Sida Evaluation 98/25

Sustainable Dry Forest Management

Sida-supported collaborative research project between Burkina Faso and Sweden

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Including a French short-version

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SUMMARY

Burkina Faso is one of the poorest countries in the world. The forests play a vital role for food security, and forest products are used as substitutes when crop abundance is low. Only few forest resources remain and the land is becoming degraded and converted into fields.

To address these questions a collaborative project between Institut de Recherche Biologique, Ecologique et Technologique (INERA, former IRBET) and the Swedish University of Agricultural Sciences (SLU, former SUAS) was established with Sida (former SIDA) support in 1992. The effect of selective cutting, grazing and fire on production of wood and fodder was studied. In a second phase, a socio-economic part was included were the forest uses by different local communities were described. Entomological surveys and soil studies were also initiated.

The current agreement of the programme terminates in June 30, 1998. Thus, this evaluation report will serve as an essential input for Sidas decision about the future support. The evaluation team (K. Gerhardt and K. Jonsson) visited Burkina Faso during one week in November 1997. The stay included visits to the field sites, relevant institutes and interviews with involved scientists. For the social-science component of the project, a desk-study of reports and published papers and interviews with some of the involved scientists were made by E. Evers-Rosander. In late November (1997) a discussion concerning the future of the different research components was held, where scientists from both countries as well as the evaluation team participated.

Relevance. The above mentioned problems are typical in an African context. Thus, the project as such is not only relevant for the Sahel region, but also for other parts of Sub-Saharan Africa. There are few existing experiments of this large size, and the results could become a key reference for management of African dry forests. The importance of the programme has also been emphasised by both the Ministries and the University.

Dryland management (with emphasis on semi-arid and sub-humid areas) in Africa is one of the priority areas within Sida, and a substantial number of research and development programmes are being supported. Sidas dryland programmes, including this project, do fit well within the objectives of the Convention to Combat Desertification (CCD) that entered into force in January 1997.

Sustainability. Without the financial support from Sida, none of the project components would have been executed. If funds were cut now, neither INERA nor SLU would be able to continue monitoring the experimental plots.

Scientific quality. The quantity of collected vegetation and forestry data is overwhelming, but most of it has not yet been analysed or is only presented as raw data reports. However, there are deficiencies in the experimental design, e.g. no soil survey made prior to the establishment of the main plots and the plots that allow cattle are not grazed by a determined numbers of cows (they are open for free grazing). The quality of the results emanating from the socio-economical studies is good, although overlappings in the reports by the researchers give the impression that relatively few new findings have come out.

Capacity building. The project has served as a base for several students at different levels of graduate studies. In Burkina Faso one doctor in pastoralism has emerged from the project and two DEA's (corresponding to MSc's). In Sweden two Ph.D. students and one senior scientist can be considered being part of the capacity built. However, no interdisciplinary capacity has been built so far.

Gender issues. Among the involved persons in the programme (both Swedish and Burkinabé) there has not been one single woman. In the socio-economic studies, attention to women's situation have been shown in various passages. However, there should be room for more research on women's activities in relation to forest management.

Collaboration. Although there is a common general objective, the programme is neither a true collaborative programme nor inter-disciplinary arranged. The studies are made within the same field sites, but not always linked with each other (there are a few exceptions). It appears there has been few meetings between all involved scientists to address the above issues, which also reveals weaknesses in communication and coordination of the programme. SLU (Dept. of Silviculture) has been responsible of the programme and is signatory of the main project agreement with Sida. The administrative coordinator at the department has made things run smoothly, but has no research activities in the project. Although a steering committee was established in 1996, they have only met once.

FUTURE RECOMMENDATIONS

The team primarily suggest a prolongation of the current phase with one year (July 98 - June 99). During that period focus should be set on analysing and publishing (preparation of manuscripts) of collected data. At the end of the year a synthesis of all studies performed (within the entire project) should be available in English, with a French summary. In the international seminar planned for November 1998 both scientists and other national stakeholders should be invited.

Towards the end of 1998 a research plan and a budget for a possible third phase will have to be elaborated. Interdisciplinary collaboration between the different project components is recommended, as well as a more holistic approach, where both farmer's and pastoralist's use of the forest resources should be integrated. In Burkina Faso, the scientific and administrative coordinators need to collaborate and also involve more scientists with other skills. SLU/Department for Silviculture need to engage an experienced scientific coordinator (preferably at professors

level) with good abilities to collaborate within and outside the University. On the basis of the quality of the research proposal and the existing publications (per-reviewed according to normal scientific standards), Sida will take a decision about future funding.

Recommendations for a possible phase three

Collaboration and exchange between Burkinabè scientists and East African scientists (of which some come from other Sida supported regional dryland projects) should be initiated. Burkinabè scientists could also visit East Africa in a possible future phase.

A simplified protocol should be developed where the number of measurements is substantially decreased (depending on research focus). The grazing and non-grazing treatments should be revised and improved and the number of cattle/plot be controlled.

More graduate or undergraduate students should be involved in the research project in Burkina Faso. An economist and a student of law would preferably be attached to the group. A woman researcher, preferably a sociologist/anthropologist is also needed.

Swedish scientific collaborators should be encouraged to publish together with Burkinabès in English as well as French. The request from the Burkinabé scientists to have direct collaboration with Swedish scientists within the same field should be acknowledged.

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1. Background - Introduction

The Sudano-Sahelian region of Africa is characterised of one long dry season and a short rainy season. More precisely in Burkina Faso the yearly precipitation varies between 600 and 1000 mm. Agriculture is the main source of income and the country is covered by fields, cultivated with traditional techniques. There exist a number of natural forests (of the gallery forest type), but they are increasingly being converted into pastures and fields. In order to protect these forest formations, the French Colonial Administration decided to protect some forests ("forêt classée") in 1940, among them the field sites of this research project (Tiogo and Laba forests). In the protected forests, all agriculture activity including grazing and cutting of dead (dry) and alive (green) wood is prohibited

Sweden has between 1983 and 1994, through UNSO (United Nations Sahel Office), supported a regional environmental program in Senegal, Niger and Burkina Faso. In Burkina Faso the regulated exploitation of dry and green wood in the natural forest was introduced as one activity in the program. However, the mode of exploitation was not well known and the need for management plans for exploitation of dry as well as green wood was needed. As a result, a research project addressing these questions was initiated in 1992. A collaborative project between Institute de Recherche Biologique, Ecologique et Technique (IRBET, now INERA, Institut de l'Environnement et de Recherche Agricoles) and the Swedish University of Agricultural Sciences (SUAS, now SLU) was established with Sida (SIDA) support. Experimental areas were installed first in Tiogo and later in Laba. Scientists from Sweden and Burkina Faso were supposed to work collaboratively in order to fulfil the objectives of the project.

Centre National de la Recherche Scientifique et Technologique (CNRST) prepared a strategic plan for all national research in 1995/96. All stakeholders concerned were involved - the university, extension agencies, NGOs, research institutes etc. According to that plan CNRST (acronyms see Appendix 1) should be reorganised. The reorganisation was initiated in the beginning of 1997 and is still ongoing. All research programmes are subject to decentralisation and the country is divided in five regions where each region will have its own administration and be partly autonomous from the head quarters at CNRST in Ouagadougou. The former IRBET, now the department of forest production (Departement de la producion forestiere) is part of INERA, which is one of four institutes under CNRST. As the reorganisation is very recent, it is difficult to judge the effects of the new structure on the research project. The Swedish supported project will have its administration in Saria ca 30 km from Koudougou where the field office is located (approximately 100 km from the capital). Most of the scientists formerly based in Ouagadougou will be transferred to Saria and other research centres within the CNRST organisation.

Other departments at INERA are "Dept. de la production végétale", "Dept. de la production animale", "Dept. de la Gestion des Resources Naturelles et Système de Production" (see the enclosed organigramme). The latter department is meant to be a link to the practical users of research results obtained. There are also plans to install regional dissemination divisions, all with the objective to transfer results to the farmers concerned.

Another institute involved in this programme is INSS, Institut National des Sciences Sociales (former IRSSH, Institut de Recherche en Sciences Sociales et Humaines). The socio-economic aspects of the forest management is studied by scientists at INSS in collaboration with a doctoral student at Uppsala University, Department of Cultural Anthropology and Ethnology.

A French version of the Evaluation is found in appendix 4.

2. Objectives and design of the project

The project was initiated and designed by Professor J. Fries at SLU and the former IRBET-CîRAD expert in Burkina Faso, Dr Y. Novellet. Although Fries is retired, he still has an advisory role in the project.

The overall objective of the project was to find and improve management methods for sustainable exploitation of the natural forests. The effect of selective cutting, grazing and fire on production of wood and fodder (i.e. tree leaves as well as herbs/grass production) was studied.

The experimental design include treatments with and without cattle, different fire regimes (early and late, dry season burning) and different cutting regimes. There are in total 18 treatments with 4 replicates in 50x50m plots (covering an area of 18 ha per site). The experiments were installed in two forests, Tiogo and Laba, 150 km west/southwest of Ouagadougou. Measurements of species composition, resprouting vegetation, phenology of trees, biomass production of woody as well as non-woody species are being assessed regularly in the different treatments.

In phase two (beginning from 1995), a socio-economic part was included were local valuation of forest products and management by different local communities were described in four villages. Entomological surveys were also included where general inventories were followed by studies of effects of the above mentioned treatments on specific insect groups. Soil studies were initiated, where general analyses and studies of treatment effects of soil characteristics and on the soil fauna were made.

In the first agreement, (1992-1994) an amount of 5.7 milj. SEK was allocated to the project, of which 70% went to SLU and 30% to Burkina Faso. In the second agreement (mid 95 - mid 98) 5,2 milj SEK was allocated. 50/50% has been allocated to the Swedish and Burkina part, respectively. Of the Swedish part only 10% of the funds has been allocated to the socioeconomic study, with similar proportions in the Burkina part.

3. Objectives and methodology of the evaluation

The current agreement (phase two) of the programme terminates in mid-1998. The evaluation report will thus serve as an essential input for Sida's decision about the future support and give directions for activities of the programme in a possible third phase.

The relevance and sustainability of the programme is examined. The capacity that has been built and the scientific quality of results is also assessed. The report includes observations on collaboration within the team of researchers, and on the linkages with other stakeholders in the field of research and forest management.

The evaluation team (K. Gerhardt and K. Jonsson) visited Burkina Faso during one week in November 1997. The stay included visits to the field sites, the field office in Kodougou and INERAs offices in Ouagadougou. All involved scientists were interviewed individually. A list of people met are found in Appendix 2.

For the social component of the project, the evaluator's (E. Evers Rosander) tasks were limited to a desk-study of published results and interviews of some of the involved scientists. Focus was put on questions concerning scientific quality in relation to other current research of relevance, on methodological issues and on the contribution to the generation of research capacity in Burkina Faso and Sweden.

In late November 1997 a common discussion concerning the future of the different research components in the project was held at Uppsala. Scientists from Burkina and Sweden participated as well as the evaluation team. Some general conclusions from the evaluation was presented and discussed.

4. Relevance

The problem (in an African context)
Burkina Faso is one of the poorest countries in the world. The population depend almost entirely on national food production. The country suffers regularly from crop failures caused by irregular rainfall and lack of proper agricultural techniques. An increasing population pressure, tenure problems, with many different ethnic groups claiming access to land, make the demand on land very high. People convert the existing forests into farming fields and additionally, overgrazing and repeated fires in the remaining forests cause further land degradation.

