CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) — PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
Forestry and Land Use Planning	683-0230	USAID/Niger

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 83-01

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. First PRO-AG or Equivalent FY 80	B. Final Obligation Expected FY 85	C. Final Input Delivery FY 86	A. Total $ 4,570,000 B. U.S. $ 3,839,000	From (month/yr.) 7/80 To (month/yr.) 5/83 Date of Evaluation Review 6/83

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
USAID/Niger and the Government of Niger (GON) have agreed to the Evaluation Team recommendation that a small team be fielded to re-structure the project to better define project tasks and the timeframe in which to accomplish them. The team will arrive in Niger to develop the revised implementation plan in January, 1984 This team will design into the revised project the following recommendations contained in the Evaluation Report:		
1. That the project PACD be extended to 31 December 1985.	USAID/Niger	11/83
2. That priority attention be given to working out the institutional problems of the Bureau Technique Forestier (BTF) and that it be fully incorporated into the GON Forest Service.	USAID/GON	12/83
3. That senior Nigerien foresters be hired to support the present counterpart staff.	USAID/GON	12/83
4. That a new position of Deputy Project Director be created for the project.	USAID/GON	9/83
5. That the second technician (Forestry Inventory Specialist) called for under the project be hired at the soonest possible date.	USAID/GON	9/83
6. That two additional long-term advisors (one in forestry/economics planning and one in social science) be added	USAID/GON	1/84

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- ☐ Project Paper
- ☒ Financial Plan
- ☒ Logical Framework
- ☒ Project Agreement
- ☒ Implementation Plan e.g., CPI Network
- ☐ PIO/T
- ☐ PIO/C
- ☐ PIO/P
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. ☐ Continue Project Without Change
- B. ☒ Change Project Design and/or
  - ☒ Change Implementation Plan
- C. ☐ Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

Patrick McDuffie, USAID Project Officer
Mamadou Mamane, Project Director
Clinton Doggett, USAID Evaluation Officer

12. Mission/AID/W Office Director Approval

Signature

Typed Name Jesse Snyder
Mission Director, a.i.

Date

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	to the project staff.		
7.	That the 20-year prospective national resource management and use plan be dropped as an output.	USAID/GON	12/83
8.	That the national-level natural resource inventory be scaled down and limited to the Niamey and Dosso departments with future inventory work directed toward present priority needs e.g. an inventory of the reserve forests and a reconnaissance study to identify fuelwood resources around Niger's major urban centers.	USAID/GON	12/83
9.	That the scaled-down model sites activities currently being implemented and planned be recognized as the correct level of effort (from 16 to 4 sites).	USAID/GON	12/83
10.	That the national-level social survey be scaled down to be complementary to the natural resource inventory component.	USAID/GON	12/83
11.	That four additional scholarship positions be added. (Forestry Economist/Planner; Natural Resource Inventory Specialist; Socio-Economist; Documentation Specialist).	USAID/GON	12/83
12.	That each of the project compenents be better defined and limited to a reasonable level of effort aimed at better addressing present day needs for information by the GON Forest Service.	USAID/GON	12/83

PROJECT EVALUATION SUMMARY (PES) - PART II
Forestry and Land Use Planning (683-0230)

13. Summary:

The main objectives of the Project are to strengthen the planning and managerial capability of the GON forest service and, in so doing, assist the Government in the preparation of a long-term perspective plan for the comprehensive rehabilitation and protection of Niger's soils, water, natural vegetation and wildlife. Four principal streams of effort were laid out for the Project: (1) establishment of a technical planning unit (Bureau Technique Forestier - BTF); (2) establishment of a natural resources inventory and data base; (3) establishment of model sites and preparation of management plans for national forest reserves; and (4) human resources development.

The evaluation team found that, while the basic design and concept of the Project constituted a plausible, coherent and holistic approach to the situation of natural resources in Niger, there were major flaws in the dimensions of the activities and in the underlying assumptions on which project design was based. More specifically, the evaluation team felt that the design concept was extremely over-ambitious and, at the same time, too ill-defined to provide the guidance necessary to adjust the implementation plan in a coherent manner once this realization was made. This oversight resulted, among other things, in an undue emphasis being placed upon products (studies, reports, maps) instead of on the planning process. The evaluation team also pointed to past managerial deficiencies, on both the GON and USAID sides, and to the GON's difficulty in providing qualified counterparts in sufficient numbers, as major constraints.

On the positive side, the evaluation team noted that the Project had made significant contributions to forestry sector development in Niger. The Project is credited with being one of the more innovative, practical, and apart from its over-ambitious targets, realistic forestry activities in the Sahel today.

14. Evaluation Methodology:

The evaluation team was charged with carrying out an in-depth mid-term evaluation of the Project that went beyond what would have been a more modest "input-output" analysis. It was asked to review major questions related to the overall viability of the Project and its place in the rural development sector of Niger and USAID's objectives in this sector. In addition, the team was asked to examine institutional linkages between the Project and other GON entities and the role of the Project vis-à-vis private sector involvement in the forestry sector.

The evaluation team was composed of two AID foresters, a private consultant acting as rural sociologist/institutional analyst, two GON representatives (one from the Ministry of Plan and one from the Forestry Division of the National Agricultural Research Institute - INRAN) and the USAID/Niger Project Development Officer.

The bulk of evaluation activities consisted of reviewing Project documentation and interviewing a wide range of Government officials and others concerned with rural development in Niger to obtain a clearer picture of the role of the Project in the light of overall sector development activities. Additionally, the team was given detailed presentations by Project staff on the actual activities of each component. This was further reinforced by visits to sites where the Project was working and to other forestry project sites.

15. External Factors:

Arresting the deterioration of Niger's soil, water, vegetative and wildlife resources continues to be valid as a Project objective. A number of Project assumptions, however, were found by the evaluation team to have been overly optimistic. The assumption that the GON could provide adequate numbers of trained counterparts for the Project is, for example, now seen to have been unrealistic.

Second, even had the GON personnel been made available in sufficient quantities, it appears doubtful that they could have fully implemented what is now seen to have been a greatly over-ambitious plan.

Third, lack of continuity of personnel in USAID Project management has, in the eyes of the evaluation team, resulted in past "neglect" of the Project by the Mission.

Finally, the assumption that creation of a BTF would automatically lead to institutionalization of forestry planning in Niger has proved illusory. The Project has, as noted above, played an active part in shaping forestry sector goals and priorities in Niger; the BTF itself, however, does not yet exist as a functional planning unit for the forestry service per se.

16. Inputs:

In terms of GON commitments to the Project, the principal problem has been failure to provide the trained cadre stipulated in the Grant Agreement. The Project design was specifically premised on a certain level of Nigerien capability. The evaluation team felt that, even had a more modestly defined work plan been laid out for the Project, qualified counterpart personnel in the numbers set forth in the Grant Agreement would have been a prerequisite to successful completion of the Project.

GON financial contributions have also lagged due to constraints resulting from the current stressed economic situation. Given that Government institutionalization of the BTF has direct recurrent cost implications, this situation does not bode well for the future.

Finally, the evaluation underscored the shortage of administrative and management skills in the Project as a major constraint to implementation. There also appears to be a need for systematizing and rationalizing the use and maintenance of Project commodities, particularly vehicles.

On the USAID side, financial inputs are considered to have been more than adequate to sustain the rhythm of Project activities, although disbursements in the first year appear to have been somewhat restricted due to the lag time associated with Project start-up and to an initial inability to establish an appropriate financial management system. The evaluation also pointed to difficulties caused by the assumption by the Project's principal technical advisor of certain Project management duties which conflicted with his technical responsibilities. The necessity of placing some of these responsibilities on this individual appears to have resulted from Mission Project officer staff shortages.

Other deficiencies noted by the evaluation were (a) lack of a Project-wide workplan, (b) exceedingly complex and unwieldy USAID administrative procedures, (c)

technical staff shortages, and (d) lack of sufficient attention by the Mission to problems in the forestry sector.

17. Outputs:

a) Establishment of the Technical Planning Unit

The Project Grant Agreement called for the legal establishment by the GON of a "separate Technical Planning Unit (BTF) within the Water and Forest Service" as a Condition Precedent. More specific long-term objectives were directed at activities to strengthen the planning and managerial capability of the Service in furtherance of Government development goals, i.e. increased agricultural production and small farmer productivity in pursuit of long-term national food self-sufficiency and sustained economic growth in the rural sector.

In essence, this component of the Project, serving as an "umbrella" for all other Project activities, intended to create a broad capability for land use and natural resources planning within the Forest Service. This capability was to have been manifested through preparation of a 20-year perspective national plan for natural resource use and management.

While the BTF was physically established per the Grant Agreement, the evaluation noted that there had been and continues to be confusion over the BTF's institutional role in the Forestry Service and within the Project itself. Thus the very identity of this component of the Project has up to now not been well defined. Additional and related problems consist of personnel constraints and over-ambitious, ill-defined objectives.

Despite these problems, the evaluation found that the BTF had been instrumental in fostering concrete improvements in the forestry sector (such as a survey of reserved forests, yielding significant amounts of valuable data) and had taken the lead in joint activities with other institutions to study other important facets of the natural resource utilization picture likely to have a short- and medium-term effect on Forest Service operations. The evaluation team felt that the goals of this component of the Project were attainable given (a) an extension of the Project to December, 1985 and (b) dropping as an output preparation of the 20-year plan.

b) Natural Resource Inventory

This component of the Project has as its rationale the notion that natural resource planning cannot take place in a vacuum, i.e. that planning must be based upon a thorough knowledge of the existing resource situation on the ground. To compile this information the Project Paper outlined a course of action consisting of (a) compiling and analyzing existing information and (b) adding to this information through the use of advanced techniques including satellite imagery, ground truth collection and permanent aerial transects.

Work on this component got off to a late start, due in part to the late arrival (September, 1982) of the U.S. technical assistance team and also due to the fact that activities were considerably modified from the way they were originally

The Project has, however, albeit in a limited and highly localized fashion (i.e. around the model sites) contributed to the goal of "arresting and reversing existing trends in deterioration of Niger's soil and vegetative resources." The extent to which the Project has and will continue to influence GON policy makers to implement conservation activities which are national in scope cannot be determined accurately at this point.

20. Beneficiaries:

The Project Paper identifies direct beneficiaries of the Project as people living near the model sites. As stated in the preceding section, the Project has been successful in this regard. The fact that the number of model sites originally envisaged for the Project was severely scaled back, however, reduces considerably the potential number of these beneficiaries.

The Project Paper also notes that the Project is "a first step in a chain of actions intended to have an ultimate but direct effect on the whole country and its people, whose well-being and development are inextricably tied to conserving and improving available resources..." This "effect" is neither quantified nor qualified, however, making a judgment on the Project's impact in fostering it impossible. Certainly the Project could be described as a "first step" in the direction of producing such an effect, i.e. promoting resource conservation and protection.

21. Unplanned Effects:

The Project has made no significant unplanned changes in the social structure, environment, health, technical or economic situation in Niger.

22. Lessons Learned:

Three major lessons emerged from the evaluation, as follows:

1) Be realistic. The evaluation found that the Project set out to do unrealistically ambitious tasks with limited resources, making eventual scaling back of targets inevitable. The evaluation team pointed to a Project in Mali which undertook essentially the same tasks with many more times the resources available to the Niger project. A corrolary lesson is that Project designers should look carefully at projects, especially those in the same region, which undertake tasks similar to those for the Project they are designing.

2) Be specific. The evaluation team found that, in addition to being overambitious, the tasks that were set out were too poorly defined to be carried out in a systematic fashion using the Project Paper as a blueprint.

3) Be Aware of Host Country Limitations. The major stumbling block of the Project has been the inability of the GON to provide personnel in the quantity and quality set forth in the Project Agreement. Future projects in Niger should take a much closer look at the GON's ability to keep its commitments in providing both human and financial resources.

