensis (red river gum), Acacia albida, Acacia auriculiformis, Cassia siamea (yellow cassia), Leucaena leucocephala (leucaena or leadtree). Apart from thes the following species could also be used: Gmelina arborea, Albizia lebbek (woman's tongue tree), Prosopis chilensis (algarroba), and Prosopis juliflora (mesquite).

The advantages of the Eucalyptus have already been mentioned. Acacia albida is a tree that can be incorporated in an agroforestry (agriculture and forestry combined) or agrosylvipastoral system (the previous system combined with animal husbandry), because the tree is leafless in the rainy season when agricultural crops are growing, and has leaves in the dry season thus providing shade for cattle, and enriching the soil with humus and not competing with the crops for nutrients. Its roots go down rather than sideways, drawing up nutrients and using water that would otherwise be lost to local production. The tree produces poles, fuelwood and fodder for local needs. Moreover, agricultural practices can have a positive side effect on the growth of the trees. Ploughing aerates the soil, and makes it more permeable to water. Leucaena leucocephala grows well even with long severe dry seasons; its optimum lies within an annual rainfall range of 600 - 1,700 mm. Cassia siamea grows mainly in non-humid tropical climates with rainfalls from 500 - 900 mm. In drier areas, the species will only grow if its roots have access to deep soil moisture.

For all these species it will be necessary to assess the caloric value of the fuelwood that is obtained, and to confront this with

the subjective appreciation of the local users: in some instances people do not "like" to use certain species because of their poor burning value. Vulgarisation and extension efforts will have to try and convince local people of the advantages of certain species over the traditionally accepted ones. For northern Togo these traditional species are: Parkia clappertoniana, Butyrospermum parkii, Anogeisus leiocarpa, Tamarindus indica, Diospyros mespiliformis, Pachycarpus lineolatus, Sterculia setigera, and several Ficus spp. and Combretum spp.

3.4. LOCATION OF THE PLANTED TREES

There is no general rule as to where trees should be planted. It will be necessary to conform to the wishes of the local communities. The exact place and the configuration of the plantation (in a block or row, or scattered) will have to be taken into consideration.

When trees are planted to delimitate a plot, this can give rise to problems as people will use this as a means to increase their territory. When somebody plants a tree he can use all the (by)products of that tree: he owns the tree. It is but a small step to consider also the soil on which the tree stands as one's property. This conflicts with the traditional approach to land tenure, where the soil belongs to the community and is managed by a "chef de terre" - the man in charge of the community's (clan) territory. In this context, land is never a personal property. Land is never sold. The "chef de terre" allocates land to each family on a semi-permanent basis. He also distributes land for a limited period of time to people who are not a member of the clan. If such persons were to plant a tree on the land they borrowed, they would more or less indicate that they own the land. This would lead to conflicts. Reallocation of land, as is the traditional practice, every few years destroys any incentive for individuals to invest in the long term enterprise of tree growing.

When the trees are planted in blocks on pieces of wasteland, there is a problem with the protection against bush fires, the maintenance of the planted trees and the protection against damage by cattle and wildlife. This will especially be true when the plantations are at a distance of the soukhala.

Farmers have also difficulty in accepting as their "pro-perty" trees that have been planted at a roadside. As it is, the road belongs to everybody. This explains why they consider initiatives that want to promote the planting of trees alongside roads as coercitive. The result is that the degree of participation in this kind of set-up is often low.

3.5. THE TRADITIONAL LAND TENURE SYSTEM

The traditional land tenure system gives "power" to the "chef de terre", the man responsible for the allocation of land to individual farmers and their family. If land is used for tree growing it can no longer be allocated on a short-term basis. This can be a reason for the "chef de terre" to block any tree growing programme coming his way. The village as a whole will have to discuss the problem and try to find a consensus about where to grow what kind of trees, and about the ways the plantations should be tended, and how the wood will have to be divided among the villagers.

3.6. THE RIGHT TO CUT TREES

As mentioned before the Togolese laws prevent a rational exploitation of the forest patrimonium. Recently planted trees may only be cut after an official authorization has been given. There often is a great uncertainty as to whether this authorization will be given. This explains the lack of enthousiasm of a lot of local communities to plant trees. This can be overcome by passing a convention between official representatives of the government (e.g. the ministry of natural resources), the local community and a project that is promoting the planting of trees. For each planted tree the farmer receives a certificate by which he is entitled to cut the tree at maturity. The cutting will then be supervised by the local forestry agent but will not be taxed.