Together with an increasing demand for firewood/household energy from the forest, the above mentioned problems are the main causes to the low food security in the country. The remaining forest resources are becoming scarce and are not sustainably used. The forests play an important role for food security as well as for conservation of biological diversity. Many forest products are also used as substitutes to millet and sorghum through the end of the dry season, and during the rainy season while waiting for the next harvest.

The above mentioned problems are typical in an African context. Thus, the programme as such is not only relevant for the Sahel region, and also for other parts of Sub-Saharan Africa.

In a scientific context
There are few existing experiments of this large size. Together with already collected data from the first five-year period, future monitoring (in the coming 5-10 years) will show long term effects. When analysed and published they could become a key reference for management of African dry forest formations, particularly, as today's legal (and illegal) extraction of fuelwood at certain rotation periods, is merely an unquantified estimate not based on scientific evidence.

Concerning the socio-economic component, the reports are good although overlappings give the impression that relatively little new findings have come out from three years' research.

In a national context
The importance of the programme has also been emphasised by officials in both the Ministry of Environment and Water resources (MEE), CNRST and the University. The forest sites, apart from being assets for testing management systems, represent important biological ecosystems in the country. The plots are located within protected forests (forêt classée), with high biological diversity, and is thus a good base for observing the effects of common management measures (fire, grazing, selective cutting) on different species and on the biological diversity. The University is particularly interested in monitoring long-term changes of biodiversity in the Tiogo forest.

Although natural forest management is regarded as a high national priority, INERA has not had the strength and resources to employ sufficient numbers of researchers in forestry in this field. The existing foresters at the Dept of Forest Production, are all working with agroforestry and not with natural forest management.

For Sida
Dryland management (with emphasis on semi-arid and sub-humid areas) in Africa is one of the priority areas within the field of natural resource management at the Department of Research Cooperation (SAREC) and Natural Resources Environment (NRE). A number of regional capacity building and result oriented programmes exist within range-management /pastoralism, dryland biodiversity and as support for forest research grants (through the African Academy of Sciences and International Foundation for Science). NRE also supports several rural development programmes in drylands in eastern Africa.

Sidas dryland programmes, including this project, do also fit well within the objectives of the Convention to Combat Desertification (CCD) that entered into force in January 1997.

5. Sustainability

The salaries of the participating Burkinabé scientists are paid by INERA and INSS. However, all technical personnel (field assistants) travel expenses, the execution of field activities and purchase of necessary equipment (including cars), has been fully covered by Sida funds. In Sweden, part time salaries for involved senior scientists including the coordinator, and one full-time and one part-time supported PhD-student are covered by project funds.

Without the financial support from Sida, none of the project components would have been executed. If funds were cut now, neither INERA nor SLU would be able to continue monitoring the experimental plots. This also evokes questions about the research project's responsibilities towards the rural population and the kind of expectations that the researchers inevitably generate by their mere presence in and in the vicinity of the villages. This is not dealt with in the papers but is of course a crucial issue to consider when planning for the future of the project.

6. Scientific quality of studies and results

Today, the quantity of collected vegetation data is very large, but most of it has not yet been analysed or are only presented as raw data reports. The quality and the statistical design appear to be solid. But it seems that most of the data were collected before specific scientific questions were asked. Consequently, some of the data may never be utilised.

However, there are two major deficiencies in the experimental design:
1. There was no soil survey made prior to the establishment of the main plots. The soil scientist who was involved in the second phase has had an important role since vegetation responses could depend on differences in soil conditions rather than by the different treatments applied in the plots.

2. The plots that allow cattle are not grazed by a determined number of cows, but are open for free grazing. This makes grazing pressure (grazing/browsing and trampling) difficult to assess, and the results cannot really reveal sustainable levels of cattle-heads per unit-area.

The quality of the results emanating from the socio-economical studies is good. However, as mentioned above, the many overlappings in the reports of the different researchers give the impression that relatively little have come out from the three years' of research carried out. A wider research perspective is missing, where a deeper and more ambitious analysis of some of the issues dealt with could find its place, still leaving room for the individual researcher's professional abilities.

Specific comments to the different project components:

Woody production and wood density studies

The Swedish PhD student has focused on descriptive studies of wood density and dry matter production of a number of Sahelian tree species. The results can become a good base for further productivity studies. To a large extent he has based his production research on plots installed in the beginning of the 1980ies by the Ministry of Environment and Water resources, although the younger Tiogo plots are included for comparison. However, in these sites the soil conditions (both physical and chemical) are not, so far, determined. This is a deficiency as biomass production very much is correlated with soil characteristics and rainfall.

The data collected in the main experiment can serve as material for many more studies than what is used today, i.e. another forest production specialist should be linked to the research team.

Soil studies

With limited input rough soil maps of the experimental areas in Tiogo and Laba have been completed, including a general description of soil conditions (physical conditions and nutrient levels). As the team only briefly could look through the results, it is difficult to evaluate the sampling procedure. Linking soil characteristics to vegetation (herbs and woody species) should be considered a must if productivity of regeneration is to be determined. However, a study of species composition in relation to soil types has been initiated.

Effects of pasture production after fire

One PhD thesis was completed in 1995/96. The major emphasis has been put on analyses of the flora in the experimental sites and on an evaluation of the effects of early burning on woody and non-woody biomass production. Some observations have also been done on the palatability of fodder species and on the pharmacological use of trees and herbs found in the forest. Three or four scientific publication will come out of the thesis.

Regeneration biology of a selected number of tree species

The Swedish seed scientist has together with the Burkinabé pastoralist selected a number of the most common or valuable indigenous species which have been tested for seed quality and germination. Also artificial methods to improve germination is being tested. Phenological studies (flowering, fruiting etc) is regularly monitored. Seed fall quantity and quality are measured but without using standard methodology. The plastic buckets (to collect seeds and fruits) placed in the ground appear to be too small per unit area. Additionally, as they are open, they may be subject to predation by birds or rodents. Germination and seedling survival is studied by sowing seeds at different soil depths and under different covers (litter, grass, branches) to find the most suitable conditions. Data is being analysed, but no publications have come out yet.

A Burkinabè student (DEA) has made a thesis on the vegetative reproduction after the cutting and burning treatments. Vegetative reproduction (rootshoots and sprouts) is of great importance in dry forests, which has been verified scientifically in other studies world-wide.

It is a drawback that sexual and vegetative reproduction is studied separately, without making any comparative studies on the proportions of reproduction after different treatments. Such comparative studies would be important for the selection of management options, i.e. active plant desired species or vegetative reproduction. However, as scientists in most cases only have been engaged part-time, lack of time has been limiting the number of studies. Still, there does not seem to have been a collaborative identification of research problems in the beginning of the project, which if that was the case, clearly would have motivated the selected sub-studies.

Entomology

Knowledge of the insect fauna in forests is limited, and in the inventories many new species have been found. In addition, some target groups are selected for further studies because they play an important role to the local communities, like termites, which are used as chicken fodder, or the scarabideae-pollen predators on Mango. Additionally, the role of forest insect populations as biological predators on crop pests in the nearby farming fields is also studied. No publications have yet been made.

Immigrants and natives: their internal relations and reactions to the forest exploitation in Tiogo and Laba

The reports have contributed substantially to an understanding of the multifaceted and complex social realities and relationships which constitute land tenure as well as forest management. The current situation was analysed and themes for future research of relevance drawn up for gaining an increased insight into the problems.

The role of the sacred groves in the management of the classified forests This research have tried to find out ways of getting information about the culturally sensitive and secret issues without damaging people, and how to apply these knowledge's in practice without profaning and desacralizing their cultural heritage. The papers are interesting to read but a more elaborated ethnography and theoretical depth might have been desirable but the study could certainly serve as an important entrance into the more applied aspects of the theme.

Migratory movements and their impact on the environment
In this paper the the difficulties to apply participatory management is discussed. As long as the historical and the socio-cultural realities are ignored, the management efforts will be nothing but superficial. The relations to the state and to regional and local authorities must be taken into consideration. Being written by a historian, one could have expected a more detailed analysis of the colonial past and its effects on the current situation of the classified forests.

Management and the participation of the rural population
The socio-economic research has made it perfectly clear to us what everybody in the village knows, i.e. that the people because of lack of land do indeed clear land and cultivate parcels which form part of the classified forests. This is done secretly and is illegal. The analysis of the dialogue or the lack of dialogue between the foresters, the extensionists and the villagers is very interesting. The harsh conditions for the villagers' cooperatives dedicated to the chopping and sale of wood are also well described and one would very much like to have more data about this.

There is an extended report of the socio-economic evaluation in Appendix 3.

7. Dissemination of results

Nothing is mentioned in the project documents about dissemination of results, and therefore it has been difficult to assess from the limited number of publications that have come out. There are several channels and interested parties that need the information (see also section 11). INERA has recently created a system research and extension department, which may be able to assist in translating and transferring results to practical recommendations and to disperse the information properly. However, it is advisable to include information activities in a future phase of the project.

8. Capacity building

Since the beginning of the project, capacity has been built in both Burkina Faso and Sweden, although it never was specified as an objective in any of the project documents. Nevertheless, the project has served as a base for several students at different levels of graduate studies. In Burkina Faso one doctor in pastoralism has emerged from the project, two DEA (Diplome des Etudes Approfondies, corresponding to Swedish Masters degree) one in vegetative regeneration after cutting and burning and one in socio-economic aspects of the utilisation of the forests have been completed. In addition, several students, both Burkinabé and French, have completed practical field studies within the project in order to obtain their degree.

In Sweden one Ph.D student is working on his entire thesis based on field- work in Burkina Faso. Additionally, the work of the Ph.D. student in anthropology is also being partly covered by the project. At least four students have got the opportunity to do "Minor Field Studies" (MFS) and one senior (seed) scientist can be considered to be part of the capacity built in Sweden.

The research capacity in Burkina Faso could have been much greater if that aspect had been emphasised in the project. There are contacts established with the University of Ouagadougou and the project is ready to receive and supervise additional students for fieldwork and thesis writing. The project has offered conditions for field studies such as lodging, transport and labour in the field. However, there is a lack of candidates at the university. The number of governmental scholarships have decreased, the system for loans (FONER - Fond National de l'Enseignment et la Recherche) is far from sufficient in numbers and amount and the poor employment situation waiting for graduated students do not attract young students to continue their studies to post-graduate level. IDR (Institute de Developpment Rural), which is training engineers in agronomy and forestry and is part of the University, have been transferred to Bobo Dioulasso 360 km from the capital and this have resulted in a serious decrease of enrolled students.

Also the researchers in the socio-economic team would like to integrate more research students into the project, if it is prolonged. There is a special need for students of economy and law. The capacity building is to be seen in a long term perspective, though.

Generally, there seems to be no or very little collaboration between the different sub-projects, thus little interdisciplinary capacity has been built so far.

9. Gender issues

Among the students and scientists involved in the programme (both Swedish and Burkinabé) there has not been one single woman. In Burkina Faso few women do forestry or biology, thus there is a lack of females already at the university student intake. The women rather tend to choose medicine or pharmacology, than forestry.

Although there is currently no woman researcher participating in the socio-economic team two female extensionists who know and talk the local language have been employed during the field missions. They have made the interviews with the village women. Old and middle aged women and women leaders have been interviewed, especially the women traders. In the papers, attention to women's situation has been shown in various passages. However, there should be room left for more research on women's activities in relation to forest management. The female extensionists may be excellent interviewers, but to do proper direct or participatory observation, anthropological training is needed. It is important to integrate women into studies about forests and forest management. This is shown by the women's attitude to the forest as such, revealed in the ranking of forest products of the PRA. For the women, the product's importance depends on whether it could serve as food or not. Everything that grows - cultivated on land or wild in the forest - and can be used for the family's consumption is good, regardless of how the place where it is found is categorised by the researchers and the state authorities.