23. Special Comments or Remarks:

Attached to this Project Evaluation Summary is the evaluation team's final report. Major recommendations of the report are:

described in the pre-design documents. These changes (apparently) expanded considerably the scope of the originally envisaged activities without a concomitant increase in resources with which to carry them out.

The evaluation, therefore, reflects serious doubts about the likelihood of achieving success with the natural resources inventory component of the Project as it presently operates (i.e. given present staffing levels and logistical provisions). In addition, the team questions whether the maps and reports produced by this section of the Project would be readily usable given the fact that highly trained staff would likely be necessary to interpret and use the data for planning purposes.

The team, therefore, recommends that the national scale inventory be scaled back and limited to the Niamey and Dosso Departments and that future inventory work be directed toward current priority needs of the Forest Service, including an inventory of the reserve forests and a reconnaissance study to identify forest and brush wood resources located near the five major urban centers of Niamey, Tahoua, Zinder, Maradi and Dosso.

c) Model Sites

As originally designed, this component of the Project was expected to carry out two different types of activities. The first was the establishment of model sites where testing of specific forestry practices would be planned, carried out and evaluated. Sixteen model sites were to be put in place ranging in size from 5 to 50 hectares. The sites were also expected to serve as venues for on-the-job training for Forest Service personnel as well as demonstration areas for people living nearby.

The second activity was to be preparation of management plans for each of the country's 63 existing forest reserves (forets classees), a total area estimated at over 200,000 hectares. A comprehensive plan was to be compiled, including information on location, physical components (including requisite maps), management options, communal relations, and the fiscal, administrative and income data required to complete the plan.

The evaluation team felt that while the pre-design materials for this component reflected an innovative and carefully thought out approach to the real challenge of Sahelian and Nigerian forestry practice and overall land use, they were, unfortunately, expanded to unmanageable proportions during the actual design of the Project. The team noted that the establishment of 16 model sites and preparation of management plans for 63 national forests could only be viewed as an impossible task within the operative framework of the Project.

It was, therefore, decided early on in the Project to focus the model sites work in the reserve forests themselves and to attempt to use the experimentation therein to derive data and information with which to address specific problems of these forests. At the same time, the Project began gathering information to use in developing management plans for each site. These efforts are presently concentrating on four reserve forests (Guesselbodi, Tenda, Karaphon and Gabi) with significant results.

Given these scaled back targets, the evaluation team felt that this component was succeeding in its objectives. The focus on natural brush forests fills a major gap in forestry research, and practical, useful findings are being generated in the area of natural forest management. In addition, the Project is making progress in developing methods for involving local villagers in forest management. In Tenda, for example, where peasant farmers had encroached upon the forest to cultivate fields, efforts are being directed at reestablishing a land-use contract system which had fallen into neglect. At Gabi, the plan seeks to control soil erosion threatening both the forest and nearby villages. Such pilot activities should serve as vivid demonstrations to farmers that integrating forestry and agriculture is both possible and to their benefit.

d) Human Resources Development

The human resources development activities component was to start a "broadly based program of extension services to the benefiting public...so as to establish a better understanding of and support for the protection and conservation of natural resources."

Training, extension and information dissemination activities were to include (1) building up staff capability within the Forest Service, particularly in the BTF; (2) familiarizing other Ministry of Rural Development officials with Project purposes and implementation plans; (3) extending this familiarization to other GON units and ministries; and (4) increasing public awareness of and sensitivity to Niger's natural resource problems. Increased staff capability was to result from two long-term U.S. academic scholarships, two long-term third country scholarships, in-service training for field personnel, on-the-job training for BTF personnel and the development of a forestry and conservation technical curriculum for use at the Rural Development Training Institute at Kolo. Outputs for other GON services and agencies were to include one-day seminars, publication and distribution of Project reports and data, and briefing visits with provincial governors and district chiefs. General public awareness was to be derived from mass media spots, extension and public relations efforts as well as through local organizations and from a traveling village extension/information team. Two expatriate extension education specialists were to be supplied, for a total of 14 person-months, for the four years of the Project.

The first major activities undertaken by this component of the Project consisted of two studies. The first was targeted on the population surrounding the Guesselbodi Reserve Forest and geared toward developing techniques in brush wood management to (a) permit increased wood production and (b) encourage public participation in management of the forest as a multiple-user resource. The second study, on the Tenda Forest, explored basic assumptions behind this type of research and suggested the kinds of questions that needed to be addressed in promoting user group participation in resource management activities.

The result of these studies and subsequent inquiries demonstrated that there was crucial information missing which is considered essential for the development of forest management plans. A national social survey, therefore, similar in some respects to that undertaken by the national resources inventory, was undertaken. This survey was designed to help define Government priorities, existing management patterns and institutional/organizational needs to enable reform. It was to

complement the resource inventory data and provide additional information for each arrondissement's file, including additional information on environmental degradation, firewood scarcity and erosion. The section also undertook a public awareness program as part of the broader extension activities including the production and distribution of stickers and posters and the financing of television spots on forestry topics.

Little was done, however, to build up staff capability in the Project or in the Forest Service generally. There have been only limited in-service training programs for permanent Project staff. Training requirements have not yet been adequately analyzed, nor has the curriculum content of Nigerien institutions been reviewed as a part of the Project activities. Two students have been sent to the forestry school in Bouake (Ivory Coast) while two others have been sent for long-term training at the university of Arizona in the United States. No further plans were developed for manpower training in the original Project design.

18. Purpose:

The Project purpose as stated in the Logical Framework is to "establish a planning and managerial capability within Niger's Forestry Service; produce a long-term perspective plan for the rehabilitation and protection of Niger's soil and vegetative resources; and increase the awareness of Niger's rural population and Government service personnel on the need for resource conservation actions." With regard to establishment of a planning and managerial capability within Niger's Forestry Service, it can be safely stated that the Project is on the forward edge of forestry sector planning in Niger. Given present confusion over the institutional place and role of the BTF, however, the Project appears to have a long way to go before this capability is institutionalized and functioning effectively. Shortage of qualified personnel on the GON side will also be a significant problem for the foreeseable future.

The evaluation team recommends dropping the 20-year perspective plan as over-ambitious, focusing instead on activities of more immediate, useful impact such as brush wood studies on the areas surrounding Niger's five major urban centers.

Increased awareness of the need for resource conservation has been accomplished among the portion of Niger's population whose villages have been affected by the model sites. To the extent that these and other rural people have also been exposed to the Project's media activities*, sensitivities have been further raised.

It is not clear at this point how much sensitivities to natural resource conservation efforts have been raised on the part of Government service personnel. In spite of the obvious and direct relationship between the forestry and agriculture sectors, the former is often referred to as the "poor relative" of the latter in the sense that more emphasis appears to be placed on increasing agricultural output than on protecting and preserving the base upon which this output depends.

19. Goal:

There is no direct evidence that the Project has contributed to the "sector goal" of achieving "food self-sufficiency and sustained economic growth in the rural sector."

*The evaluation team did not attempt to quantify media activity audiences.

1) That both the GON and USAID increase their support for the Project;

2) That the Project be extended by one year to December 31, 1985;

3) That consideration be given to fielding another small team to work out the technical details of Project reorientation and assist Project staff to work out a detailed workplan;

4) That priority attention be given to working out the institutional problems of the BTF, and that the BTF be fully incorporated into the GON Forest Service;

5) That senior Nigerien foresters be hired to support the present counterpart staff;

6) That the second technician (Forestry Inventory Specialist) called for under the Project be hired at the soonest possible date;

7) That two additional, long-term advisors (one in forestry/economics planning and one in social science be hired);

8) That the national-level natural resource inventory be scaled down and limited to the Niamey and Dosso departments with future inventory work directed toward present priority needs - e.g. an inventory of the reserve forests and a reconnaissance study to identify fuelwood resources around Niger's major urban centers;

9) That the scaled-down model sites activities currently being implemented and planned be recognized as the correct level of effort (from 16 to 4 sites);

10) That the national-level social survey be scaled down to be complementary to the natural resource inventory component;

11) That four additional scholarship positions be added (Forestry Economist/Planner; Natural Resource Inventory Specialist, Socio-Economist; Documentation Specialist);

12) That each of the Project components be better defined and limited to a reasonable level of effort aimed at better addressing present day needs for information and data required by the Forest Service.

13) That the 20-year prospective national resource management and use plan be dropped as an output.

NIGER FORESTRY AND LAND USE PLANNING PROJECT

(683-0230)

Report of the Mid-Term Evaluation

USAID/Niger
Agency for International Development

May 1983

ACKNOWLEDGEMENTS

The work of the Evaluation Team would not have been possible without the free and frank exchange of information, opinions and experiences encountered at all levels. The Team is grateful to the senior officials of the Government of Niger whose candor and directness set the stage for a comprehensive and intense evaluation exercise. Director Rosenthal of USAID Niamey and his staff gave amply of their time and knowledge to guide the evaluation exercise and the Team much appreciated their frankness in dicussing the problems, progress and possibilities of the project. They are also particularly appreciative of the sincerity, dedication and cordiality extended by the Project Director, Mr. Mamadou Mamane. They were well guided by the thoughtful comments of Mr. John Heermans, principal long-term advisor to the Project, as well as those of Mr. Patrick McDuffie, Project Manager and Mr. Boyd Whipple, USAID Controller. All of the project staff as well as many individuals met during the course of the evaluation also deserve a vote of thanks. A special word of thanks is due to Ms. Sonja Kay Rix of USAID without whose skill and endurance at the typrewriter it would have been impossible to produce the full draft of this report before the Team's departure from Niamey. The traditional hospitality and friendliness of the Nigerien people made the Team's stay in country a most pleasant one.

The USAID Team members would also like to take this opportun8ty to sincerely thank Mr. Laoual Chaffany and Mr. Moussa Hassan, respectively of the Ministry of Plan and the National Agricultural Research Institute for their dedicated participation throughout the evaluation and cogent advice on the potentials, problems and opportunities of rural development in Niger. Their efforts provided the best backdrop against which to view the Niger Forestry and Land Use Planning Project.

Finally, the Team would like to thank Ms. Madelise Blumenroeder and her staff in the USAID/Niger Translation Unit whose efforts facilitated the preparation of a truly joint GON/USAID document.

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EXECUTIVE SUMMARY AND MAJOR RECOMMENDATIONS

A. The main objectives of the Niger Forestry and Land-Use Planning Project (683-0230) were to strengthen the planning and managerial capability of the forest service of the government of Niger and, in so doing, to assist the government in the rehabilitation and protection of Niger's soils, water, natural vegetation and wildlife. The objectives of the project were intended to support the government's primary rural sector goals of continued increases in agricultural production and small farmer productivity. The project, by focusing on the planning and managerial capability of the forest service, was to provide a mechanism and a framework to the government for resource planning to help determine the outer boundaries of production possibilities and the need and options for protection, conservation, production and rehabilitation of the country's natural resources.

B. The strategy for the execution of this project laid out four principal streams of effort, all inter-related, to achieve the overall objectives. These were:

- establishment of the technical planning unit (Bureau Technique Forestier - BTF);

- establishment of a natural resources inventory and data base;

- establishment of model sites and preparation of management plans for the reserve forests; and

- human resources development.

Briefly, the technical planning unit was intended to be the institutional facility for forest service planning. The inventory and data base were to provide valuable information on the technology to be applied, obtained through on-site experimentation and demonstration. The human resources development component was to be the vehicle for translating the lessons learned and the planning options into understandable guidance and training for forest service staff, staff of other projects and government agencies involved in natural resources management and utilization and, ultimately, to the main user public - the rural population.

C. The evaluation team found that while the basic design and concept of the project constituted a plausible, coherent and holistic approach to the situation of natural resources in Niger, there were major flaws in the dimensions of the activities and in the underlying assumptions on which project design was based. More specifically, the design concept was extremely over-ambitious and, at the same time, too ill-defined to provide the guidance necessary to adjust the implementation plan in a coherent manner. The result has been a project which tends to focus too much on "products" (studies, reports, maps) and too little on using them in a planning "process".