3.7. PROTECTING THE PLANTED TREES

The protection of planted trees can only be promoted through proper extension efforts. In this respect, initiatives that promote the planting of trees in schools have to be stimulated. In this way children are taught how to treat, protect and care for trees they have planted themselves. They will know how to do it themselves and will pass the message to the other family members in due course. As a general rule, it will be necessary that projects not only try to have people plant trees, but that they also organize an intensive follow-up with emphasis on current maintenance problems and the appropriate solutions.

On the technical level, it will be necessary to protect plantations against termites, rodents, small ruminants and cattle, or lack of water at the start of the plantation.

3.8. THE PRICE OF TREES

It will be a good measure to sell the trees that have to be planted. When received for free the value attached to them is almost nihil. When farmers are willing to pay for them this shows that they are already - to a certain level - aware of the fact there is a problem that has to be (and can be) overcome. On the other hand, the price can be an excuse for the farmers not to participate in the proposed scheme. In the specific context of

northern Togo, it is most probable that the uncertainty about the ultimate rights to the planted trees is the cause of the unwillingness to buy young trees. The price is then only a pretext.

Some, mostly large scale, projects give the trees for free, and sometimes add an extra bonus: for each number of fuelwood species planted, one fruit tree is added. This does not improve the quality of the plantations, though. A survey held in northern Togo, in an area covered by a European Development Fund project gave the following results (trees were distributed for free in packages of 50 fuelwood trees + 1 mango; data by Meys & Zijlstra, unpublished):

Species	Number of trees planted in 1983-1984	Number of trees alive in 1985	Percentage recovery
<u>Acacia auriculiformis</u>	2185	973	44
<u>Acacia albida</u>	71	37	52
<u>Eucalyptus camaldulensis</u>	255	56	29
<u>Leucaena leucocephala</u>	83	42	50
<u>Cassia siamea</u>	216	45	21
<u>Mangifera indica</u>	25	8	3
TOTAL	2835	1161	41

One can also wonder whether this "give away for free" policy is not counterproductive in the long run: nothing is done to motivate the farmers, and they are not consulted in the choice of species. Moreover, for a lot of these projects the purpose is to have a given number of trees (or a surface area) planted with trees. The chief concern is the number of trees that are planted, not the number that will eventually survive. As a consequence, all extension efforts are concentrated on the planting of trees, not on the maintenance of the plantations.

3.9 WOMEN AND TREES

Traditionally, project interventions in Africa have always been oriented towards men. In the case of firewood consumption, however, especially women are concerned and ought to be reached by projects dealing with fuelwood and tree planting.

Women have to go and fetch the wood. Women use wood for cooking. Nevertheless, men are contacted when the populations have to be mobilized to plant trees. Women are hardly ever invited to assist at the meetings preparing tree planting actions, and are never asked about their preferences for certain species or the possible locations for planting.

It would be advisable to involve women actively in tree planting

schemes. They are the ones that have to use the final product. As they are a target group, they will be more motivated to maintain plantations than their husbands. Moreover, tree planting can be coupled with actions that aim at saving energy (improved cooking stoves). This last topic is also a rather sensitive one, especially with women: the more energy saved, the less time lost in gathering woodfuel.

Ideally, tree planting is something which should be done by the community as a whole through a "social forestry" approach involving both men and women.

4. CONCLUSION

For too long, forestry projects have only aimed at having as much trees planted as possible, without considering whether those trees did actually survive, or whether the populations concerned were really happy with the project intervention, or the proposed choice of trees.

Recently, it has become clear that the key to successful reforestation lies within the local communities. Small scale approaches may well be the long term solution to the problem of fuelwood and energy supply, and involving women in the project interventions a further step in a more integrated approach. As it is, the recent "social forestry" approach might well be the long expected solution. To meet the objective of having people plant trees, however, it will be necessary to establish a good extension service which not only starts initiatives but also assures a thorough follow up once the planting has started.

The problems that have to be overcome - or bypassed - remain difficult, but recent experience has nevertheless given some insight in how to solve them!