10. Collaboration between parties

The overall impression is that although the general objective of forest management exists in the mind of most involved scientists, the programme is neither a true collaborative programme nor inter-disciplinary arranged. The studies are made within the field sites, but not always linked with each other (there are exceptions e.g. soil-vegetation mapping). This may, however, be partly explained by the fact that the disciplines, except from silviculture, has been added to the project one, by one, without having had a thorough discussion about common priorities/objectives à priorì. Rather than choosing disciplines based on problem identification, the selection of new disciplines depended on the field of expertise available among the scientists at INERA. It appears there never has been any meetings between all involved scientists to address the above issues, which also is a sign of lack of communication and coordination of the programme.

Within INERA/INSS/research team

The problems that existed 1992-95 in terms of slow release of funds for field activities that existed in former IRBET, has for the moment disappeared. Improvements are caused by the decentralisation and re-organisation of INERA and CNRST. However, as the entire re-organisation has not been executed, like the movement of administrative personnel to Saria (closer to the field office in Koudougou), future changes are difficult to predict.

During the first phase of the project, the involvement of the CÎRAD expert made it possible to get funds released, he also was vital in coordinating and pushing of project activities, that otherwise would have been slowing down the execution of the different sub-projects. However, after INERAs reorganisation, which coincided with the transfer of the CÎRAD expert to Mali (independently of the reorganisation), administration appears to function rather well.

Movement of the INSS offices (at 10 km distance) from the Department of Forestry has made communication more difficult. INSS has had no separate budget within the project which has contributed to their isolation, as communication costs not has been covered by the project budget.

Within SLU research team/coordination

The Dept. of Silviculture has been responsible for the programme and is signatory of the main project agreement with Sida. The administrative coordinator at the department has made things run smoothly, but has no research activities within the project. Although a steering committee was established in 1996, they have only met once. Apparently, the interest from the institutional board is rather weak. Communication and collaboration between researchers is not clear-cut and free of tensions. Again, the project, seems to be divided into isolated sub-projects.

Between SLU and INERA

There is a general view that the programme suffers from lack of communication between the parties, and that collaboration is not always made on equal terms between Swedish and Burkina Faso scientists (with exception of social sciences team). Some of the misunderstandings are caused by language problems (not all involved scientists are bilingual).

Budgetary issues between SLU and INERA have not been transparent. Some of the Swedish expenses are budgeted on the Swedish side and some (e.g. field activities) on the INERA budget. Communication has in many cases only gone through the head of field activities and not through the administrative coordinator. This has made planning and execution of certain activities unnecessarily difficult.

Between CîRAD, INERA and SLU

CîRAD-Forêt has a general agreement with INERA in sending experts to INERA when requested. However, collaboration does not appear to be smooth. Although CîRAD experts have their own salaries and some research funds, they have in the first phase of the project coordinated and used data from the project. If CîRAD should have any role in the project in the future, it should be advisory, and national counterparts should employed (and possibly paid by the French), as to allow Burkina Faso to build its own expertise. It appears that CîRAD has less interest in supporting national capacity building, while it is one of Sidas main goals.

11. Other programmes/initiatives

As the project is based at a governmental research institute under the Ministry of Higher Education, there are several natural linkages to other governmental bodies such as the University of Ouagadougou and the Ministry of Environment and Water resources.

Within practical forest management, there exists a programme financed by FAO that has been going on since mid-1980. Management plans have been developed without scientific backup for silvicultural methods or forest regeneration. Today there are contacts established between the research project at INERA and the technicians directly involved with forest management under the Ministry of Environment (DFVAF, Direction de la Foresterie Villagoises et de l'Amenagement de Foret). Moreover those technicians express a wish to see and share results from the experimental sites.

Linked to the forest management planning, there is a mapping project mainly funded by EU (Confection d'outils cartographiques pour la gestion de l'environnement, Projet 7 ACP BK/031). The production of vegetation maps has been a priority in the research project but still no map is produced for the forests of the SLU-INERA project (Laba and Tiogo). There is however information to be shared particularly from Tiogo.

Many of the responsible professionals in the different projects have comparative advantages being trained in the same University of Ouagadougou. There are personal relations which are useful when working relations are established. This counts particularly for the "chef d'antenne" (field coordinator) who received all his training for a doctoral degree in the country and hence have contacts on most levels in the ministries and other projects.

A new program regarding traditional energy (RPTS) with funding from EU, Denmark, Norway and Holland is now executing a pilot phase and the programme is expected to last for five years with possible extension. The energy studies will partly be carried out as forest management of protected forest why the research results from the INERA-SLU project will become very useful.

The Danish Universities of Aarhus, Roskilde and Copenhagen have an agreement with the University of Ouagadougou (SEREIN - Sudano Sahelian Environmental Research Inititiative), where capacity building is one goal. It consists of collaborative projects, with Burkinabé PhD students doing field-work in Burkina Faso and taking their degree in Denmark.

FUTURE RECOMMENDATIONS

The team primarily suggest a prolongation of the current phase with one year to accomplish the following (July 98 - June 99):

- During 1998 focus should be set on analysing and publishing (preparation of manuscripts) of collected data. Louis Sawadogo should be provided a 2-3 months stay in Sweden to allow preparation of publications together with the Swedish scientists (Kenneth Sahlén and Robert Nygård). At the end of the year a synthesis of all studies performed (within the entire project) should be available in English, with a French summary.

- Some of the research themes within the socio-economic component indicated in the Working paper no. 3, will hopefully be initiated on the basis of existing empirical data. This will mean a new input into the studies, which will complement the 1995-1996 findings and open up for more collaboration with the researchers of the different research components.

- The international seminar planned by INERA, SLU and CÎRAD scheduled for November 1998 could consist of two parts:
  Part one: Information exchange of scientific results from similar efforts in the region, invitation should also go to younger scientists (e.g. IFS grantees), interested scientists from the university and other national stakeholders. Part two: Planning of phase three to set common goals and priorities including inter-disciplinary research. Main actors: involved scientists and the technical research committees (CRT) within INERA.

- Future research questions should be demand-driven and according to national priorities in Burkina Faso. In preparation of the third phase all stakeholders (both scientific and end-users) should be involved in the discussion.

- Next complete inventory of the whole experiment which are planned every 5 years (-92, and -97) should rather be made 2002 and not 1998 as suggested. A simplified protocol for the next inventory of the main trails should be developed where the number of measurements is substantially decreased.

- A small workshop should be arranged during 1999 where 5-8 East African scientists (of which some come from Sida supported regional dryland projects) are invited to exchange ideas and experiences (the African Academy of Sciences has an extensive network). Burkinabè scientists could also visit East Africa in a possible third phase.

If a third phase of the project should be initiatied, all involved partners have to coordinate efforts to develop a research plan towards the end of 1998. The plan should indicate long and short-term goals, theoretical frameworks and methodology. References to current scientific literature of relevance to be included. A more holistic approach would be needed, and other aspects of forest utilisation by both pasturalists and farmers have to be analysed together with forest management in the local communities.

For the Burkina part, the scientific and administrative coordinator need to prioritize, collaborate, and also involve more scientists with other skills. For the Swedish part, SLU/Department for Silviculture need to engage an experienced scientific coordinator (preferably at professors level) with good abilities to collaborate within and outside the University. An interdisciplinary collaboration between the different project components and an open-minded approach is recommended.

If a plan is developed with the above stated requirements, Sida will assess and review the plan according to scientific standards. The quality of the research proposal and the presented reports/scientific papers will be decisive for a decision of future support.

Burkina Faso - Administrative/financial issues

- INERA/CNRSTs' contribution to this project should be salaries and employment for the Burkinabè scientists (particularly the existing pasturalist should be paid by CNRST on a permanent base instead of being paid by the project funds). Technical personnel and possibly students grants could be supported by external Sida project funds.

- The routine for recruitment of personnel, students and others should be clarified. The choice among appropriate candidates should be done in dialogue between Swedish and Burkinabè scientists. The often very slow administration must be speeded up in order to avoid loosing good candidates (as previously has been the case).

- The present, relatively flexible system where only the signatures of the administrative coordinator and the head of finance at INERA are needed for release of project funds should be kept whatever happens to the administrative organisation.

- The research programme should have two BF coordinators:
  1) one administrative coordinator with the following merits and tasks:
  - administratively responsible for the different sup-projects/activities
  - working knowledge (bilingual) of French *and* English
  - be employed by CNRST
  - be informed/inform involved scientists of activities within the programme

  2) one scientific coordinator with similar merits as regards bilinguity, employment status with the following tasks:
  - be responsible for the coordination of field activities in accordance to the objectives set
  - arrange scientific meetings within the research group quarterly

  Terms of Reference for the coordinators positions should be written an agreed upon by all parties.

- The recommendations concerning "indemnitees" (per diem) made by Habib Kraiem 1996 must be followed, i.e. regulations telling who should benefit and to what amount must be discussed and agreed upon in the project team.

- The new agreements (possibly after the one-year-prolongation) should be established between Sida and INERA; thereafter INERA should make sub-agreements with INSS, SLU and Uppsala University (funds for the Swedish participation would be allocated directly from Sida, after an agreement between the parties has been signed).

- CNRST must seek additional financial support nationally or internationally, in order to improve the sustainability of the project.

- The financial audit from 1996 should be followed up in spring 1999 (possibly by Habib Kraiem).

Swedish - collaboration and administration

- A scientific coordination is needed also from the Swedish side, and if the Dept. of Silviculture should continue to be the leading institution in Sweden, the project must be firmly established within the hosting institution and an improvement of the engagement is needed.

- The Swedish coordinator (25%) should have working knowledge in English and French and spend 1-2 months/year in Burkina Faso.

Communication improvements

- The coordinators should arrange quarterly meetings (in Burkina Faso) with the project team to set administrative issues and coordinate scientific work.

- A yearly planning workshop should be arranged preferably in Burkina Faso with all involved scientists (Swedish and Burkinabé), to plan and harmonise all field activities/according to the objective.

- After completed field-work periods the Swedish scientists are asked to provide a short summary to the Burkinabé coordinators.

- Communication facilities need be improved at the field office in Koudougou and at INSS (fax and/or e-mail).

- Field logistics: The office in Koudougou which is provided with kitchen and bedrooms should to a larger extent be used by visiting scientists. The project may charge the guests to a reasonable amount.

- To improve the transparency between parties, the financial reports should be exchanged between SLU and INERA.

- INSS need to be autonomous i.e. have a budget fixed for their activities with a more direct access to the funds.

- Location of INSS offices: the present location of the INSS office is unlucky. Preferentially the office should be brought back to the original localities to facilitate tighter communication and interaction within the project team.

Scientific issues - capacity building - training

- A national forest production researcher should be included in the team. Training of a PhD candidate within the programme as to build competence in forestry/natural forest management can be an option. Competence in statistics does not exist and should be assured either by sending somebody for training or by using external expertise. If the latter alternative is applied the simultaneous build up of statistical capacity at the Department of Forest Production should be assured.

- The link to scientists at the university could be improved with minor support to university lecturers and/or students available for DEA and "doctorat de 3:ieme cycle". Field expenses for their research could be financed by the project and support corresponding to the amount of the governmental loans (FONER) for two to three students can be included in the budget. Scientists and students should also be encouraged to apply research funding through IFS and AAS.

- More graduate or undergraduate students should be involved in the research project in Burkina Faso. An economist and a student of law would preferably be attached to the socio-economic group for the study of the commercialisation of forest products. A woman researcher, preferably a sociologist or an anthropologist is urgently needed, not least to cover the study of livelihood in relation to land and animal husbandry and forest management.