Compounding these problems was an over-estimated assumption of the management and technical skills available to the government and USAID. USAID project management has been lackluster at best and while GON management has been weak, the availability of trained, experienced national staff has been perhaps the greatest operational constraint. Present Nigerien staff are generally too young and inexperienced to carry out the multiplicity of tasks, both managerial and technical, foreseen in the project Grant Agreement. The project has also experienced considerable delays in implementation, perhaps more than can be attributed to normal modilization efforts. These delays have significantly added to the burden of getting the work completed on time and (because of the rather rigid timetables thus required for this fieldwork-oriented project) put great strain on the logistical support, and administrative and managerial functions of the project apparatus. Perhaps the most disturbing aspect of the present situation of the project is the failure to institutionalize the planning process within the forest service. While it is true that the Bureau Technique Forestier was created by ministerial decree (as per the conditions precedent requirements), nothing further has been done to functionally link the unit within the forest service or the ministry. There is a pervasive tendency to ascribe the planning function to the project itself rather than the Bureau Technique Forestier, the forest service unit that was created and which the project was intended to strengthen. This situation, together with the need for certain other structural changes in the forest service due to the recent change of ministries, must be addressed if the real institution building goal of the project is to be met.

D. Despite these problems, the evaluation team also found that the project was making some worthwhile contributions to sector development. The team was witness to the high level of routine day-to-day involvement by the Bureau Technique Forestier in the affairs of forestry and natural resources development in the country. Lack of a defined institutional role and the linkages required to exercise it notwithstanding, the director and his staff are responsible for pertinent action recommendations to government. For example, the review of the reserve forests which they carried out was the first realistic assessment of the situation in years. A recommendation to declassify some 15 of these areas because the tree cover has all but disappeared due to agricultural encroachment is a sector milestone. It will enable the forest service to better marshall its existing resources and use the limited personnel and financial means at its disposal in a more efficient manner - a first long step in the planning process. The team also observed that the BTF is providing valuable assistance to sector development through provision of vital data and information to other projects and agencies. The establishment of the documentation center to compile, store and retrieve scarce sector studies and data, initiated by the project as part of the Bureau Technique Forestier, and outside the original scope of work set out for it, fills a major void in sector development capabilities. The Project/BTF Director and his principal technical advisor have a clear conceptual sense of the place of forestry and natural resources in national and even regional rural sector development. They have forthrightly set out to assist government to chart the options open to them and pragmatically adapted their activities in some cases to cope with the over-ambitious list contained in the project design documents. By centering the

model sites/forest management work on the productive potentials of natural forests and woolands, they have taken meaningul steps to dealing with fuelwood supply in-country. The studies on the fuelwood supplies reaching Niamey, the minor forest products market, and actual use of two of the reserve forests by adjacent local villages complement the technical studies and may provide the first real opportunity for preparing workable management plans for reserve forests in Niger and indeed in the entire Sahelian region. On the USAID side, renewed efforts at strengthening project management as well as the mission's obvious interest in an in-depth evaluation are steps in the right direction to the support this project will require if it is to fulfill its bright promise.

E. The following are the principal recommendations of the evaluation team, considered fundamental to assisting the project to get back on track and fulfill its objectives. The first recommendation is the need for affirmative action and support by USAID and government of Niger. This will entail rapid translation of this report and its submission to government in anticipation of a high level meeting to decide on the merits of the findings and recommendations of the evaluation and to reach agreements on the next steps to be taken. Decision and agreement will be required on the following more specific recommendations. Because of start-up delays and the reorientation that this evaluation is suggesting, the evaluation team considers it essential that the present project be extended by one year to end December, 1985. The team recommends if this extension and the others contained below require further funding, then this should be made available and, if necessary an amended project Grant Agreement be prepared. The evaluation team recommends that once USAID and GON reach general agreement on the future of the project, that USAID may wish to consider fielding another small team to work out the technical details of project reorientation and to assist project staff to work out a detailed work plan for the remaining years. In dealing with the future of the project, both parties, USAID and government but particularly the latter, are encouraged to deal with the institutional problems of the Bureau Technique Forestier. The team strongly recommends that the Bureau be fully incorporated into the forest service and that its attributions, functions and linkages be clearly defined and ultimately brought to bear. To carry out the mandate of the project and the Bureau, it will also be necessary to strengthen the staff assigned by both government and USAID. The team recommends that the project attempt to hire some of the senior, experienced Nigerien foresters who are known to be retiring to support the present couterpart staff. Presently two long-term USAID advisors are approved and one is on board (Mr. John Heermans); the evaluation team recommends hiring the second (Forest Inventory Specialist) soonest and beginning the arrangements to hire two additional, long-term, advisors (one in Forestry Economics/Planning and the other a Social Scientist). As trained personnel is still a major constraint to sector development in the country, the team recommends adding an additional four fellowship positions under the project budget. Finally, for the remaining years of the project, the evaluation team recommends that each of the various project components be better defined and limited to a reasonable level of effort aimed at better addressing present day needs for information and data required by the Forest Service. Specific recommendations on these priority activities have been put forward; most affected are the natural resources inventory and social survey work which will require major shifts in scope and emphasis.

F. The evaluation team believes that with better definition of its tasks, strengthened personnel and additional time and funding, the project, with strong support and good management by both USAID and government of Niger, will be able to fulfill its major objective of improving the planning capability within the Forest Service. The need for planning in order to better use the limited human, financial and managerial resources available to the sector in Niger seems pertinent and worthy of continued concerted efforts.

Chapter I - INTRODUCTION

A. Project Background and Objectives

The Forestry and Land Use Planning Project (683-0230) was, according to the Project Paper, designed with the principal goal of assisting the Government of Niger (GON) to attain food self-sufficiency and sustained economic growth in the rural sector. Recognizing the vital linkages between agricultural/livestock productivity, the predominant role of fuelwood in the domestic energy picture and the necessity for environmental stability in this fragile Sahelian ecosystem, the project rightfully focuses on long-term efforts to slow down, arrest and hopefully reverse the existing trends of natural resource deterioration. A first step toward this goal will be realized by assisting the GON to strengthen the functional planning and managerial capability of the National Forest Service. In so doing the project seeks to provide the Government with a mechanism and an institutional framework for resource planning which will help to determine the outer limits of productive potential and the need for and options to natural resource protection, conservation and rehabilitation. With the capabilities so established, the project envisaged that the GON would be better able to prepare a long-term prospective plan for natural resources development aimed at better guiding the allocations of limited but emerging institutional, financial, staff and material resources available to it, and in attracting the coordinated and coherent external donor assistance required for the GON to achieve its overall goals.

The elements of the four-year project (obligated for total funding of $ 3,839,000) to accomplish the above-mentioned goals were to be as follows: (From the Project Paper)

- The creation and support of a Technical Planning Unit (Bureau Technique Forestier - BTF) within the Forest Service which will provide that service with the basic ability to develop and analyze project proposals and engage in long-term planning and technical monitoring of conservation related projects, provide a data bank on renewable natural resources and provide technical advice to other services of the GON engaged in project activities which impact on Niger's natural resources base;

- the establishment of model sites which will enable the EFS to conduct experimental and test activities which will feed results into the long-term planning component, and provide a management training ground for EFS field personnel;

- the compilation of a natural resource inventory which will provide technical training in more sophisticated techniques of resource survey and management;

- and a complementary component targeted at developing an awareness of environmental concern and action requirements among the rural population and officials of corollary government services as well as at reinforcing the management and extension skills of the EFS field personnel at large.

B. Scope of the Evaluation

This paper consitutes the findings of a three-week midterm evaluation of the project. The terms of reference for the team may be found as Annex III. It should be noted, however, that these terms were prepared for the originally-envisaged two person team (Forester/Team Leader and Rural Sociologist/ Institutional Analyst). After the addition of two GON representatives and the Mission's Project Design and Evaluation Officer it was recognized that the TOR needed to be restructured to better allocate evaluation responsibilities among team members. However, due to the shortage of time and the overall comprehensive nature of the prepared TOR, this readjustment was not formalized in written form. These facts did not impede the work of the Evaluation Team.

The Evaluation Team was composed of the following individuals:

Forester/Team Leader: Thomas Catterson, Senior Forestry Advisor, Africa Bureau, AID/W
From 9 April to 3 May 1983.

Forester: George Taylor, Forestry Advisor, Sahel Development Planning Team (SDPT), Bamako
From 13 to 26 April 1983.

Rural Sociologist/Institutional Analyst: Richard Miller, private consultant furnished under contract with the Institute for Development Anthropology, Binghampton, New York
From 16 April to 3 May 1983.

Government of Niger Representative: Laoual Chaffany, Chief, Bureau of Evaluation, Ministry of Plan, Commerce and Transportation
From 14 April to 3 May 1983.

Government of Niger Representative: Moussa Hassan, Director, Division of Forestry Research, National Agricultural Research Institute (INRAN)
From 14 April to 3 May 1983.

USAID/Niger Representative: Clinton Doggett, Project Development Officer, Responsible for organizing the evaluation and full-time participant throughout the evaluation period.

C. Evaluation Modalities

USAID Niamey charged the Evaluation Team with carrying out an indepth evaluation of the project well beyond that of a more modest "input-output analysis". The team was asked to review major questions related to the viability fo the project and its place in the USAID project portfolio. Among the questions posed, as mentioned in Annex III are those of continuing validity of project objectives, government/USAID support and institutional linkages, the role of

the private sector in forestry production activities, and the relative priorities, or design fit, among project components. In addressing these larger issues and at the same time reviewing the achievements of the distinct project components (Technical Planning Unit, Natural Resources Inventory, Model Sites and Human Resources Development), the process has greatly benefitted from the joint Government/USAID composition of the Evaluation Team. The full and sincere participation by the representatives of the Ministry of Plan and the Forest Service (Direction des Forets et Faune) has facilitated the extension of review and discussion of project components beyond the realm of mere analysis of objectives, activities, problems and expected outcomes. These frank, in-depth discussions among the team members, with government officials and with project staff, particularly with the Project Director, Mr. Mamadou Mamane, constitute the core of the evaluation activities.

The evaluation team also interviewed a wide range of government officials and others concerned with rural development in Niger to obtain a clearer picture of the role of the project in the light of overall sector development activities. A list of the individuals encountered by the team appears in Annex I of this report. Additionally the team was given detailed presentations by project staff on the actual activities of each component. This was further reinforced by visits to sites where the project was working and to other forestry project sites such as those of the World Bank project. An exhaustive review of documentation, both directly project related and of a broader nature, enabled the team to supplement the information obtained through discussions, interviews and presentation. A complete list of the documents reviewed is contained in Annex II of this report.

Two chapters follow. The first, Analysis and Results, offers a point by point report of the findings of the Evaluation Team related to each of the various project components, and, in reviewing the project as a whole, a synthesis of the project vis-a-vis the larger issues which surround it. The remaining chapter, Conclusions and Recommendations, is intended as suggested lines of action for the Government of Niger in conjuction with USAID, and for project staff to improve the efficiency and overall impact of the project.

D. Some General Remarks

Before proceeding with the analysis (Chapter II) and the recommendations (Chapter III), the AID foresters engaged for this evaluation (Forester/Team Leader Tom Catterson, AFR/TR/SDP, and Forester G.F. Taylor, SDPT Bamako) feel that some pre-emptory remarks about the project are warranted. These remarks are based on their overall perception of the project in light of the ongoing forestry program evaluation being undertaken by the Africa Bureau of AID and on the recently completed SDPT Program Assessment. The Niger Forestry and Land Use Planning Project must clearly be viewed for what it is, namely a first generation forestry project launched by USAID and the GON after the devastating Sahelian drought of the late sixties and early seventies. The project is a product of the understanding and concern for the importance of forest and vegetative cover and its links to environmental degradation (desertification), declining agricultural productivity and an emerging energy

crisis induced by fuelwood shortages. The project represents the genuine hopes and expectations of both GON and USAID and both should be commended for their foresight in tackling such massive and complex problems.

The project suffers, however, as do many of its sibling projects throughout the Sahel, both forestry projects and others in agriculture and rural development, from a pervasive set of problems attributable to the relative urgency with which they were brought on stream and the almost complete lack of prior project experience in the forestry sector. These problems include over-ambitious and ill-defined goals and expectations, a layered and complex design process (at least five different design papers were prepared between the mid-1977 PID and the mid-1980 Project Grant Agreement, encompassing considerable shift in problem identification and project approach), implementation delays (presently the project is between 10 and 18 months behind schedule), an over-estimation and misunderstanding of both Government and USAID technical and managerial skills and availability (the design paper prepared by FAO proposed an initial two-year project with 6 full-time expatriates and 24 person months of consultants and considerable - 17 person years - amounts of counterpart training, whereas the final USAID/GON agreement called for a four-year first phase with only one full-time expatriate, 54 person months of consultant services and 8 years of training), and less involvement by local authorities in design that might have resulted in greater realism about all of the above (witness the failure to translate the most comprehensive description of the project - the Project Paper - into French).

Despite these difficulties (which are the result of hindsight and accumulating experience which the Team necessarily had difficulty putting into perspective for its evaluation of the project), there is a bright side to be noted. The project takes on the real constraints of institutional capacity, management constraints and planning skills required to carry out this complex process, which are only now emerging as limiting factors in some of the more traditional production-oriented tree planting projects that have characterized the bulk of first generation forestry activities. By addressing the fundamental importance of natural forests and bush and their management, the project has taken on important national and even regional significance.

In short, the reader and user of this report is urged to view the Niger Forestry and Land Use Planning Project in this larger context. Given the Sahel-wide similarities in natural resources problems and the generation of projects which were started almost simultaneously after the drought, important lessons about the complexity of the problems and the real constraints to be faced are being learned. This evaluation will benefit it, it is hoped, from what has already been learned by the SDPT Program Assessment, the CILSS/Club du Sahel "Bilan Programme" and the ongoing AID Forestry Program Evaluation. This background is mentioned here because it clearly colors the perceptions of the forester team members who are so close to the process; they have probably also infected their evaluation team co-members with a cautious optimism based on a belief that a real start has been made - at least in terms of better understanding of the problems. No apologies are made for this bias, nor

perhaps are they due because above all the development process is and should be one that rests on the foundations and frailties of human endeavor. It is easy and it has too often been the case that, faced with the day-to-day urgency of action and reaction implicit in carrying out "development projects" that this broader view becomes blurred and lost or, to use an especially pertinent cliche, one fails to see the forest for the trees.

Chapter II - ANALYSIS AND RESULTS

This chapter of the report will be presented in four distinct sections as follows:

A - Technical Aspects
B - Social/Institutional Aspects
C - USAID/GON Support
D - Continuing Validity of Project Objectives

A - Technical Aspects of the Project

The Project Grant Agreement signed on 1 July 1980 describes in its Annex I the principal elements of the Project. Three of these elements are, in the main, technical in nature, namely the establishment of the Technical Planning Unit (Bureau Technique Forestier - BTF), the establishment of a natural resource inventory and data base, and the establishment of model sites. Each of these three components will be reviewed below by describing the intended activity and its objectives, reporting on the progress to-date and any modifications of component operations and analyzing the likelihood of achieving stated objectives.

1. Establishment of the Technical Planning Unit

a. Description and Objectives

The Project Grant Agreement called for the legal establishment by the Government of Niger of a "separate Technical Planning Unit within the Water and Forest Service" as a condition precedent for disbursement of funds earmarked for the project. More specific long term objectives were directed at specific activities to strengthen the planning and managerial capability of the Service in furtherance of government development goals. These goals include increased agricultural production and small farmer productivity in pursuit of long-term national food self-sufficiency and sustained economic growth in the rural sector. As the Forest Service by law is responsible for the conservation, improvement and rational exploitation of all of Niger's natural resources the more immediate objectives of the project were to provide the government, through the creation and establishment of a Technical Planning Unit within the Service, with a mechanism and a framework for resource planning aimed at determining the rational limits of the country's natural resources (soil, water, forest, fish and fauna) productivity. In essence the project intended to create a broad capability for land use and natural resources planning within the Forest Service (Direction des Eaux et Forets) then part of the Ministry of Rural Development (MDR).

The inputs provided under the project were intended therefore in part to help establish this Technical Planning Unit (designated Bureau Technique Forestier - BTF in the French Version of the Project Grant Agreement) both physically and institutionally and to provide it with adequate trained personnel and the means required to carry out its tasks. Principal among these tasks, and the foreseen final outcome of the project, was the preparation of "a long-range national plan for use in relation to Niger's natural resources management" by an organized functional Technical Planning Unit within the Forest Service. Furthermore the Technical Planning Unit was foreseen as "the umbrella under which all other components - of the project - will be subsumed and directed". For the sake of coherence of the present report, these components and/or activities are given below despite the fact that they have been disagregated further in the Project Grant Agreement as distinct project components. What follows is quoted directly from the Project Grant Agreement:

" The activity schedule of the BTF will encompass the requirements associated with each sub-component and will include:

- Inventory of natural resources;
- Establishment of resource capability data;
- Preparation of rehabilitation and protection plan, including:

  . evaluation of existing and past efforts,
  . development of project plans to supply forest and range products,
  . development of resource management and conservation plans;

- Selection and implementation of model sites;
- Analysis of long range manpower needs, followed by training, orientation and extension education activities;
- Designing a self-evaluation methodology;
- Analysing long-term costs for managing natural resources programs."

It should be added that the description of the Technical Planning Unit also mentions the establishment of a central point of reference for information on Niger's natural renewable resources although this is not later described explicitly as an activity. The Project Grant Agreement also attributes a coordination function to the Technical Planning Unit making it responsible for ensuring coordination "with all other forestry and natural resource related projects and activities being undertaken in Niger".

b. <u>Progress to-date and component modifications</u>

As stated above, the Bureau Technique Forestier was established by an official decree (arrete) issued by the Ministry of Rural Development on September 30, 1980. It has however proved extremely difficult to carry out the wide breadth of activities outlined in the Project Paper and briefly described in the Project Grant Agreement. Whether indeed it would ever have been possible to meet this over-ambitious and poorly defined work plan seems dubious to the Evaluation Team for many reasons.

Perhaps the overriding problem afflicting the Project and the Technical Planning Unit/Bureau Technique Forestier was the inherent confusion about whether the BTF is part of the FLUP Project or whether the FLUP Project is assistance to the BTF. It is noteworthy that, in the Team's discussions with the many GON officials encountered during the evaluation, the activities being undertaken were consistently referred to as those of the Project and never in the context, unless introduced by the Team members themselves, of a functional unit of the Forest Service. It appears, therefore, that the fundamental objective of creating a planning capability within that service and its present ministry is still to be institutionally realized. As the core of this problem is a lack of clear understanding by Government and by USAID of the real institution building nature of the project, a problem exacerbated in the extreme by the unavailability of a French version of the Project Paper in which the rationale and anticipated institutional development is explained at much greater length than in the Project Grant Agreement.

For example, the Project Paper (p.26) foresaw certain institutional changes intended to consolidate the establishment of the new planning unit, i.e. the then statistics and environmental units of the Forest Service were expected to become part of the BTF. This change has never taken place. The larger institutional issues associated with the Project will be dealt with later on in this report.

Many other factors have also contributed to the slow development of this project component. Some of the problems mentioned here-below are common to other project components. There can be no doubt that all of the technical activities of the Project, either in the context of the BTF or the other components, suffered from the administrative problems (need to secure accommodations, replacement of Project Director, delays in commodity procurement) associated with project startup. The Evaluation Team made no attempt to track and filter cause and effect related to these circumstances because essentially they constitute "water under the bridge" and because the Mission intends to field an administration/finance specialist soon to look more in-depth at the present project administration setup. The team however, with the luxury of hindsight suggests that this USAID Mission and others throughout the region might do well to program time in any future project for establishing project infrastructure: the relatively weak national forestry institutions throughout Africa are usually unable to provide the means and facilities to begin demanding technical work until such project infrastructure is in place.

The personnel situation also hampered the extent of work of which the BTF was capable. Who indeed was/is to do all this planning work especially considering the following circumstances:

- need to replace original project director;
- relative youth and inexperience of new director;
- ambivalent position of only full-time US technician (J. Heermans) acting as both technician and USAID Project Manager;

- failure to hire and field Forestry Planning Consultant;
- failure to incorporate functions and staff of designated forest service units;
- dual responsibilites of Project Director and Chief of the BTF and primary person responsible for national day-to-day management and administration of the Project.

Much of the above refers to the institutional administrative problems associated with launching the BTF resulting from a real underestimation of both Government and USAID capability to support and service an extremely over-ambitious and ill-defined set of project goals and activities. Beyond all of that, considerable institutional advances have now been made (to be discussed below). There are also technical problems associated with the envisaged function of the Technical Planning Unit/Bureau Technique Forestier. The first and foremost of these is the real and dramatic lack of meaningful information about the forestry sector in Niger. Obviously planning cannot take place without the requisite data on which to pose alternative solutions to problems or for future action options. The Project Grant Agreement (p.17) notes that: "from the second year on, national cadre will be able to provide planning assistance to the SEF department level chiefs on a regular basis. In this respect, they will continue their role as resource planning technicians/specialists at the central office level, but also will be instrumental in gathering field data, search of local records, and conducting technical and market-use oriented research". Such a notion can only be measured against the other very real recognition contained in the Project Grant Agreement (p.11) of the need to establish a data base, gather and train staff and systematize data and information collection. Witness to the enormity of these tasks are the most explicit, complex and ambitious work plans foreseen for the resource inventory, model sites and human resources development components of the project. Faced with the enormity of the activities foreseen for these components (a subject which will be treated separately below for each component) one can only ask at what point the project design team really envisioned and achievement of a threshold of data and information sufficient to permit planning to take place.

Despite these formidable difficulties, particularly those associated with the institutional status of the Bureau Technique Forestier vis-a-vis the Project, the Evaluation Team found considerable evidence to indicate that significant progress had been achieved. First of all, The Evaluation Team has been consistently impressed with the capability of the Project Director and Chief of the BTF, Mr. Mamadou Mamane. He, together with the principal long-term consultant, Mr. John Heermans, have pragmatically charted a route through the confusing and over-stated ambitions expected of the project. In doing so they have joined with the emerging cadre of trained Nigerien foresters who have begun to grapple with the major policy issues presently confronting forestry and natural resources development in Niger.

They have for example, repeatedly questioned the viability of block plantations of exotic tree species given expected low growth rates as the solution to fuelwood production. Moreover, they have, in the words of the Director of Forest Service, been responsible for awakening the national interest in

the present role of natural forests and the opportunity for fuelwood production through natural forest management. The project has set out a firm course to study organizational options to involve local populations in the management of natural resources which, with the valuable contributions of the socio-political advisor, can only be characterized as a pioneering effort in Sahelian forestry. The Bureau Technique Forestier has for the first time in too many years undertaken a survey of the reserved forests (Forets Classees). This survey of 44 of the 63 known reserves has yielded a wealth of up-to-date information about these forests. The report submitted to the Forest Service recommended declassifying 15 of these reserves because, through forest destruction, they have literlly ceased to exist. This latter instance is a prima facie case of data collection and planning which will provide the Forest Service with much needed guidance on how to deploy its limited resources.