- Swedish scientific collaborators should be encouraged to publish together with Burkinabès in English as well as French. The request from the Burkinabé scientists to have direct collaboration with Swedish scientists within the same field should be acknowledged.

- Publications between disciplines should be co-written. Contacts should be established with the rest of the scientific world outside the francophone area, particularly with East Africa.

- Within the project, there could be a part time engaged information officer employed, with some funds available to make information material to popularise results. The linkages with the extension department at INERA should be strengthened.

- Concerning the experimental design, the grazing and non-grazing treatments should be revised and improved and the number of grazing heads per plot controlled.

- Soil characteristics (both physical and chemical) are essential for the comparative studies of growth and increment that are planned within the current Swedish doctorand project, therefore we recommend the student to include soil sampling and analyses.

Appendix 1.

ACRONYMS

AAS: African Academy of Science
CCD: Convention to Combat Desertification
CÎRAD: Centre de coopération internationale en recherche agronomique pour le développement
CNRST: Centre National de Recherche Scientifique et Technologique
DEA: Diplôme des Etudes Approfondies
DFVAF: Direction de la Foresterie Villageoises et de l'Aménagement Forestier
ENRECA: Enhancing Research Capacity
FONER: Fond National de l'enseignement et la Recherche
IDR: Institut de Développement Rural
FLASHS: Faculté des Langues, des Lettres, des Arts des Sciences Humaines et Sociales
IFS: International Foundation for Science
INERA: Institut de l'Environnement et de Recherche Agricoles
INSS: Institut des Sciences de Sociétés
IRBET: Institut de Recherche en Biologie et Ecologie Tropicale
MEE: Ministère de l'Environnement et de l'eau
MFS: Minor Field Studies
NGO: Non Governemental Organisation
SUAS: (now SLU) Swedish University of Agriculture Sciences
UNSO: United Nations Sahel Office

Appendix 2

List of persons met in Burkina Faso

Michel Sedogo, Director of CNRST
Paco Sereme, Director of INERA
Louis Ouédraogo, Délégué Régional à Saria
Jean Marie Ouédraogo, Countability INERA
Sibiri Ouédraogo, Head of Department for Forest Production Research
Moussa Ouédraogo, Coordinator or the Project, enthomology researcher
Louis Sawadogo, Responsible of the Koudougou field activities, pastoralist/grazing researcher
François Pallo, soil researcher
Moustapha Gomgnimbou, Historian, INSS
Yves Nouvellet, Former CÎRAD expert, Silviculture specialist

Resource persons outside the project structure:

Joachim Ouédraogo, Ministry of Environment and Water (MEE, Direction de la Foresterie Villageoise et de l'Aménagement Forestier), Forest Engineer
Issaka Belem, Projet 7 ACP BK/031 "Confection d'outils cartographiques pour la gestion de l'environnement"
Guinko, Professor in Botany, Ouagadougou University,
Vice Rector George Ouédraogo, Director of IDR (Institute de Developpment Rural)
Justin Goungounga, Regional Director, Ministry of Environment and Water (MEE) in Koudougou,
Forest Engineer Mike Spiers, ENRECA (IDR-FLASHS) Ouagadougou University, Environmental pluridisciplinist
Jakob Vinding Madsen, Cooperation Advisor, Danish Embassy

in Sweden

Jöran Fries, Professor Emeritus, Initiator of the project, For Dr
Bert Åke Näslund, Coordinator at SLU, Swedish University of Agriculture Sciences, For Dr
Sten Hagberg, Anropologist Uppsala University
Kenneth Sahlén, SLU, Swedish University of Agriculture Sciences, For Dr Robert Nygård SLU, Swedish University of Agriculture Sciences, For Dr student
Evariste Poda, Antropologist, INSS

Appendix 3.

Burkina Faso: Evaluation of the SIDA supported collaborative research project "Sustainable Dry Forest Management": The Socio-Economic Component ("Volet Socio-Économique")

In accordance with the ToR two interviews have been carried out with two of the participants - one on the 19th of November with Sten Hagberg and one on the 21st of November with Evariste Poda. On the 24th of November the three of us had a common discussion concerning the future of the socio-economic component of the research project.

Below follows a short presentation of the participants of the socio-economic component and a review of the main content of their research reports. In this review the methods used for the collection of data will be included. The account will embrace some evaluative comments on the quality and quantity of the presented research material from both a theoretical, empirical and methodological point of view. The research capacity issue will also be dealt with from different aspects, including from a gender perspective. Finally, some recommendations for the future, based on the interviews with two of the participants and the evaluator's own opinions after having read the research documents.

Research on the Management of Natural Forests in Burkina Faso ("Recherche sur l'aménagement des formations naturelles dans la région du Centre-Ouest"): The Participants of The Socio-Economic Component

Sten Hagberg, Graduate Student, Dep. of Cultural Anthropology, Uppsala University, Swedish coordinator for the socio-economic research activities,

Moustapha Gomgnimbou, Burkina, Ph D, Historian, Researcher at the National Institute for Social Sciences (l'Institut National de Sciences Sociales /INSS), Ouagadougou

Evariste N. Poda, Ph D, Anthropologist, Researcher at INSS, supervisor of Desiré B. Somé,

Desiré Boniface Somé, Graduate Student in Sociology/Student of Diplôme d'Etude Approfondie (DEA), (since 1996 in the group).

The period under evaluation is 1995-97. During these three years Hagberg, has been employed two months a year by the project, while Somé, who since July 1996 is financed by a SIDA scholarship, works fulltime with his study within the frame of the project. Poda and Gombnimbou are paid their salaries by INSS, Burkina Faso, while funds for fieldwork and other expenses is are channelled through INSS from SAREC via INERA. Hagberg has his two months salary paid by SIDA money.

The idea has been to spend one month a year in the field together (Hagberg, Poda, Gombnimbou, Somé) in four villages, situated close to two classified forests, and have one month a year for processing the data collected and for the production of working papers and reports. The Burkina researchers also go on other occasions during the year to the villages to collect data. Somé made a long fieldwork in 1996. In 1995 one fieldwork mission was organized (14.2.-17.3.); in 1996 another one (11.2.-6. 3.), in which Poda did not participate because he was in Poland. In March 1997 the latest field work mission was carried through. The main ambition has been to identify research themes for further and more long term investigation. In the choice of themes or research areas *development* has been considered an important issue. The final goal is to publish a scientific book and/or other publications. On a workshop in Burkina in 1998 the final research results will be presented. What exists up to now is of a more preliminary nature, with a few exceptions (see below).

Reports and articles by Sten Hagberg:"Amanegement participatif des forêts naturelles" - Rapport de mission, mars 1995.

This study coincides to a great extent in form and content with the Working Paper no 3 called *Forêts classées et terres des ancêtres au Burkina Faso* (see below). The report is a result of the mission in February and March 1995 in the Tiogo forest, while the Working paper from 1996 also includes the February-March mission in the Laba forest in 1996. As the papers more or less overlap each other, with only some small differences, a more detailed presentation will be made of the report from 1996, being the most recent one.

"Whose Forests Count?" Report no. 27, Development Studies Unit, Department of Social Anthropology, Stockholm University, 1995.

This is a well written and informative study based on empirical data from the same field work mission in February-March 1995. It analyzes contexts and concepts of popular participation and sustainable development and discusses what is meant by 'physical resources' and 'social institutions'. Although in different words and with a partly different disposition of the material the report deals with the same issues as the other reports. The history of the forest policy in Sahel is followed by an account of the plans for one of the classified forests and the study of the population's priorities of the forest products. The villagers' perceptions and priorities vary according to ethnic groups, gender and age. In the final section, which deals with the implications for future forest management, Hagberg displays several ideas concerning the implications for future forest management. People have to be granted rights to the forest, he says. Moreover, he suggests a serious rethinking of forest-use within the Tiogo reserve, including a better involvement of women in the management and a 'terriors' approach to the Tiogo forest management, which means creating a legal framework for community participation.

Forêts classées et terres des ancêstres au Burkina Faso (together with Moustapha Gomgnimbou and Désiré Boniface Somé) Working Papers in Social Anthropology no 3, 1996. Uppsala: Department of Cultural Anthropology.

This is also a well written study about the use of forest products and the forest management in four villages situated close to the classified forests of Tiogo and Laba. It is the three researchers' joint outcome of two field work missions in February 1995 and 1996.

A special section is dedicated to the methodology used for the collection of field data. As an introduction the method of participatory rural appraisal was applied. This was followed by other more conventional techniques and methods within the social science such as semistructured interviews, group discussions and direct observation. Besides, different classes of secondary sources have been used, such as documents about the plans of forest management in Tiogo and sociological studies, monographies from the region etc.. The researchers are of the opinion that a real participatory approach must take as its point of departure the existing links between the population, which is not at all homogeneous, and the forest. The population still sees the forests as belonging to the state, which has the power to control them. The forests not only represent potential - but forbidden - land for cultivation. Their existance also provides different forms of obligatory "permissions" such as forest taxes, management funds, and rotating saving funds.

The publication ends with a list of research themes for further investigation. The proposed themes are distributed between the researchers in the following way:

- Management and the participation of the rural population - Somé
- Immigrants and natives: their internal relations and reactions to the exploitation of the Tiogo and Laba forests - Hagberg
- Migratory movements and their impact on the environment - Gomgnimbou
- The role of the sacred groves in the management of the classified forests - Poda

The authors state that there is a need for a comparative approach both when studying popular participation in the forest management and for the study of the sale of the forest products. Furthermore, archival studies and collection of oral histories about the classified forests are recommended. The new legislation about land husbandry (la Réorganisation Agraire et Foncière /RAF) and its relation with the existing laws are considererd to be a highly relevant research topic.

The study concludes with a few propositions concerning new activities for the other components of the project as an outcomeof the Socio-economic tem's research. such as a study of the regeneration of non-forest products; a study of the village hunters and the animal resources of the zone and a study of the exploitation of fire wood, herbs, fruit and grains and the tradional and modern cultivation techniques from a comparative perspective.

"Money and Meaning in Forest Management" (forthcoming 1998) in *Twice Humanity: Implications for global and local resource use.* Ed. Amalie Berger. Uppsala: Scandinavian Institute for African Studies.

This is an article about access to and control over money and meaning in forest management. It relates land tenure to forest management and enters into the question of sustainability in local resource use. Hagberg connects sustainability not only to material but also to immaterial resources, arguing that if sustainability is to be regarded as more than merely rhetoric the concept must include not only ecological and economic dimensions but also social and cultural ones. The empirical data are from the Tiogo and Laba forest reserves and show the tight connection between forest and land and the tensions betweeen not only the rural population and the foresters as representatives of state authority but also between different ethnic groups; between the 'indigenous' (Lyela and Nuna) and the 'immigrants' (the Mossi and the Fulani), between the agriculturalists and the nomads or semi-nomads and between the urban and the rural population. Thus, Hagberg situates his research in a wider framework, reflecting on sustainability.

The conclusions are highly useful for the continued research activities. Hagberg points at the central problems in relation to wood cutting and the sale of wood. Another important issue is cattle grazing as an activity to consider in the forest management of Tiogo and Laba especially in relation to the nomads' deteriorated life situation due to the expanding agriculture. The traditional local management institutions, represented by the earth priest, should not be ignored.