The Bureau Technique Forestier has also begun to undertake or has taken the lead in joint activities with other institutions to study other important facets of the natural resource utilization picture in Niger likely to have a short-term or medium-term effect on Forest Service operations. They have begun, for example, a study to track fuelwood supplies entering the capital of Niamey which will lead eventually to a better understanding of the role of the private sector in this important market economy, provide basic information regarding wood pricing for future government intervention, and allow the Forest Service to direct its efforts towards sustained yield management in these production areas. A similar study has begun to develop a basic data base about the important market in minor forest products for medicines, food, fruit and artisanal crafts. This study is destined to reveal the opportunity costs associated with clearing of seemingly "useless brush" whether for tree planting or for agriculture. Both of these studies will be important contributions to cost/benefit analysis in project planning for rural development.

The Bureau Technique Forestier has also undertaken a number of joint activities in consonance with its broad mandate to become involved in meaningful dialogue and action programs on the broad spectrum of natural resources with partner projects and organizaitons. It participated in and provided limited resources to a survey and evaluation study of the National Women's Organization/Church World Service improved stoves project. Support, resources and technical inputs have helped plan a survey of important water resources in the country (Etude Mares) in cooperation with the Direction of Water Resources. Funding and logistical support is also being provided to help develop a fish catch assessment on the Niger River in cooperation with the FAO and the Peace Corps. A proposal has been put forward to carry out an inventory of wildlife resources in the "W" National Park in order to enable the Wildlife Service to take increasing control of park development and to provide them with the data necessary to seek external funding for a larger development project.

The Bureau Technique Forestier, and thus the Project itself, is firmly entrenched on many levels in the day-to-day happenings of natural resources

development in Niger. A constant stream of visitors (donors, university professors, in-country experts, Forest Service cadre) pass through the Bureau/Project offices to seek information. Partially in response to this demand, the Documentation Center at the Bureau has been set up to collect, store and safeguard vital documentation and maps. The Center has the beginnings of a first rate collection particularly of hard-to-locate Sahelian natural resources materials. Likewise, the Bureau has envisaged producing a national natural resources newsletter although publication is still being held up. It was apparent to the Evaluation Team that the staff are frequently called upon to provide professional services and advice, write paper for decision-makers and participate in activities of other projects.

c. Likelihood of Achieving Objectives

The Evaluation Team recognizes that much of what it views as achievements listed above are only just beginning or have not been done as well as could be expected. This situation, however, can only viewed objectively in the light of the institutional problems outlined above and the overwhelming magnitude of the tasks inherent in taking on a role as broadly defined as the center for natural resources planning. There should be no doubt at all that despite the problems and slow start-up of the project, the Bureau Technique Forestier has already begun to play its proper role in confronting the challenge of rural development in this arid, fragile environment. The Team has dwelt at length on the situation of the Bureau Technique Forestier because it became readily apparent that its successful launching will be the key to project accomplishment. Saddled with an over-ambitious, ill defined set of project goals and considerable administrative and management problems, there has been too much of a tendency to view the project in terms of its expected products - studies, maps, data, research results and physical infrastructure established. It must be understood by all concerned that the Project must focus on the need for instituting a process - the planning process for natural resources development. That process should not be reduced to merely producing studies or carrying out research. Rather, what is required is a process of defining problems, collecting available data and information, studies and research to supplement that data where necessary, and, based on an analysis of the situation, providing decision-makers with guidance on the various options to problem resolution, the expected outcome of each option and an estimate of the resources required to carry out each option. The Bureau Technique Forestier has already begun that process in several instances and is thereby providing valuable inputs to policy formulation in the country, notably with respect to the situation of the reserve forests, and the importance and potential of natural forests and their management.

Much remains to be done and indeed by definition the planning process is both dynamic and continuous. The Evaluation Team believes that significant achievements can be reached over time. Reformulation and adjustment will be required but, in the Team's judgement, such change will be well received by government, USAID and the Project/BTF staff. The first step will be that of

considering the institutional status of the Bureau Technique Forestier. Much of this will have to be left in the hands of Government. From its discussions with Ministry officials, it was clear to the Team that this need is already well understood; a notion of the structural problems of the Forest Service itself is a topic of concern to many. With the recent installation of a new Director at the head of the Forest Service and the recent transfer of the Forest Service from the Ministry of Rural Development to the Ministry of Water Resources and Environment (Ministere de l'Hydraulique et de l'Environnement), the possibility for such change seems opportune. It will also be necessary to address the question of internal organization of the Bureau itself into operative sections with defined responsibilities. Fortunately a proposal to this end has already been put forward by the Project Director.

Continued support to the Project by the Government and USAID will be required if objectives are to be achieved. If Government can purposefully tackle the institutional problems of integrating the Bureau into the Forest Service and of establishing the horizontal linkages with other services and ministries, this in itself will be good evidence of support. Added staff capabilities both in quantity and quality will also be necessary. The Team received assurances that such a reinforcement of project national cadre was well understood and deemed necessary and possible. In its discussions with USAID mission personnel there was wide recognition of these support needs. A significant step in this direction has already been realized with the reassignment of a USAID direct hire project manager, Mr. Pat McDuffie, to the project after the ending of the principal advisor's ambivalent role as technician/manager. It is expected that Mr. McDuffie's portfolio will be reduced to two projects so that he will be able to give greater attention to the project and better track progress and problems against a well defined work plan. At present work plans exist for the various technical components (natural resources inventory, model sites and social survey) but no overall Bureau or project work plan was seen by the Evaluation Team. The preparation of such an overall plan is considered an urgent priority and it should be both detailed and well defined. The planning process should be seen in terms of short - medium - and long-term objectives. For the short term, i.e. to the end of this first phase of the project, the activities to be undertaken by the Bureau should, in the opinion of the Evaluation Team, focus principally on developing the planning function within the Forest Service. Specific tasks should be chosen and USAID and the Government should discuss and agree on these. The Evaluation Team will, in the final chapter of this report following this analysis, make specific recommendations regarding its view of priority areas of activity to be undertaken. If the two parties (USAID/GON) can agree on a sound work plan, then the Team would counsel adding an additional year to the life of the present phase of the project, i.e. to end-December 1985. With changes mentioned above and those applying to the other components, and with an additional year, the Evaluation Team feels certain that the Bureau Technique Forestier has every likelihood of achieving the overall objective of a strengthened planning capability for natural resources development.

2. Natural Resources Inventory

a. Description and Objectives

The activities of the natural resources inventory component derive from the indisputable reality brought forward in the project paper, e.g. that planning and management capability can be only as good as the understanding of the nature, quality and location of resources. The project design documents pointed out the absence in country of such vital information as the extent of annual cultivation, land use, vegetative cover, general soil conditions and deterioration hazard.

To compile this information the project paper outlined a series of operations to be undertaken. Initially an effort was to be made to gather, interpret and evaluate existing resource information - before new information is gathered. Having analyzed what was available, the inventory section of the project was then to employ modern technology including satellite imagery, ground truth collection and innovative techniques involving permanent aerial transects to define and amplify the data and information required for the planning process. Several qualifiers were mentioned in the description of these efforts. Satellite imagery was to be employed for assessing natural resources conditions for that part of Niger below the 17th parallel; approximately 25 Landsat scenes were expected to be required to satisfy that coverage. While not explicitly quantified, aerial photography was to be acquired. The ground resource survey to correlate imagery with actual ground conditions was initially to focus on "model sites, national forests and other ongoing project areas such as AID's Niamey Department Development and Niger Range and Livestock Projects" with other surveys in other areas on a limited scale. Twenty permanent aerial transects along permanent flight lines some 50 kilometers in length each were to be flown once a year at the end of the growing season during the life of the project. Maps of a scale of 1:200,000 were to be prepared as a result of these efforts. It was further stated that once this basic data compilation was completed the first land and resource capability estimates and calculations could be made.

The resources allocated under the project budget were described in the Project Grant Agreement and may be summarized as follows:

- Short-term consultants: 4 p/m per year times 4 years
- Nigerien personnel - 1 full-time forestry technician (B-1) for 4 years
- Aerial photography
- Satellite imagery
- Surveying/drafting equipment
- Vegetation/soils analysis equipment
- Operational costs for the inventory
- Support commodities (vehicles, materials, etc.. required to operate).

The total costs involved in the original proposal of activities under the natural resources inventory, without taking into account the support commodities and services, was estimated at $ 566,000.

b. Progress to-date and Component Modifications

The acivities of the natural resources inventory as it is being carried out at present represent a considerable modification of what was originally described in the design documents. The work of the natural resources inventory section did not really get underway until September 1982 with the arrival in country of a two-person consultant team hired by the project under subcontract to Tippetts-Abbet-McCarthy and Stratton (TAMS) - a New York based consulting firm. The delays and modifications resulted from rel reluctance on the part of the project technical advisor to implement the work as described in the project paper. The Evaluation Team, although it did not include any specialists in remote sensing or natural resources inventory, fully understands and appreciates this reluctance. In their view this aspect of the project, which is the most technical of the project's components, is, in effect, the most poorly designed. Some of these difficulties can be attributed to the relative level of understanding of remote sensing technology and its application to natural resources, and to the divergent views on this subject among the remote sensing technician community prevailing at the time of project design. It appears, however, that the requisite expertise was simply not available to the design team and the result is an undertaking which is poorly designed, technically unsound, confused, over-ambitious in the extreme and severely undercosted and understaffed.

The activities which have emerged represent an attempt to sort out these difficulties, but they have not gone far enough. Remote sensing/natural resources inventory is a U.S. technical strength yet this expertise has not been employed by the project in the correct manner. Given the problems, the whole section should have been studied and re-designed early on in the project. That this was not done is symptomatic of the overall ills of the project, i.e. its over-ambitious nature, product orientation and breakdown in management/administrative skills devoted to it by USAID. The present undertakings developed from an appreciation of the USAID-funded PIRT project in Mali which seemed to be successfully carrying out similar inventories. While thus logical in a sense, the decision to so proceed, in the opinion of the Evaluation Team, had some major flaws, to wit:

Real expertise was not brought in to help define and design the inventory but, rather, the TAMS contract gave an explicit work statement to develop the inventory/remote sensing methodology and to train the Nigerien foresters in its use. This they have done and continue to do, although there appears to have been little "adjustment of methodology" which the original contract suggested might be necessary "to accommodate the capabilities of the GON counterparts". The Evaluation Team fully realizes that such adjustment must walk the fine line between technical development objectives and development capabilities and that judgements about how to proceed are often subjective and difficult to make. These decisions must, however, be taken. The Evaluation Team has benefited from intense discussions with the TAMS consultants who have returned to Niger to continue the training under this project. There have been differences of opinion, and the Evaluation Team is unsuited to judge the technical validity of the work. Nevertheless, the flaws it perceives are real and numerous and put the overall achievability of the natural resources inventory into serious doubt. More explicitly, a number of things seem certain. First of all, the approach adopted is not based

on clear statements of the expected outcomes; nowhere does it say that it will produce specific products, e.g. a land use map for the area below the 16th parallel at X scale, a land capability map, soils maps or vegetation maps. In the Team's opinion, such direct statements are necessary so that non-technical personnel, both GON and USAID can understand what the project is setting out to do. This lack of clarity about the outputs is compounded by a lack of analysis of the resources which will be required to get the job done, especially as this applies to the costs associated with producing any maps or reports that ultimately will be produced. USAID presently has no basis for knowing whether project funds will be sufficient to complete this work; the Evaluation Team doubts that present funding will be sufficient to proceed as now planned. It would do well to recall that the Mali PIRT Project which has undertaken similar work entailed the following inputs: 35 person years of expertise, half of which were high-level Malians trained to the engineer level; a full complement of support commodities (including 10 or more vehicles) and services (full-time administrative personnel); and a total budget of more than $ 3.8 million. Also the inventory process as understood by the Evaluation Team will not furnish the Forest Service with either the maps or the information it needs as related to its day-to-day responsibilities, i.e. the reserved forests and other production areas it must eventually manage. The Evaluation Team cannot overlook the demanding work schedule proposed by the consultants which will require exacting logistical support and high motivation and job performance on the part of the natural resources inventory team, much of which has already been called into doubt. Another very important question which confronted the Evaluation Team is whether indeed this kind of natural resources inventory capability designed to provide the information basis for national land-use planning and management should be lodged with the Forest Service at all. Certainly the transfer of the Forest Service to the Ministry of Water Resources and Environment brings into question the assumption about how this role would link up with the other services within its former parent, the Ministry of Rural Development. Proper integration with other similar activities avoiding duplication or proliferation of land classification systems as well as broadest use within the Government and greater support must all be viewed as perinent issues in such a consideration.

c. Likelihood of Achieving Objectives

It will be readily apparent from the section above that the Evaluation Team has serious doubts about the likelihood of achieving any success with this component of the project as it presently operates. The team doubts whether, in effect, the exacting work plan of the present endeavor can be completed given present staffing levels, both in quantity and quality, and given the demanding logistical support which will be required. It is furthermore not clear whether the resources foreseen in the project paper (personnel, operational expenses, overall funding) will be sufficient to complete the work. Lastly, once the inventory is completed the Team questions whether the maps and reports will be useable as it appears that highly-trained staff will be necessary to interpret the data, manipulate and extrapolate from it and carry on the more detailed work which will be required to use it for smaller scale planning.

Major operational changes are therefore necessary. The Evaluation Team had the opportunity to discuss these changes with the principal participants involved (Project Director, the consultants, and the USAID Project Manager) and general agreement was reached on the feasibility of altering the present work. First of all, the current inventory/survey work should be brought to an orderly but limited conclusion, i.e. by limiting its total coverage to the Departments of Niamey and Dosso. In order to do so the consultants should prepare a detailed work plan on how to proceed and carefully outline the resources (time, personnel, support and funding) which will be required. This will include a clear indication of the maps and data/information to be presented. At the same time, or shortly thereafter, the emphasis of the natural resources inventory section should shift to servicing specific forestry oriented needs which will assist the Bureau Technique Forestier to provide sound planning advice to the Forest Service.

Two subjects would seem to be a high priority for attention. The first should be an inventory of the present reserved forests (forêt classés) to carry on the important work undertaken by the Project Director. This work could include boundary definition, area declassification options were necessary, forest type maps, present utilization maps, and estimates of productive potential (the latter in conjunction with ongoing model site activities). The second important line of work would be to begin a process of identifying natural forest and brush formations adjacent to the major urban centers (Niamey, Maradi, Zinder, Dosso, and Tahoua) so as to focus on productive potential within a given economic radius versus overall future demand for fuelwood. This would enable the Bureau Technique Forestier to judge whether and where priorities might be assigned for implementation of plantation activities, especially of the farm forestry/mini-nursery type.

The Evaluation Team feels certain that these changes will represent a usefull contribution. They will help the Forestry Service to plan and allocate the limited resources presently available to it. More importantly they will produce tangible, easily understood indications of the present and potential situation and enable the Forest Service to lobby more effectively for increased support at the higher levels of government.

These changes will, to be achievable, require companion adjustments in levels of support provided by the GON and USAID. Principally it will be necessary to reinforce the staff assigned to this section. USAID can, for example, proceed with hiring the long-term inventory spcialist as recently agreed upon with Government. With a view to the future, scholarship should be funded to educate a Nigerien forester to the M.S. level in forestry and natural resources inventory so that he may take over this important work on his return. Lastly, greater integration with other similar ongoing activities appears warranted. More specific recommendations will follow but the Evaluation Team is firmly convinced that the reorientation described above would put this aspect of the project back on its proper course annd hold out hope for achieving meaningful objectives.

3. Model Sites

a. Description and Objectives

As originally designed this component of the project was expected to carry out two different types of activities. The first was the establishment of model sites where testing of specific forestry practices would be planned, carried out and evaluated. These experiments were intended to provide basic information about management practices needed to rehabilitate, protect and effectively use Niger's soils, waters, natural vegetation and wildlife. The sites were to include both production and conservation measures. Sixteen model sites were to be put in place ranging in size from 5 to 50 hectares. These sites were to be set up in either economically important areas or where adverse effects of resource deterioration were particularly critical. The activity was also seen as providing an opportunity for meeting corollary objectives of the project. Information about production, cost of certain practices and relative viability of integrated forest and range management, for example, were seen as useful future inputs to the planning process - both locally and at the national level. The model sites were also expected to provide excellent venues for on-the-job training for Forest Service personnel as well as demonstration areas for people living nearby. Indeed from the outset close involvement with the local people was envisaged, and ideas on their needs and possible participation were to be sought. A lengthy explanation of the methodology used in a preliminary selection of sites, a description of each chosen site and the practices to be undertaken were appended to the Project Paper.

The second activity was to be preparation of management plans for each of the country's 63 existing reserve forests (forets classees), a total area estimated at over 200,000 hectares. The basic objective was to prepare the Forest Service for the natiowide conservation and protection campaign it would ultimately be required to undertake by assisting it to first get its own house (the reserved forest) in order. A comprehensive plan was to be compiled, including information on location, physical components (including requisite maps), management options, communal relations and the fiscal, administrative and income data required to complete the plan. The intention was to have each completed management plan approved by the Ministry of Rural Development and other interested government services. It was then to have been presented to local government representatives and ultimately to the local people and the traditional authorities. Having been so reviewed, these plans were expected to serve as basic management and information guidance which, combined with local revenue schemes, would provide the focal points for a common understanding between local user and GON resource managers. The plans were intended to be both simple and effective and would guide the management of these reserves to: produce more wood and secondary products (including controlled grazing); serve as demonstrations of how natural resources could more effectively be managed for present and future needs; and play a role in informing and convincing farmers and herders that proper resource management pays off.

The resources allocated under the Project Grant Agreement to carry out this work included the following: a total of six personmonths of model site consultancies was to be provided; this was to be staggered at 6 week visits each year over the life of the project. A Nigerien forestry technician at the B-1 level was to be assigned to the project to carry out this work with the technical guidance of the consultant. Although neither quantified or qualified it was clear in both the Project Paper and Grant Agreement that Forest Service field staff would be required to carry out this work. There is some confusion, however, over whether these personnel were to assist with the 16 model sites or the forest management plans and/or both. In addition to commodities support (vehicles, toods, seedlings, equipment, fencing, etc..) and support services, the project budget set aside substantial financial resources for model site nursery establishment and operational costs associated with the various trials, pilot activities and studies, both in the USAID and the special budgetary contributions by the Government.

b. Progress to-date and Component Modifications

The Evaluation Team is firmly convinced that there was a great deal of insight in the pre-design planning of this component of the Project. It clearly represented at the time a thoughtful understanding and innovative approach to the real challenge of Sahelian and Nigerien forestry practice and overall land use. By focusing on a wide range of activities, from natural vegetation rehabilitation and production to sylvo-pastoral integration, it, in and of itself, can be considered a significant milestone for arid zone forestry in Africa. While tree planting was not excluded, the component activities sought to shift away from the traditional response of so many earlier projects - that of random block plantations of so-called "fast-growing exotic species". The intention was to build on existing Nigerien experiences and technologies which had begun to accrue across the country. Given the overall planning context of the Project, these activities were a first clear attempt to move policy and pratice in the sector towards the full breadth of integrated natural resource management techniques required to address the complex need for both production and protection in this fragile Sahelian environment. This component is a very positive aspect of the Project, and Government and USAID alike deserve credit for having agreed on such a course of action. Every effort should be made to capitalize on this opportunity.

It is therefore regrettable that this activity was expanded during the actual design of the project to such dramatic proportions. It soon became clear to project staff that the means provided would be insufficient to carry out the work described. The Evaluation Team cannot help but remark that the setting up of 16 model sites and preparation of management plans for 63 national forests can only be viewed as an impossible task within the operative framework of the project. Each site is expected to be an experimentation and possibly a demonstration area involving: physical establishment, requisite expertise for studying, planning and carrying out and for data collection and follow-up, not to mention the

labor to do the work or manage and protect the sites. The list of requirements to be met and data to be assembled in preparing a management plan speacks for itself of the enormity of the operation. To be sure, it was expected that this work would be done in close cooperation with Forest Service field staff at the Department and Arrondissement levels. What remained unclear, however, were the administrative and financial mechanisms to permit and facilitate this local involvement. With the limited resources available to Forest Service field staff, it became obvious that they would be unable to pursue this work with the vigor and precision required for what was essentially to be complex and relatively innovative research/demonstration efforts of this proportion. Thus even the smaller number of sites selected in 1981 where work was gotten underway was limited in their effect and efficiency. The combined efforts of the principal forestry advisor and the Project Director, both of whom were encumbered with multiple additional technical and administrative tasks were insufficient to properly sustained the extended activity.

Only in 1982 did the project obtain additional consultant services to reinforce the personnel assigned to these activities. After a good deal of introspection about the model sites component a more pragmatic approach was developed. It was decided to focus the model sites work in the reserve forests themselves and attempt to use the experimentation to derive data and information to address specific problems within the forests themselves. At the same time, information is being gathered to develop the forest management plan for each. These efforts are presently concentrating on four reserve forests (Guesselbodi, Tenda, Darafon and Gabi), and significant advances are being made. A paper putting forward the set of criteria for establishing model sites and guidance on the research protocol has been prepared and sent to departmental field staff. This paper clearly defines how the work must be carried out and the resources (personnel, funding and logistical and material support) available from the BTF for field staff who wish to get involved. It is a demanding regime, and to date no new proposals have been accepted. There are still problems, to be sure, and these include: the existing logistical problems of servicing four distinct, widely separated sites; the absence of sufficient local support personnel to safeguard the work; the lack of Nigerien cadres in the section to take up the work (only one C-1 forester who despite his reported high motivation will be unable to provide the necessary leadership to carry on); and failure to link up this research activity with the National Agricultural Research Institute (INRAN).

c. Likelihood of Achieving Objectives

The activities being carried out under this component of the project are clearly on the right track. A lot of credit is due to technical advisor John Heermans for his dedication to this innovative and difficult field work. In choosing to focus on the reserved forests and their management, the project is addressing a major gap in forestry practice in Niger and indeed throughout the Sahel. Too little time, effort and money has been devoted to the natural brush forests of the arid-zones of Africa despite the fact that large areas of just such forests have been gazetted since colonial times. For too long the classical notions of forestry science - multiple use and sustained yield - have been fervently evoked as dogma,

first to the emerging African foresters, and lately among them. Little if anything, however, has been done on the ground. This is equally surprising because it has now become obvious that these forests have long been used, by the peasants, for just such multiple and sustained purposes - for food, fodder, firewood, rustic building materials, medicines and numerous household materials. Measured in terms of these different products, and indeed simply in terms of biomass productivity, it is small wonder that the forestry community is becoming increasingly sceptical of single product exotic tree plantations.

Basic information to manage these forests is still notoriously lacking but already the model sites forest management component can be credited with practical, useful findings. At Guesselbodi the cutting experiments have already yielded valuable data on dry weight fuelwood yields for various typical brush wood forest types. For the first time, then, the Forest Service will have quantitative information on yields to guide its permit system for fuelwood cutters - an important step towards rationalizing use and projecting returns to cover the recurrent costs of managing these forests. Over time these same cutting trials will help to refine cutting cycles in native brush forests so that sustained yield production can be planned. At Tenda, where peasant farmers have invaded the forest for cultivable fields, the efforts are being directed at re-establishing the contract system which had fallen into neglect. By making the peasants responsible for establishing and protecting valuable native tree species in the fields against continued permission to use them, the Forest Service can once again gain control of these and similar lands. Such pilot activities will serve as a vivid demonstration to the farmers that integrating forestry and agriculture is possible and to their benefit since the species chosen are notably ones that provide products (fruit, fuelwood, ingredients in local cooking, etc..) of direct use to the typical rural family. At Gabi, the plan seeks to control soil erosion threatening both the forest and nearby villages. The lessons will be quickly evident to the surrounding population facing similar problems on their own land. There is neither time nor is it within the scope of this report to fully illuminate the important work that is going on within the context of the model sites component. These activities combined with the numerous other myriad details (maps, boundary makers, vegetation typing, access routes, and local uses of the forests) add up to the beginning of the first viable management plans ever conceived for the reserved forests of Niger. This must be compared to the recent past when it would have been difficult even to locate some of these forests. The especially innovative attempts to identify the surrounding populations who are presently using the forests, whether for fuelwood, grazing agricultural fields or for monor forest products, and the efforts incorporate them into the planning and ultimately the management of these forests can only be seen as the cutting edge of forestry development in the Sahel.