Summing up Hagberg's work, which is partly the result of the joint work of the members of the socio-economic team: Although repetitive or overlapping in content, the reports have contributed substantially to an understanding of the multifacetted and complex social realities and relationships which constitute land tenure as well as forest management. He has thoroughly analyzed the current situation and drawn up themes for future research of relevance for gaining an increased insight into the problems related to the popular participation in forest management in the region. Furthermore, he has given proof of his intention not only to do basic research but also to look for ways of applying his insights in the the formulation of recommendations for those in power positions. What puzzles the reader is that so comparatively little has been added to the first report from 1995. The missions carried out during the last two years seem to have generated few new ideas or analytical approaches - due to little fresh information? - at least judging from the mentioned work. So even if the existing reports are of a high quality, well written and informative, some more substantial results from the most recent research would have been expected.

Evariste Poda's task to which he is very devoted has been to analyze the contribution of the sacred groves to the protection of the environment. To find out ways of getting information about these culturally sensitive and secret issues without damaging people and how to apply these knowledges in practice without profanizing and desacralizing the cultural heritage are questions of concern to Poda. In three papers beside the joint Working paper no 3 (see above) Poda has described the sacred groves in Tiogo and Laba and their importance for keeping at least parts of the forests intact. The papers are probably produced in connection with the seminar and Poda's visit to Sweden in November 1997. They are interesting to read but rather short; more elaborated ethnography and theoretical depth might have been desirable. His analysis of the concept of culture seems to need to be revised or may be just complemented by more recent studies of culture. However, the focus on people's beliefs and their sense of tradition, religion and ritual as a hall mark for ethnic identity is interesting in itself and could be widened and deepened into a discussion

about ethnic relations and imaginations. What the existance of the sacred groves actually means for the protection of the environment is hard to know, but the study could certainly serve as an important entrance into the more applied aspects of the study.

Moustapha Gomgnimbou has produced a few papers as results of his participation in the socio-economic component of the project. He presents a report of two missions from February-March 1995. The report is interesting, as it contains an overview of the methods used and a critical analysis of their efficiency and usefulness. The outcome of the classical anthropological methods like semistructured interviews and direct observation is linked to the confidence existing between the local population and the visitors/researchers. The mission has therefore dedicated much time and efforts to establish a good relationship. The Participatory Rural Appraisal method has been effective as an introduction into the village but it would be insufficient as the only package of methods. It has revealed some cultural constraints and some methodological weaknesses. Gomgnimbou is very open-minded in his discussion about the failures and difficulties that one has come across. Judging from his comments and reflections, he seems to be an experienced and able fieldworker.

In his paper on the villagers' perceptions of the two classified forests under study he argues convincingly that it is the social memory of historical facts which explains the difficulties to apply a participatory management of the forests in the Sahel region. This theme is developped in the paper called "La perception des forêts classées de Tiogo et de Laba par les populations riveraines". Here he states that as long as the historical and the socio-cultural realities are ignored, the management efforts will be nothing but superficial. The relations to the state and to regional and local authorities must be taken into consideration and the local needs and demands respected. Gomgnimbou writes well and expresses similar thoughts as Hagberg. Yet I have not found anything really unique or original in his writing that is not to be found in the papers presented by Hagberg or Poda. Being a historian by profession, one could have expected a more detailed analyzis of the colonial past and its effects on the current situation what concerns the classified forests. This is the risk - and the advantage - of working together in a group like these researchers do, sharing data and analytical findings, and yet presenting them in papers of their own.

Somé, who is Poda's graduate student, has written two reports on participatory management; one is dated September 1996 and the other July 1997. The latter is not really a report but a 'Mémoire' de DEA, more or less equivalent to a Master's thesis. The report from 1996 is based on data, produced partly by the group, partly by himself. Somé has integrated well his own research data, adding an interesting analysis in the end of the first report. He makes account for what everybody in the village, including the director of the forest management and the foresters know, i e that the people because of lack of land do indeed clear land and cultivate parcels which form part of the classified forests. This is done secretly and is illegal. No public demand is made to the authorities to let the villagers dispose a certain area of the forest for their agricultural needs. In this situation the foresters are characterized by a 'laisser faire' attitude. It is the analysis of the dialogue or the lack of dialogue between the foresters, the extensionists and the villagers that makes Somé's study so interesting. In his Mémoire, Somé compares the classified forests with the land of the bush. While the former is public space run by rules which are not respected by the population but violated secretly, the latter is private, and rules are consuetudinal and generally respected.

The harsh conditions for the villagers' cooperatives dedicated to the chopping and sale of wood are also well described. Very few of the women's cooperatives, for example, have actually survived. This is interesting information, which one would very much like to have more data about.

Gender

Although there is currently no woman researcher participating in the socio-economic team two female extensionists who know and talk the local language have been employed during the missions. They have made the interviews with the village women. Old and middle aged women and women leaders have been interviewed. Especially the women traders have been asked for their opinions. In the papers attention to women's situation have been shown in various passages. However, there should be room left for more research on women's activities in relation to forest management. The employed female extensionists may be excellent interviewers, but to do proper direct or participatory observtion, anthropological training is needed. It is important to integrate

women into studies about forests and forest management. This is shown by the women's attitude to the forest as such, revealed in the ranking of forest products of the PRA. For the women, the product's importance depends on whether it could serve as food or not. Everything that grows - cultivated on land or wild in the forest - and can be used for the family's consumption is good, regardless of how the place where it is found is categorized by the researchers and the state authorities.

Methodology
The PRA methods in combination with semistructured and group interviews, archive studies, the collection of oral histories about the past and the study of relevant sociological and regional literature seem to be a satisfying methodological approach. From what is mentioned in the reports, the field work missions seem to be of rather short duration, though, not exceeding a few weeks. Living in the village, not only observing but participating in the daily life, may be a necessary complement to the field work based on posing questions and getting answers. Hopefully this is what Somé has done and will go on doing during the next few years.

On the whole, the papers radiate a relatively high degree of ethnographic presence. Sometime it is hard to find researchers also within the social sciences who want to leave the cities to go to the villages; this is not the case in this team.. The social engagement and commitment manifested in the texts is also impressive. This cannot be achieved without a feeling for the local community, emanating from solid field work experience in close collaboration with the people.

Summary:
The Relevance of the Project
a in a scientific context
The research results are satisfying in the first phase. Yet, as mentioned above, the many overlappings in the reports of the different researchers give the impression that relatively little have come out from three years' research carried out by four persons (although Somé had just two years). For a second phase *a more holistic approach* would be needed, taking into consideration and manifesting more explicitly the effects of global influences on local circumstances and vice versa. Likewise, both land and animal husbandry have to be analyzed together with forest management in the local communities. A wider research perspective is missing and at the same time a deeper and more ambitious analysis of some of the issues dealt with is needed, leaving room for the individual researcher's professional abilities.

b in a national context
The relevance depends on its possibility to be spread out and reach other academics and people and state institution.

Sustainability
Without the financial support of SIDA the current research activities will not continue. This evokes questions about the research project's responsibilities towards the rural population and the kind of expectations that the researchers inevitably generate by their mere presence in the village. This is not dealt with in the papers but is of course a crucial issue to consider when planning for the future of the project.

Dissemination of results
Nothing is mentioned in the texts about this. The aim is said to be the publication of a scientific book and some articles.

Capacity building
The researchers would like to integrate more research students into the project, if it is prolonged. As it is now, there is only one - Somé. There could be a special need for students of economy and law.The capacity building is to be seen in a long term perspective, though. As there seems to be no or very little collaboration between the other component of the project, little interdisciplinary capacity has been built up so far.

Recommendations for the future

A prolongation of the project by one year will be recommended, so that the researchers will be given a possibility to process and write up their data from the last year of research (1997). During 1998 some of the research themes indicated in the Working paper no. 3 will hopefully be initiated on the basis of existing empirical data. This will mean a new input into the studies, which, as mentioned, have not come up with many really new findings since 1995. This year of prolongation will be decisive for the continuation of the project.

Towards the end of 1998 a research plan and a budget will have to be elaborated indicating long and short term goals, theoretical frameworks and methodology. References to current scientific literature of relevance will have to be added. On the basis of the quality of the research proposal and the coming reports future research activities will be discussed.

An interdisciplinary collaboration between the different project components and a comparative and open-minded approach would be recommended. Judging from the content of the papers and reports no exchange of experiences - neither scientific nor social - seems to have been made so far. Besides a closer collaboration with the other researchers of the project the involvement of students of Economy and Law would contribute to an increased interdisciplinary approach.

Contacts with other similar research programmes inside and outside Burkina should be initiated. Small workshops should be held with the same ambition: to exchange ideas and create networks.

More graduate or undergraduate students should be involved in the research project in Burkina. As mentioned, an economist and a student of law would preferably be attached to the group for the study of the commercialization of forst products. A woman researcher, preferably a sociologist or an anthropologist is urgently needed, not least to cover the study of livelyhood in relation to land husbandry and forest management.

Appendix 4.

French version translated by Mahamadou Cissé and Kerstin Jonsson

Rapport d'évaluation du projet "RECHERCHE SUR LES FORMATIONS NATURELLES DANS LE CENTRE-OUEST" en collaboration entre Burkina Faso et la Suède

En accord avec les "Termes de Référence", cette évaluation insistera sur les éléments suivants:
la pertinence, la capacité, la qualité scientifique, la diffusion des résultats, l'administration, le financement, les aspects genres, les contacts et les propositions pour une probable suite du projet.

1. Préambule

La zone soudano-sahélienne de l'Afrique se caractérise par une longue saison sèche et une courte saison pluvieuse. Particulièrement au Burkina Faso, la précipitation annuelle varie entre 600 et 1000 mm. L'agriculture étant le revenu principal du pays, la végétation présente une allure de paysages agricoles traditionnellement cultivés. Cependant il existe quelques forêts naturelles, souvent menacées par le feu, le pâturage et la coupe abusive. Dans l'objectif de sauvegarder ce riche patrimoine, l'administration coloniale a en 1940 décidé de légalement protéger quelques formations naturelles ("forêts classées"). C'est le cas de la forêt de Laba et celle et de Tiogo qui depuis une dizaine d'années font l'objet d'une procédure d'aménagement. Dans ces forêts, toutes activités agriculturales sont interdites; ainsi que le paturage et la coupe de bois sec ou frais. En raison de la méconnaissance de la dynamique de ces formations, deux sites d'expérimentation sont installés en 1992 dans ces dernières.

Des accords d'aide ont été signés pour la réalisation de ces expérimentations. Dans le premier accord (1992-1994), il a été alloué une somme de 5,7 millon SEK au projet dont 70% à l'SLU et 30% au Burkina Faso. Dans le second (1995-1998) 5,2 million SEK répartie entre l'SLU et le Burkina Faso. En Suède l'SLU n'a attribué que 10% à la recherche socio-economique. Pour la suite du Préambule, voir rapport en Anglais.

2. Objectif et dispositions du projet

Voir rapport en Anglais.

3. Objectif et Méthodologie de l'évaluation

La phase courante du programme (Phase 2), se terminant le 31 Juin 1998 et n'ayant jamais fait l'objet d'un suivi-évaluation externe, ce rapport servira à donner une direction à la suite du projet et aidera à décider d'une éventuelle troisième phase.

L'évaluation s'est interroger sur la pertinence et la durabilité du projet sans apports extérieurs, la capacité de recherche et les résultats scientifiques apparus ainsi que la collaboration entre chercheurs eux-mêmes et entre chercheurs et autres acteurs intervenants dans l'aménagement des forêts naturelles.