The potential for this work is enormous: if the Forest Service can begin to come to grips with managing their own lands, these in turn will serve as pilot research, training and demonstration grounds for much of the other

forest and brush lands throughout the country. To succeed the unit will need continual and increased support both to carry out the work presently planned and perhaps to begin work in one or two additional areas. The predominant need will be for trained and experienced staff - both Nigerien and expatriate. The present advisor Mr. Heermans will terminate around the new year; ample lead time will be required to find a replacement and ensure a suitable overlap. New Nigerien staff must be added to ensure success. Forestry research takes time because of the long rotations; this effort will only come to real fruition in the years to follow. In the meantime every possibility should be explored to reinforce it. Training now for a future senior counterpart, to the masters level, seems vital to ensure continuity. There are already ample results that could constitute the centerpiece of a national or even regional workshop on natural forest and brush land management. Gradually these new directions in research should be absorbed by INRAN and take their place as first priority national research topics. Information on similar work in other countries should be collected and added to the Documentation Center of the BTF; a field trip for project staff to neighboring countries (Senegal/ Nigeria) would add impetus as well. Solid, lon-term support from both GON And USAID will be necessary and should be given generously. The potential for success in this component is among the highest in Sahelian forestry projects and programs.

B - Social/Institutional Aspects

1. Human Resources Development

a. Description and Objectives

The human resources development activities as defined by the project paper were to start a "broadly based program of extension services to the benefitting public ... so as to establish a better understanding of and support for the protection and conservation of natural resources". This was to include the mobilization of human resources at all levels, including SEF and other MDR services, the general public, herders, and cultivators. More specifically, the activities of training, extension, and information dissemination were to include the following:

(1) building up staff capability within the Forest Service, particularly the Bureau Technique Forestier (BTF),

(2) familiarizing other MDR officials with project purposes and implementation plans,

(3) extending this familiarization to other ministry and GON units, and

(4) increasing public awareness of and sensitivities to Niger's natural resource problems.

According to the project paper, increased staff capability was to result from two long-term U.S. academic scholarships, two long-term third country scholarships, in-service training for field personnel, on-the-job training for BTF personnel, and the development of a forestry and conservation technical curriculum for use at the Rural Development Training Institute at Kolo. Outputs for other GON services and agencies were to include one-day seminars, publication and distribution of reports and data, and briefing visits with Provincial Governors and District Chiefs. General public awareness was to be derived from mass media spots, extension and public relations efforts through local organizations, and from a traveling village extension and information team. Two expatriate extension education specialists were to be supplied, for a total of 14 person months, for the four years of the project.

b. Progress to-date and Component Modifications

The first two studies were undertaken by this section in 1981. A U.S. consultant was brought in to look at the human resource aspects of natural resource management at the model sites. While his position was not that of an extension education specialist as defined in the Project Grant Agreement, his work did initiate dialogue between the Forest Service and the local population. His actual role was more a function of project needs perceived at the time than of filling a slot previously defined in the grant agreement.

The first study concerned the population surrounding Guesselbodi Reserve Forest. The purpose of this study was to help develop techniques in brushwood forest management to permit increased wood production and to encourage public participation in managing the forest as a multiple-user resource. This was to provide benefits for a diverse community of users, including herders and farmers as well as woodcutters. The study reviewed forest history, wood product potential and conditioning required for successful participatory management institutions. The study also outlined four management options, from direct control by the Forest Service through a series of participatory management alternatives.

The second study, on the Tenda Forest, explored basic assumptions behind such research and suggested the kinds of questions that needed to be addressed in promoting user group participation in resource management activities. It began with the premises (a) that user population involvement is crucial and (b) that the Forest Service should backstop local efforts on technical questions and in certain critical rule enforcement situations. The Nigerien rural development administration in general and the technical planning unit in particular is trying to shift from a top-down to a bottom-up model of resource management. Information is required to respond to a whole series of unanswered questions concerning both institutional forms and technical issues, information which is available only at the local level.

The results of these studies and subsequent inquiries demonstrated that there was crucial information previously not understood that was essential to incorporate into any forestry management plan. The Guesselbodi study, for example, demonstrated that nearby villages had amongst them different incentives and interests in participating in such a forest management plan. Inquiries at a number of sites revealed that the local administrative authorities did not always know where the boundaries of the reserves were. At times, entire vallages had moved into the reserve forest and had fields located within the forest voundaries. Drastic actions had been taken which showed little responsiveness to the needs of the local populations.

There was a clear need to build institutions from below. To continue to promote participatory development, these bottom-up institutions had to encourage people to think for themselves, to seek information and to use it in public efforts directed toward their own self-interest. Both the people and the Forest Service would have to be involved if management presceiptions for sustained yield were to be respected. It helped awaken the Forest Service to what it would mean to get people involved. It helped define the need for reorienting operations, retraining, and institutional and legislative change. It became evident that foresters had much to learn about how these forests were being used and how they could potentially be used. The issues were complex and there was need for a clear direction in the evolving forest service policy.

Having recognized these needs, the project went on to gather information comparable to the natural resource inventory already underway. A social survey was designed which would help define government priorities, management patterns, and institutional and organizational needs which would make reform possible. There continued to be a focus on sensitizing the population and increasing their awareness of the specific needs of forestry management in particular and in environmental concerns in general. But the social survey was much more than that. It focused on the utilization, attitudes, and expectations of the people toward natural resources at their disposal. The purpose of this survey was:

- to determine the degree to which people understood the current problems and could actively participate in their solution,

- to determine the degree to which the population was amenable to change, and

- to develop concrete recommendations on which to base revision of present forestry policy and legislation.

At this point, the purpose of the social survey was much more than long-range planning. It was national in scope, conceptually complex and dealt with specific questions, including organizational change and legislative reform. The survey was to complement the resource inventory data and provide information for the file for each arrondissement, including additional information on environmental degradation, firewood scarcity and

erosion. In addition, it was felt that information could be provided for introducing the notion of "social" forestry in the Sahel. This could either take the form of a newsletter published by the technical planning unit or through development of social forestry texts to be used either at the Kolo training center or at the University. The Human Resources section also undertook a public awareness program as a part of the broader extension activities. This included the production and distribution of stickers and posters, and the financing of television spots on "The Role of Trees", "Desertification in Diffa", and "Forestry Development".

Little was done within the project, however, to build up staff capability within the technical planning unit or the Forest Service in general. There have been only limited in-service training programs for permanent project staff. Training requirements have not yet been adequately analyzed, nor has the curriculum content of Nigerien institutions been reviewed as a part of the project activities. Two students have been sent to the forestry school in Bouake (Ivory Coast) and two more have been identified for long-term training in the United States. No further plans have been developed for manpower training.

Most of the current efforts of the Human Resources Section are devoted to executing the social survey. Designed in conjunction with the natural resource inventory, the survey is comprised of two separate questionnaires. One is a village-level questionnaire administered simultaneously to one or more notables in each sample village. The second is an individual-level questionnaire administered to a random sample of household heads within each sample village.

The survey is now being coordinated by a Nigerien forester who also serves as assistant project director and as head of the Human Resources Section. He is assisted by a staff of six enumerators trained to carry out this survey, plus one intermittent U.S. consultant. The consultant was primalily responsible for the research design, questionnaire development and sampling methodology. He also trained the head of the Human Resources Section who later became survey coordinator. Thirty enumerator candidates from the labor bureau were recruited through government channels and were interviewed; twelve were selected for training, including four women. Due to various factors this number was eventually reduced to six, none of whom were women. The current full-time Nigerien complement, therefore, consists of one section chief and coordinator (Zarmaphone), two Zarma speaking enumerators, and four Hausa-speaking enumerators. No one on the team speaks both these local languages.

The questionnaire was developed primarily by the American consultant, translated into the two local vernaculars, and subjected to testing and pretesting. The French version is the official version as French is the only language understood by the entire team. The Hausa and Zarma versions are the ones used for the actual field interviews.

The sampling procedure used is that of a multi-level stratified random sample. The initial stratification is done by ecological zones which typically are summary categories derived from more detailed taxonomic units defined by the natural resource inventory team. Next is a stratification by village size within each zone, followed by a random sample of household heads (taxpayers) within each village. The size of the sample within each village varies by village size.

As of April 26, 1983 a total of 313 questionnaires had been filled out and returned to the office in Niamey, 279 by the Hausa team and 34 by the Zarma team. According to the latest work plan, 705 questionnaires were to have been completed by the end of April. During the first 2 months of a 14 month schedule, the two teams together completed only 44% of the questionnaires scheduled. The Hausa team has completed the Arrondissement of Birni Konni (Tahoua Department) and has completed part of Say Arrondissement (Niamey Department). The two arrondissements were only partially completed during the initial trips, due to inconsistencies between the various lists used in sampling techniques and to linguistic incompatibility between the sample population and the enumerators. (Residents of some sample villages did not speak the languages expected). In addition to the three arrondissements already begun, the Human Resources Section has received the ecological stratifications from the resource inventory team for an additional 8 arrondissements.

Assuming for the time being the best of all circumstances in adhering to the current plan, it is, first of all, unlikely that the team could or even should attempt to make up the one month already lost. Administration of the questionnaire, therefore, would run right up to the beginning of the 1984 rainy season. If it slides over, an additional few months will be lost. Secondly, even with the most optimistic schedule for data analysis, the final report would not be prepared until 1985. It is not realistic, however, to expect that the amount of data will be analyzed adequately within the proposed time frame and budgetary constraints. The human resources consultant has realized this as well and has submitted an unsolicited proposal for the data analysis and write-up. While possibly excessive in terms of time and money involved, it is much closer to reality assuming the current social survey continues unaltered.

Now assuming for the moment that everything does not go as planned, and if the output for the first two months is indicative of the rest of the schedule, data gathering itself could extend into 1985, with coding and analysis to follow. While some of these early delays may be termed start-up costs, others are likely to follow. Significant delays, therefore, are likely.

One alternative which sould not be followed would be to increase output per day by the enumerators. The current problem seems to be one of too much, rather than too little supervision, and demanding increased output may render the questionnaires useless. The current system of bonuses also merits careful attention by the survey coordinator and the consultant.

There is a clear need to motivate the enumerators, and extra money is often an effective incentive. It is important to remember that accuracy in the interview is more important than the number of questionnaires completed per day. While the latter is more easily quantified, the former is obviously essential if the survey is to prove worthwhile. There is an alternative bonus procedure that might be considered: no bonuses are paid on an ongoing basis, but the enumerators are promised a substantial bonus (20 to 30 percent of their salary) if they are still working for the team at the end of the survey (e.g. if you are not fired at some point, you receive the bonus). This has the advantage of having the bonus based on a range of factors, with quality, and not just quantity, an important consideration).