L'équipe d'évaluation a pendant son séjour d'une semaine au Burkina Faso, visité les sites d'expérimentation, les bureaux, le laboratoire de semence de Koudougou et le quartier général du Centre Nationale de la Recherche Scientifique et Technologique (CNRST) et de l'Institut de l'Environnement et de Recherche Agricoles (l'INERA) à Ouagodougou. Tous les chercheurs aussi bien Burkinabés que Suédois ont été l'objet d'une interview individuelle à la fin de laquelle, l'équipe a présenté ses observations et recommandations lors d'un atelier de travail en Suède. Des personnes-ressources ont également été contactées au Burkina Faso. Une liste d'abréviations et une liste des personnes rencontrées sont en annexe nr 1 et 2.

Les Termes de Références étant limités, la partie socio-économique de l'évaluation s'est surtout penchée sur les questions de la qualité scientifique par rapport à d'autres recherches pertinentes, la méthodologie et la contribution du projet en matière de "capacité de recherche" au Burkina Faso et en Suède.

Outre la lecture des documents, l'évaluatrice a rencontré deux chercheurs avec lesquels elle a non seulement eu un tête-à-tête, mais également une discussion d'ensemble.

4. Pertinence

Contexte Africain
Le Burkina Faso est un des pays les plus pauvres du monde. La production alimentaire nationale est essentielle. Du fait de grandes variations de la pluviométrie et d'un manque de techniques agricoles, les récoltes ne couvrent pas l'autosuffisance alimentaire. La dégradation du sol est une des conséquences du surpeuplement, du surpâturage, des feux de brousse, des differentes formes de traitement du sol relatives à la multitude des differents groupes ethniques; et du manque d'une loi foncière appropriée. La forêt joue un rôle important dans la production du feu de bois et comme source alimentaire pendant la soudure. Néanmoins, il y a lieu de prendre soin du peu de forêt naturelle encore existant. Dans ce contexte le programme est très pertinent, non seulement pour la région Sahélienne mais aussi pour la majorité des régions de l'Afrique sub-saharienne.

Contexte scientifique
Les éssais mis en place sont uniques à cause de leur largesse et de leurs dispositifs statistiquement appropriés. Les résultats des premiers cinq ans sont recueillis mais non encore analysés. 10 ans après la mise en place de l'éssai, les résultats de l'inventaire vont former une référence pour l'aménagement des formations naturelles dans toutes les zones sèches de l'Afrique.

Les résultats de la première phase de la partie socio-économique sont satisfaisants. Cependant, les nombreuses répétitions dans les rapports des uns et des autres laissent croire que très peu a été produit pendant ces trois ans de recherche.

Contexte national
L'importance et la valeur du programme sont soulignées par le CNRST, le Ministère de l'Environnement et de l'Eau et l'Université de Ouagadougou. La recherche se fait dans une zone où la bio-diversité est importante. Le Département de Botanique de l'Université s'intéresse surtout aux résultats de longs termes.

Contexte de l'Asdi
L'aménagement des zones sèches (particulièrement les zones semi-arides et sub-humides) est une des activités de priorité pour l'Asdi/SAREC (le Département pour la collaboration de recherche). Il existe plusieurs programmes sur le pastoralisme, la biodiversité des zones sèches etc... Les activités liées à la Convention Contre la Désertification sont une des cibles de l'Asdi. En somme, le programme de recherche des formations naturelles au Burkina Faso s'inscrit très bien dans les objectifs de l'Asdi.

5. Durabilité

Tous les chercheurs Burkinabès outre le chef d'antenne de Koudougou, sont intégrés à la Fonction Publique et employés au CNRST. Les dépenses pour les activités de terrain du projet; entre autre: personnel technique, moyens de déplacement, équipements etc..., sont pris en charge par le projet. En Suède un étudiant de PhD est pris en charge à 100% par le budget du projet, alors que le coordinateur et un chercheur le sont partiellement. Toutes les activités menées dans le projet étant totalement dépendantes d'apports extérieurs, un suivi sur le terrain ne pourrait avoir lieu sans le soutient financier de l'Asdi. Ce fait évoque la question de responsabilité des chercheurs au niveau du village, leur simple présence étant signe d'espoir pour la population. Ceci ne ressort pas dans les rapports socio-économiques et se devrait de l'être dans une éventuelle 3ème phase.

6. Qualité scientifique des études et des résultats

L'impression générale que donne les résultats est qu'il y a une importante quantité de données non traitées. La collecte des données a précédé la définition de l'hypothèse et les questions scientifiques ont été formulées au fur et à mesure.

Néanmoins il y a deux remarques principales à faire sur les dispositifs, à savoir:

- Les éssais ont été mis en place sur le terrain sans études pédologiques préalables, alors que la connaissance des sols est essentielle pour permettre une analyse concrète de la végétation.

- Une évaluation exacte du "traitement-pâturage" ne peut être faite car le nombre de bétail y ayant accès n'est pas contrôlé. Les effets de la broute et du pietinage des herbes par le betail ne pouvant être cernés.

D'une manière générale, il faut signaler que les résultats des études socio-économiques sont bons. Les informations jusqu'ici apportées ne diffèrent pas beaucoup de celles du premier séjour sur le terrain.

Remarques particulières:

Production forestière et densité ligneuse.
Un accent particulier est mis sur la densité du bois et la production de matière sèche par un certain nombre d'espèces Sahéliennes. Les résultats peuvent former une base importante pour de futures études sur la productivité des formations naturelles. Les études de l'étudiant Suédois ont été effectuées sur les parcelles installées en 1980 par le Ministère de l'Environnement et du Tourisme d'alors. Cependant les conditions du sol n'ont pas été déterminées sur les sites en question ce qui est un manquement car la production de la biomasse est fortement dépandente de la fertilité du sol.

Les données collectées sur les grands dispositifs de Laba et de Tiogo permettent plusieurs autres études et un spécialiste de la production forestière doit y être associé.

Régénération d'un certain nombre d'espèces forestières.
Le chercheur Suédois en semence et le chercheur-patoraliste Burkinabè ont ensemble sélectionné un certain nombre d'espèces forestières parmi les espèces locales les plus courantes et les plus importantes. Les études ont porté sur la qualité des semences et la germination. La semence a été semée dans de différentes conditions par rapport aux profondeurs et au milieu. Des méthodes artificielles pour l'amélioration de la capacité de germination ont été testées. La phénologie des espèces étudiées a été observée. La quantité et la qualité des semences tombées ont été mesurées par des méthodes non standardisées. Le diamètre des seaux utilisés pour recueillir les semences n'était pas assez large. Aussi la non-couverture de ces derniers permettait des risques de prédation.

Un étudiant Burkinabè a soutenu une thèse de DEA sur la régénération après coupe et feu. La régénération végétative (drageon et souche) étant très importante dans les forêts sèches, il est assez remarquable que la régénération sexuée et la régénération végétative ont été étudiées chacune de son coté et non ensemble. Chose qui aurait pu donner d'importants résultats quant au choix de la méthode d'aménagement, étant donné que les chercheurs travaillent à mis-temps sur le projet.

Etude du Pâturage après feu.
Une thèse de doctorat du troisième cycle portant sur les analyses de la strate herbacée sur les sites d'expérimentation et les effets du feu précoce sur la biomasse ligneuse et non-ligneuse a été soutenu en 1996. Des observations ont également été faites sur la qualité fourragère et la pharmacopée des arbres et des herbes dans la forêt naturelle. Cette thèse fera l'objet de plusieures publications scientifiques.

Etudes pédologiques.
Une carte pédologique sur les sites d'expérimentations de Laba et de Tiogo a été préparée pendant la deuxième phase du projet. Les caractéristiques du sol étant étroitement liées à la production végétale, une étude préalable du sol devient inévitable. Toujours est-il qu'une étude sur la composition de la strate herbacée en fonction du sol a été initiée.

Etudes entomologiques.
La connaissance des insectes dans les forêts étudiées est très limitée. Plusieurs espèces nouvelles ont été découvertes lors d'un inventaire général. Certains groupes particuliers (termites, fourmis et cétoines) ont été étudiés. L'interaction entre les insectes des forêts et des champs avoisinants a également fait l'objet d'une étude.

Immigrés et autochtones face à l'exploitation des forêts de Tiogo et Laba.
Cette étude ressort les réalités sociales, très complexes et diversifiées, en matière foncière et en aménagement forestier. Ceci a été analysé et les thèmes d'une future recherche ont été identifiés.

Bosquets sacrés dans l'aménagement des forêts classées.
L'étude a opté pour l'obtention des informations sur les questions culturelles assez sensibles et secrètes, et l'utilisation de celles-ci sans risque ni d'offenser la population ni de profaner leur héritage culturel. Il manque au rapport un fondement théorique et ethnographique; mais cette étude pourrait servir à l'ouverture d'une analyse plus appliquée dans ce domaine.

Les mouvements migratoires et leurs impacts sur l'environnement.
Ce rapport fait apparaître le fait que la difficulté d'appliquer l'aménagement forestier participatif au Sahel dérive de héritage sociale et de l'histoire. Les efforts d'aménagement faisant fi de l'histoire et des réalités socio-culturelles restent superficiels. Les relations Etat-autorités régionales-autorités locales doivent aussi être considérées. Ce rapport ne présente aucun résultat nouveau ou particulier. Etant l'oeuvre d'un historien, celui-ci souffre du manque d'une analyse plus profonde de la colonisation et de ses effets sur les forêts classées de nos jours.

Aménagement forestier et participation paysanne.
Le chercheur, dans ce rapport, dénonce le fait que le défrichage clandestin et les "champs illégaux" dans les forêts classées ont pour raisons l'insuffisance des terres; ce qui n'est pas un phénomène inconnu. Cependant l'analyse du dialogue, du manque de communication entre forestiers, agents de développement et villageoises rend son étude intéressante. La description de la très difficile situation des coopératives villageoises est bonne et mérite d'être approfondie.

(Pour plus de détail voir rapport en annexe nr 3)

7. Diffusion des résultats

Le nombre restreint des publications jusqu'ici faites dans le projet fait qu'une évaluation objective de la diffusion des résultats est difficile à faire. Le nouveau département de Gestion des Ressources Naturelles et du Système de Production de l'INERA peut être utile pour la diffusion et la propagation des résultats scientifiques en les interprétants pour que les utilisateurs finaux puissent s'en servir.

Dans une éventuelle troisième phase, l'accent devra être mis sur l'information, la sensibilisation et la vulgarisation.

8. La capacité de recherche

Sans toutefois être énoncé dans son document, une capacité de recherche a été développée dans le projet puisqu'ayant servi de base à plusieurs étudiants à différents niveaux d'études. Au Burkina Faso une thèse de doctorat du troisième cycle de pastoralisme et deux thèses de DEA (l'une en régénération végétative et l'autre en socio-économie) y ont été soutenues. Plusieurs étudiants, Burkinabès et Français ont fait leurs études de terrain dans le projet en vue d'obtenir des diplômes de différents niveaux. En Suède, un étudiant de PhD en foresterie prépare une thèse sur la base des données du projet. Un autre étudiant de PhD en antropologie s'est servi en partie du matériel du projet pour ses études. Quatre autres y ont finalisé leur MFS (Minor Field Studies). Un chercheur en semences peut aussi être considéré comme faisant parti de la capacité développée en Suède.

Toutefois, les effets qu'ont eu la capacité de recherche auraient pu dépasser ceux d'aujourd'hui si l'accent avait été mis sur cet aspect depuis le début. Il existe déjà des contacts entre les chercheurs du projet et ceux de l'Université de Ouagadougou. Le projet se dit prêt à accueillir d'avantage d'étudiants, à superviser leur travail sur le terrain et à les assister pour les rédactions des thèses ou mémoires. À nos jours, logement, transport, et salaires d'ouvriers ont été pris en charge par le projet pour le compte des étudiants.

Le nombre de candidat aux recherches est insuffisant à l'Université. Les raisons sont variables:

Le manque de financement est un problème et le nombre des bourses FONER (Fond National à l'Ensignement et la Recherche) n'est pas proportionné au nombre et aux besoins des étudiants. Le chômage qui attend les étudiants à la fin de leurs études, joue négativement sur le recrutement de ceux-ci pour des études plus avancées. L'IDR (Institut de Développement Rurale) qui forme les Ingénieurs des eaux et forêts et les Ingénieurs agronomes a été transféré de Ouagadougou à Bobo-Dioulasso (340 km de distance). Autre raison ayant entraîné un découragement et une baisse sensible du nombre d'étudiants demandeurs.

L'équipe socio-économique voudrait augmenter le nombre d'étudiants du projet. De préférence un étudiant en économie et un étudiant en droit. Le manque de collaboration entre les chercheurs du projet handicape la capacité de recherche interdisciplinaire.

9. Aspects genre

Il faut souligner que parmi les chercheurs Burkinabès et Suédois du projet il n'existe aucune femme. Cela peut s'expliquer par le fait qu'après le bac, les femmes préfèrent étudier la médecine ou la pharmacie au lieu de la foresterie ou la biologie.

L'équipe socio-économique souffre également de l'absence d'une chercheuse. Seulement deux animatrices parlants la langue locale ont été employées durant les missions sur le terrain. Leur rôle se limitait à interviewer les vieilles et les femmes adultes au village, en particulier les commerçantes. Le résultat aurait certainement été mieux si l'interview était directement menée par une anthropologue. Aussi est-il qu'il faut intensifier la recherche sur l'activité de la femme par rapport à l'aménagement de la forêt.

La perception de l'homme en matière forestière diffère de celle de la femme pour laquelle l'aspect alimentaire est l'essentiel. Ce qui fait que la participation de cette dernière aux études est très importante.

10. Collaboration entre partenaires

L'impression générale de l'équipe d'évaluation est que malgré l'objectif principal (aménagement de la forêt), le programme n'est ni intégré ni interdisciplinaire. La plupart des recherches se font dans les zones d'expérimentation (Laba, Tiogo) sans collaboration entre les différents chercheurs. Une des raisons peut être qu'à part la foresterie, d'autres disciplines se sont ajoutées au fur et à mesure sans consultations préalables. Le choix des disciplines s'est fait en fonction des chercheurs disponibles à l'INERA. Il semblerait qu'aucune réunion n'a été tenue avec tous les chercheurs concernés.

Au niveau de l'INERA et de l'INSS
La lenteure administrative (de déblocage des fonds etc...) vécue en 1992-1995 n'existent presque plus. l'IRBET et le CNRST ont fait l'objet d'une réorganisation totale et l'ex-IRBET est aujourd'hui un département de l'INERA. L'administration de l'INERA a été décentralisée. A la fin de la réorganisation, l'administration du projet sera transmise à celle de la région de Saria. Ainsi les conséquences administratives de la réorganisation du projet sont difficiles à prévoir.

Pendant la première phase du projet, le rôle de l'expert forestier du Cirad-Forêt était important. Il jouait le rôle d'animateur scientifique et sa position d'expert lui permettait de résoudre certains problèmes administratifs et ainsi, les activités scientifiques pouvaient continuer malgré des obstacles au niveau de l'IRBET. La réorganisation du CNRST a coïncidé avec l'affectation de l'expert au Mali. L'administration du projet semble marcher depuis que la comptabilité est transférée à l'INERA.

Les bureaux de l'INSS ont été éloignés de ceux du département de la production forestière (l'IRBET d'alors). Ce qui ne facilite pas la communication et a favorisé l'isolement de l'INSS. Le manque d'un budget séparé et de moyens de communication (fax etc...) a rendu le travail de l'équipe de l'INSS très difficile.

Au niveau de l'SLU
Un accord a été signé entre l'Asdi et le Département de Sylviculture de l'SLU à Umeå. Le coordinateur administratif qui n'a aucune activité de recherche dans le projet a facilité le travail aux chercheurs Suédois et Burkinabés. Le comité de gestion du projet mis en place en 1996 n'a tenu qu'une seule réunion. La communication et la collaboration entre les chercheurs n'est pas effective. Encore une fois, on constate que chaque chercheur travail individuellement sans notion d'intégration.

Entre l'SLU et l'INERA
Il existe un manque de communication à tous les niveaux. Les bases de la coopération sont inégales. Une certaine supériorité se fait sentir du coté Suédois. Certains malentendus ont pour origine le problème de langue; tous les chercheurs n'étant pas bilingues. L'équipe socio-économique est une exception car elle collabore et travaille sur un même pied d'égalité.

Au niveau du financement il manque une transparence entre l'équipe de l'SLU et de l'INERA. La communication s'est souvent tenue directement entre les chercheurs sans que le coordinateur Burkinabé en soit informé. En conséquence, les travaux du terrain n'ont pas toujours été planifiés d'une façon rationnelle.

Entre le CîRAD, l'INERA et l'SLU
Il existe entre Cirad-Forêt et l'INERA une convention qui règle l'apport Français à l'INERA en matière d'expertise. Cependant la collaboration n'a pas toujours été facile. Même si l'expert Français a joué un rôle de coordinateur pendant la première phase, il aura aussi profité des données du projet. Si le besoin d'un expert Français est indispensable, son rôle doit être limité à conseiller.

11. Autres programmes et initiatives

Le projet est exécuté par un institut de recherche du Ministère de l'enseignement supérieur ayant des contacts avec l'Université de Ouagadougou et d'autres organes gouvernementaux tel que le Ministère de l'Environnement et de l'Eau.

Il existe depuis mi-1980 un programme d'aménagement forestier financé par la FAO. Des plans d'aménagement ont été développés dans ce programme sans données scientifiques préalables ni en sylviculture ni en régénération forestière. Mais aujourd'hui il existe des contacts entre ce programme, le projet et le Ministère de l'Environnement, plus précisément la DFVAF (Direction de la Foresterie Villageoise et de l'Aménagement Forestier), dont les techniciens ont ardemment exprimé le voeu de rentrer en possession des résultats scientifiques des expérimentations du projet.

Le projet "Confection d'outils cartographiques pour la gestion de l'environnement (Projet 7 ACP BK/031)" avec financement CEE met l'accent sur la production des cartes des forêts naturelles dont celles de Laba et de Tiogo qui ne sont malheureusement pas encore terminées. Ce projet travaille en collaboration avec le projet "RECHERCHE SUR LES FORMATIONS NATURELLES DANS LE CENTRE-OUEST".

Le fait d'avoir des relations personnelles est un avantage qui se fait sentir parmi les cadres des différents projets d'aménagement forestier. Le chef d'antenne de Koudougou qui a entièrement fait sa formation dans son pays en profite particulièrement.

Un autre projet (RPTS) concernant l'énergie traditionnelle avec financement Communauté Européenne (CE) et d'autres pays européens tels que le Danemark, la Norvège et la Hollande a entrepris la phase initiale d'un programme de 5 ans avec possibilité de prorogation. Les méthodes pour l'obtention de l'énergie traditionnelle étant souvent similaires aux méthodes employées dans l'aménagement forestière, les résultats du projet de recherche seront alors utiles.

Les universitées Dannoises d'Aarhus, de Roskilde et de Copenhage ont signé un accord avec l'Université de Ouagadougou (SEREIN Initiatives de recherches sur l'environnement Sudano Sahelian) où le développement de la capacité de recherche est un objectif. C'est un projet de coopération dans lequel les étudiants Burkinbès font leurs travaux de terrain au Burkina Faso et présentent leur thèse de PhD au Danemark.

12. Recommandations:

L'équipe propose en priorité une prolongation d'un an (Juillet 1998 - Juin 1999) de la phase courante du projet .

- Pendant l'année 1998 l'accent doit être mis sur l'analyse des données collectées et la rédaction des publications. Ceci nécessiterait une visite scientifique de 2 à 3 mois en Suède du chercheur Burkinabè Louis Sawadogo pour la préparation des publications avec les chercheurs Suédois Kenneth Sahlen et Robert Nygård. A la fin de l'année une synthèse de tous les résultats doit être faite en Anglais avec un sommaire en Français.

- Pendant la prolongation certains thèmes socio-économiques de recherche proposés par le rapport "working paper no. 3" seront initiés sur la base des données déjà recueillies. Les études auront ainsi un nouvel apport. Les résultats de l'année de prolongation seront décisifs pour la suite du projet.

- Le séminaire prévu pour Novembre 1998 pourrait être divisé en deux séances, à savoir :

- Une séance scientifique où l'expérience de l'aménagement des formations naturelles de la sous-région est discutée. L'invitation sera générale mais s'adressera en particulier aux scientifiques nationaux.

- Une séance de planification où les objectifs et les priorités d'une éventuelle troisième phase seront fixés et où les principaux acteurs seront les chercheurs directement impliqués et les comités de recherche de l'INERA (CRT).

- Toutes les questions de recherche doivent refléter les besoins de la population et les priorités nationales du Burkina Faso. Dans la préparation d'une troisième phase, tous intéressés, scientifiques et utilisateurs finaux doivent être impliqués dans le processus.

- Le prochain inventaire complet des deux dispositifs devrait être programmé pour l'an 2002 et non 1998. Le protocole des inventaires à venir doit également être révisé afin de diminuer le nombre de paramètres à mesurer.

- La tenue d'un atelier de travail en Mars ou Avril 1999, avec 5 à 8 chercheurs invités de l'Afrique de l'Est pour améliorer l'échange des expériences entre ces deux cotés du continent. Un voyage d'étude en Afrique de l'Est pour les chercheurs Burkinabès du projet pourrait être planifié dans une éventuelle troisième phase.

- A la fin de l'année 1998 un plan de recherche pour une probable troisième phase sera élaboré. Ce plan indiquera les objectifs à long et à court terme, la méthodologie, le cadre théorique, et un budget à long et à court terme. Une approche beaucoup plus holistique serrait necessaire où d'autres aspects de l'utilisation de la forêt par pasturalistes et agiculteurs serraient analysé en même temps que l'amenagement de la forêt dans les communautés locales.

De côté Burkinabé le coordinateur scientifique et le coordinateur administratif doivent collaborer et impliquer plus des chercheur dans d'autre domaine. De coté Suédois, l'SLU (Département de Sylviculture) a besoin d'engager un coordinateur scientifique expérimenté (de préférence niveau professeur) avec une bonne capacité de collaboration au sein et en dehors de l'université. Une collaboration interdisciplinaire entre les différentes composantes du projet et une approche aux libres et nouvelles idées est recommandée.

Si un plan est développé selon les recommandations ci-dessus, l'Asdi examinera et évaluera celui-ci en accord avec les donnés scientifiques standards. La qualité de la demande de recherche et la qualité des documents scientifiques produits seront décisifs pour un futur soutien par l'Asdi.

<u>Questions administratives et financières au Burkina Faso</u>

- Tous les chercheurs Burkinabès du projet doivent être intégrés à la fonction publique et par conséquent rémunérés par le CNRST. Surtout le cas du pastoraliste aujourd'hui employé comme contractuel. Les salaires des ouvriers et les bourses des étudiants pourraient continuer d'être à la charge du projet.

- Les routines de recrutement du personnel (étudiants et autres) doivent être révisées et clarifiées. Le choix des candidats doit se faire en consultation entre les chercheurs Burkinabès et Suédois. La perte des bons candidats doit être évité par une revue des lentes routines administratives.

- Le système administratif selon lequel la signature du coordinateur administratif et du chef comptable suffisent pour le déblocage des fonds doit donc être maintenu quelque soit la réorganisation de l'INERA.

- Le programme de recherche sera dirigé par deux coordinateurs remplissant les conditions suivantes:
  - être bilingue
  - être employé par le CNRST

Le coordinateur administratif est responsable de ce que toutes les informations parviennent à tous les acteurs du programme.

Le coordinateur scientifique est responsable de toutes les activités du terrain en accord avec les objectifs fixés. Il est aussi chargé d'organiser des réunions scientifiques trimestrielles avec l'équipe des chercheurs.

Pour chaque poste de coordinateur, des termes de références doivent être rédigés en accord avec tous les partenaires.

- Les recommandations concernant les indemnités faites par Habib Kraiem doivent forcement être respectées.

- Un nouvel accord (après la prolongation) devrait être signé entre l'Asdi et l'INERA. L' INERA est libre de signer des sous-contrats avec l'SLU, l'INSS et l'Université d'Uppsala en fonction de ses besoins.

- Pour la durabilité du projet, il est recommandé au CNRST de trouver d'autres financements nationaux et/ou internationaux.

- Un suivi des recommandations de l'audit externe de 1996 doit être fait et de préférence par Habib Kraiem.

<u>Questions administratives et questions de collaboration en Suède</u>

- Si la coordination du projet du coté Suédois reste au niveau du Département de sylviculture à Umeå, le projet doit être d'avantage intégré dans les activités de celui-ci. La nomination en Suède d'un coordinateur ou animateur scientifique est également recommandé.

- Le coordinateur Suédois du projet (employé à 25%) doit avoir un niveau de Français lui permettant de travailler et de correspondre avec le Burkina. Un séjour d'un à deux mois par an au Burkina Faso est aussi recommandé pour ce dernier.

Amélioration de la communication

- Il est recommandé aux coordinateurs d'organiser des réunions trimestrielles pour traiter les questions administratives et scientifiques.

- Un atelier annuel de travail est recommandé dans l'objectif de maintenir les discussions scientifiques, la planification et l'harmonisation des activités du terrain au programme. Tous les chercheurs Suédois et Burkinabés concernés doivent assister à cet atelier qui de préférence se tiendra au Burkina Faso.

- Il est demandé aux chercheurs Suédois de dresser le bilan de leur séjours sur le terrain après chaque période de travail au Burkina Faso et d'en rendre compte aux coordinateurs.

- Les moyens de communication (fax et/ou e-mail) doivent être améliorés au niveau de l'antenne de Koudougou et du bureau de l'INSS de Ouagadougou.

- Il est recommandé que l'antenne de Koudougou qui dispose d'une cuisine et des chambres soit utilisée plus fréquemment par les chercheurs temporaires (Suédois etc...).

- Pour une transparence entre les partenaires, l'SLU et l'INERA doivent se communiquer les rapports comptables.

- l' INSS ayant besoin d'une certaine autonomie, il est recommandé qu'il bénéficie d'un budget personnel voté au même moment que le budget annuel du projet.

- Les bureaux de l'INSS étant présentement mal situés pour la collaboration, il est recommandé de trouver des bureaux plus près du reste de l'équipe.

Questions scientifiques. Développement de la capacité de recherche-formation.

- La compétence en matière de production forestière devant être améliorée par le programme, il est recommandé; soit d'employer un forestier, soit d'octroyer une bourse à un étudiant de PhD lui permettant de faire des recherches dans l'aménagement des formations naturelles au sein du projet. La compétence du projet sera ainsi augmentée. Le manque d'un statisticien compétent est aussi une entrave à la bonne marche du projet. Il est donc recommandé pour y remédier de soit former quelqu'un de l'équipe du projet, soit emboucher un consultant, auquel cas il lui sera demandé de former un membre du projet avant la fin de son contrat.

- Pour améliorer les contacts entre le projet, les chercheurs et les professeurs de l'université, il est recommandé au projet d'allouer des bourses à deux ou trois étudiants en DEA ou doctorat du troisième cycle et de leur assurer les conditions du terrain. Le montant de la bourse peut être le même que celui du FONER. Ceci dans le but d'améliorer les rapports avec l'université et d'assumer la relève entre chercheurs.

- Il faut associer plus d'étudiants à la partie socio-économique du projet Burkinabé. De préférence, un étudiant en économie et un en droit qui serons attachés au groupe des études pour la commercialisation des produits forestiers. Une chercheuse de préférence en sociologie ou en anthropologie est urgemment nécessaire surtout pour couvrir l'étude des foyers par rapport au terroir, le traitement du bétail et l'aménagement de la forêt.

- Toutes les publications, résultat du travail de plusieurs chercheurs Suédois et Burkinabés doivent de préférence être publiées en Anglais, tout en notifiant expressément les noms de ceux-ci. Le voeu des chercheurs Burkinabés d'établir des contacts avec des chercheurs Suédois outre que ceux déjà impliqués doit être facilité par la partie Suédoise.

- Les contacts scientifiques avec l'Afrique de l'Est sont encouragés.

- La question de vulgarisation des résultats peut être résolue par un agent d'information du projet ou par le département de vulgarisation de l'INERA.

- En ce qui concerne les dispositifs, le traitement du pastoralisme doit être révisé et amélioré pour permettre une estimation de nombre de bétail par site.

- Il est recommandé que l'étudiant Suédois se penche également sur l'analyse pedologique, étant donné que les caractéristiques du sol sont essentielles pour les études comparatives où l'accroissement végétal se détermine en fonction des différents traitements.

Sida

Reidar Persson (NATUR), Karin Gerhardt (SAREC)

TOR FÖR UTVÄRDERING AV SIDAS STÖD TILL SKOGSFORSKNING I BURKINA FASO

Bakgrund

Under SIDAs sk Sahel-program genomfördes eller påbörjades forskningsverksamhet. När beslut togs om att lägga ner Sidas stöd till Sahelprogrammet så beslutades att fortsatt stöd skulle ges till viss forsknings och försöksverksamhet. Det var ett sätt att göra avvecklingen mjukare. Miljöanslaget skulle användas. Det ansågs också vara ett lämpligt pilotprojekt i det sk FOREP-programmet som var under formulering (1994/95).

Forskningskomponeneterna planerades av tre parter: SLU, CIRAD-Forêt och IRBET (biologiskt forskningsinstitut i Burkina Faso, BF). Först när programmet var klart framgick att BF satsade mindre än som ursprunglingen var tänkt. Programmet blev för svenskt. Det bedömdes dock vara för sent att börja göra om programmet och kräva större insats från BF. Projektet startade 1992.

I Sverige höll ursprungligen IRDC i programmet (Jöran Fries). Under arbetets gång tog Inst. f. Skogsskötsel i Umeå över det direkta ansvaret. Vissa medel avsattes då för att bygga upp kompetens på SLU. Bl a engagerades en doktorand med erfarenhet av Sahel. Sannolikt underskattade Inst. f. Skogsskötsel både de vetenskapliga och administrativa problemen med att arbeta i Sahel.

Rent allmänt kan sägas att de försök som lades ut har blivit ambitiösare än som var tänkt när programmet påbörjades. Detta ökar vikten av att fortsätta med programmen långsiktigt. Det skulle vara "kapitalförstöring" att avsluta försöken. Det har också visat sig vara en statistikt godtagbar uppläggning. Värdet av permanenta provytor med olika behandling (bete, tidig-sen brand, brännsvedsuttag, kontroll osv) gör att försöken ökar i värde ju äldre de blir.

Utvärderingens syfte och omfattning

Pågående avtal gäller tom juni 1998. Den svenske doktoranden beräknas också disputera under senare delen av 1998.

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Utvärderingen kommer att ligga till grund för fortsatt stöd och inriktning. Insatsen är indirekt också beroende av Sida's närvaro i Västafrika. Dock kan den fortsatt ligga som del i en regional satsning.

Specifika frågor för utvärderarna att besvara

Relevans
- Är programmet/forskningen relevant i ett utvecklingsperspektiv i relation till nationella och regionala prioriteringar?

Kapacitet
- Vilken typ av kapacitet har byggts? (BF, svensk, institutionell?)
- Hur många svenskar och burkinabéer har deltagit i arbetet, utbildats, på vilken nivå?
- Vem "äger" programmet, ansvarsfördelning mellan parterna? (IRBET, IRSSH och Universitetet i Ougadougou, SLU)
- Vadi består involveringen av de nationella forskarna? (kan den ökas/förbättras)

Vetenskaplig kvalitée
- Vad är den vetenskapliga kvalitén på de försök som lagts ut?/omedelbara och långsiktiga, kvaliteten på rapporter och publikationer/internationella tidskrifter?
- Vilka resultat har kommit fram hittills? Vilka resultat kan komma fram under kommande år och vilka publikationer förväntas tas fram?

Spridning av resultat
- Finns det en koppling till den praktiska verksamheten (projekt eller människornas nyttjande av skogen)?
- Finns en koppling till policymakare?
- Sprids resultaten till användare/rådgivning/hur?
- Hur är relationen till andra program liknande program i regionen?

Adiministration/finansiering
- Är programmet beroende av utländska medel? grad av egen finansiering - delfinansiering, kostnadseffektiv
- Hur har administrationen skötts?
  - Av IRDC
  - Av Umeå /ISS
  - I BF
- Är det några problem med redovisning av medlen? Är det kontroll/vem har kontroll på medelshanteringen i BF?

Övrigt
- Finns genderaspekter i forskningsfrågorna, genderbalans i den kapacitet som byggs?
- Har det varit någon kontakt med IFS stipendieprogram, dvs IFS stipendiater från BF?
- Vad är CIRADs och EUs involvering? Finns andra aktörer? ansökan till EU?

Framtida inriktning

- Vilka områden borde inkluderas i forskningsprogrammet?
- Hur bör programmet se ut i framtiden?
- Hur bör programmet styras i framtiden?
- Är programmet ett lämpligt projekt som invitationsområde för en ökad svensk resursbas?
- Kan ägandeskap och även kapacitetsbyggande få större tyngd i BF/hur?

Utvärderingen bör ta ställning till om insatsen i BF långsiktigt skall avslutas eller om en större satsning bör göras i BF. Är BF ett lämpligt område för ett större integrerat torrområdes-forskningsprogram? Eller bör ett sådant förläggas till något land i Östafrika?

Avslutning (RP)

Det tidigare Sahelprogrammet och forskningskomonenten har lidit av en halvhjärtad satsning från Sidas sida. Vi har inte haft tid att engagera oss utan försöker utnyttja andra aktörers intresse och kunskaper. Kvalitén på forskningen/försöken kunde ha förbättrats om SIDA/Natur haft resurser för ett större engagemang. (??)

En fortsättning kräver sannolikt ett större engagemang. Om försöksområdet i BF gjordes till ett område där flera olika typer av forskning i torra områden förlades skulle det vara lättare att försvara att mer resurser lades på administration och uppföljning.

Utvärderare/kompetens

För att utföra utvärderingen behövs 2-3 personer med kunskaper i :

- torrområdesskogsbruk
- sociala frågor /community forestry
- forskningsbistånd till torrområden

Tidsplan

September-oktober: begär publicerat material och rapporter även PM från Sida, boka resa. Informera BF be Moussa planera fältresa. 1-5 december.

Intervjua: Sverige: BÅN, RN, KS, JF, SH
Burkina: IRBET, CIRAD, Universitetet, Min of Science and Environment, Dir Regional - miljömin i Koudougou, UNDP? m.fl.

Slutet av November: besök av BB, 25-26 nov intervjuer av svenska forskare. Första veckan i December, fältresa.
Rapportskrivning: December, första utkast i Januari, rapport klar till 1 februari 1998.

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