The human resources inventory is conceptually and methodologically sound. The basic question, however, is whether or not that degree of methodological and conceptual sophistication can be used to assess accurately the current conditions, perceptions, and interests of rural Nigerien population. Serious problems of validity and reliability can arise when the methodology supersedes the realities in the field. The risk with survey methodology in this setting is that one may seek answers to questions that the population has not even previously considered. With this type of questionnaire one needs to be careful to survey pre-existing knowledge and perceptions without introducing new concepts. For example, while there are important analytic reasons for wanting to introduce a 5 point ordinal scale (e.g. questions 22-38), it may only be introducing a false sense of precision, if the peasant only thinks in "yes/no" categories.

c. Likelihood of Achieving Objectives

The social survey is an ambitious undertaking that began with some realistic assumptions but seems to have gotten out of control. Under the best of circumstances the survey could probably be completed at the intended scale, though probably not within the time frame alloted. Such social surveys are not infrequently overambitious in the data collection phase, with the initial estimates for the time and money required for the analysis usually coming up short. This survey does not seem to be an exception to that pattern. Additional large inputs would be required to actually code and analyze the data. For example, the scope of the current questionnaire clearly implies a requirement for computer analysis. In addition, serious problems of reliability and validity may make the interpretation of results even more difficult than expected.

Scheduling difficulties have already arisen which could not have been handled by built-in contingencies. According to the current work plan, enumerator teams are to have a turnaround time of one week in Niamey; each month, the teams are to spend 19 days in the field with one week in Niamey preparing for the next mission. Due in part to unanticipated sampling difficulties, the Hausa team required turn-around times of 11 and 13 days for the months of March and April respectively. The Zarma team was in Niamey

from April 1 to April 27. While the teams appear to have made substantial progress and the coordinator appears to be well disciplined, much more is needed to assure successful execution of the survey.

The rest of this section will underline some of the potential difficulties administering the survey as it now stands. Many of these are not new to the survey team, as has been made clear in the numerous reports furnished by the intermittent expatriate consultant. He seems to be aware of the practical, conceptual and methodological problems that may affect the successful completion of the survey. Since it is the opinion of the Evaluation Team that the social survey as presently constructed is over-ambitious, the potential difficulties merit further discussion.

The potential problems of survey execution are at least two-fold: problems related to project administration and practical problems of administering the questionnaire in the field. At the level of project administration, the teams are not guaranteed vehicles, chauffeurs, and necessary supplies and equipment in a timely fashion. Apparently no project vehicles or chauffeurs are assigned exclusively to the human resources division - the social survey team - per se. In addition, protocol must be taken care of with the local administrative officials. Telegrams must be sent to the local prefet or sous-prefet announcing the arrival of the research team. Once in the field, the local administrative officials introduce the team to the village leadership. Unfortunately, official records available in Niamey are not always consistent with reality. In one recent trip, the team arrived at a village that according to their records had only one chief. What they discovered was that the village had split - there were now two villages with two chiefs that did not get along very well. The team, therefore, spent a few extra days recontacting the local administrative authorities and being introduced to the other half. It is likely that problems like this may recur. Efficient survey administration also requires regular payment of enumerator salaries. While improvements have been made, the problem has not been completely resolve. The enumerator teams are also likely to run into unscheduled delays during the rainy season. Currently the months of July and August 1983 are set aside as times during which no field surveys will be administered. Depending on the rains, the sample population could be busy in their fields as early as June and as late as October or November. It is likely, therefore, that further delays will be incurred.

Substantively, the questionnaire is quite ambitious. Successfully completed questionnaires would provide a wealth of information that could prove valuable for years to come. Precisely because of its ambitious nature, the questionnaire itself is quite complex and introduces potential problems of validity and reliability in its formulation. The problem becomes not whether or not the questionnaire can actually be filled in within the framework allotte, but how indicative and accurate the replies are. It is the Evaluation Team's best judgement that there will be more problems in these areas than initially anticipated, a fact which will further decrease the utility of the information actually collected.

Another complicating feature of the social survey is that, because it is only a partially tested methodology for this topic, the conceptual scope of the questions and their particular formulations cannot be as narrowly focused as it might be with more experience. One way to help solve this problem is to develop a series of testable hypotheses around which the questionnaire (and subsequent statistical analysis) can be oriented.

When the questionnaire was shared with the Director of Forestry Research at INRAN (a member of the Evaluation Team), a number of pertinent questions were raised. One was the choice of species listed, for example, on pages 10 and 11 of the questionnaire. There seemed to no reason, a priori, why these species were selected over others. He felt that there were at least 50 species that could have been included in a comparable listing. In addition, he raised questions of the adequacy of translation of the French questionnaire into the two languages, Zarma and Hausa. This is not to say that other individuals have not previously also raised such questions, but it did underline an important weakness of the social survey team: no single individual appears to combine the language skills, the forestry training, and some knowledge of social science methodology and research. Despite the good intentions of the intermittent consultant, there are no female members of the survey team and, as a result, village women cannot be interviewed. This will not only restrict the kinds of questions that can be asked, but will also reduce the reliability of responses to remaining questions pertaining to women's issues.

In addition, the survey is of such an ambitious nature, both conceptually and in terms of its national scope, that it may not be meeting the most urgent needs of the Technical Planning Unit. Rather than a national survey that can be developed into a 20 year development plan, the technical planning unit needs more site-specific information about the areas around its National Forests, around the major urban centers, and around the project's model sites. In its current form, even if the survey could collect the data outlined, that kind of information may not respond to the immediate needs of a viable, functioning planning unit.

The sampling procedure, while well defined and quite sound, is complex and is probably much more precise than are other aspects of the survey. To the degree that current sampling continues to require a significant expenditure of available resources (and adds confusion), attempts should be made to simplify the procedure. Sophistication in sampling that supersedes validity and reliability in other aspects of the survey is only wasted. Alternatives which might be considered include:

- simplifying sampling procedures by ecological zone,

- reducing the demographic stratification from three to two village sizes, and

- reducing the number of villages sampled in each ecological zone of each arrondissement.

If in fact the results of the survey are generalizable (which is a key underlying assumption of the survey), one does not need to sample every combination of each ecological land demographic stratification in each arrondissement. While these kinds of changes will reduce the analytic flexibility of the data base, the loss will be relatively insignificant and the data base will still provide information which is more than sufficient for project needs and many years of data analysis.

There have already been difficulties encountered in administering the survey, difficulties related directly to both the complexity of the sampling and to the training of the survey team. At the end of last December, the Hausa team was sent to the Filingue arrondissement but because inappropriate sampling techniques were used to select the survey sites, 150 questionnaires were filled out which cannot serve as a basis for further generalization.

This type of problem is also indicative of the general staff capability of the survey team. The survey coordinator is a forester and not a social scientist. Although he participated in an extensive training program given by the intermittent social science consultant, he cannot be expected to have either the depth or breadth of knowledge required to handle mishaps such as the one just described by himself. Clearly someone with more appropriate education and previous experience would be more adept at handling these types of problems. This is also an example of the type of problem that could be avoided by the presence of a fulltime consultant. The enumerators are generally at the level of a B.E.P.C. (Brevet Elementaire du Première Capacité), three years prior to the BAC or bachelor's degree. They have no formal training either in forestry or the social sciences. Similar experiences elsewhere in the Sahel, however, have demonstrated that this type and level of training for the enumerators is not only adequate but quite common in situations such as these. What is needed is adequate supervision. The survey is very demanding and requires constant attention if the work is to be performed properly. A number of options exist to provide the degree of supervision required for any detailed social forestry survey. One is to develop the staff capability (i.e. a Nigerien sociologist trained to at least the level of the maîtrise within the Technical Planning Unit, and, in the interim, provide the project with a full-time social scientist trained in survey methodology. Another option is to rely more heavily on local social science institutions such as IRSH for local consultants with proper training and experience to oversee the survey. Unfortunately, IRSH sociologists are already in great demand, and they prefer short-term to long-term assignments. A third alternative is to recruit existing expertise from other Sahelian states such as Senegal. Any of these alternatives is likely to provide more efficient survey supervision and more useful results.

More responsive to the immediate needs of the Technical Planning Unit are the "études ponctuelles" as were done for the Guesselbodi and Tenda Forests. These studies provide precise guidelines for developing local participatory management patterns and respond to the needs for extension and dialogue with the local population. To the degree that this type of study continues, it is likely that the Niger Forest Service and the rural population will increase their mutual understanding of the need for protection and conservation of natural resources. Through these studies and the work plans developed by the forestry advisor, social factors are now being given considerable weight in developing the management plans for the two national forest reserves where model sites have been established. Through these qualitative studies and information derived from the quantitative social survey, the local population can continue to provide important inputs to the policy, planning and decision-making process within the Technical Planning Unit. This type of popular participation has been a major project strength.

Research in other areas, however, must also be pursued. Investigations similar to that of the wood products marketing study in Niamey should be extended to other urban centers. More information is also needed on firewood merchants, particularly concerning suppliers to major urban centers. Research plans for these and other studies must be carefully developed through consultations with the project director and the social science and forestry advisors.

In conclusion, the objectives of the human resources section as they have evolved can be reached provided they are working with appropriate research methodologies and an adequately trained and motivated staff. Given the complexities of even a scaled-down version of the social survey, this is likely to require a fulltime social science advisor well aware of the constraints of survey research in rural Africa. It is unlikely that the social survey in its current form can be successfully administered within existing constraints. Neither is the current questionnaire formulation the most appropriate for other needs of the Planning Unit. If a fulltime consultant were available and the studies were reoriented to specific project needs this unit would likely develop into a model for social forestry in the Sahel.

2. Institutional Analysis

The terms of reference prepared for the Evaluation Team highlighted certain institutional aspects of the project. It has been difficult to separate out the overall institutional view of the project from the analysis of its different components; this will be especially obvious in the section of the report dealing with the Technical Planning Unit (Bureau Technique Forestier). Nevertheless there do seem to be valid reasons for attempting to develop an overview of the institutional setting of the project and presenting it here, even if this means restating certain issues which have already been dealt with separately.

The Evaluation Team is aware of the fact that, by its very nature, the planning process which the project seeks to strengthen entails day-to-day involvement with other offices, services, organizations, projects and government ministries. This is as it should be as planning cannot be conducted in a vacuum. The Evaluation Team has noted the large number of existing contacts the Bureau Technique Forestier currently sustains with other entities. This is a positive aspect, but the Team would be reluctant to recommend that these relationships be expanded. In developing its contacts and institutional linkages the Bureau Technique Forestier should proceed modestly with a clear view of its own capabilities. A number of the joint activities undertaken have, as noted earlier, not been done as well or to the required depth. There is a definite risk of spreading project resources too thinly and not reaching any real threshold action in certain important areas. It would seem necessary, to state it simply, that the planning itself be planned. The linkages envisaged in the project paper were, in the opinion of the Evaluation Team, too loosely defined. It will be up to the project staff and their superiors in government to rationalize this process. It must be done in full recognition of the tendency to duplication that traditionally emerges in so called development planning. Naturally the key to a rational and logical approach is the basic strength and capability of the Ministry of Plan itself which must lead, control and delegate planning functions.

The Government and USAID, in addressing the institutional framework and problems of the Bureau and the Project, should focus on the tangible for the time that remains. The major current institutional need, as noted previously, is to assure that the role of the Bureau Technique Forestier is properly understood and its place and functions properly established within the Forest Service (Direction Foret et Faune). The Government may wish to consider changing the BTF's name and organizational designation, i.e. to something such as Planning and Programming Service, as a step towards alleviating the present misconceptions about its role and that of the project that assists it. The Evaluation Team sensed that such changes might better be accomplished in the context of an overall restructuring of the Forest Service itself. The Evaluation Team believes that there is little reason to expect that the Government will be either willing or able to absorb the recurrent costs associated with running the BTF if it does not evolve as a genuine <u>line</u> organization, achieve proper staffing and begin to serve the defined useful purposes for which it was established.

It is unlikely that integration and linkages with other government services, organizations or projects can be defined and stabilized until the functional attributions of the BTF are clear to all concerned. In the interim, the Bureau should make an effort to find out what activities other institutions and projects are carrying out at present in the field of natural resources planning so as to strictly avoid overlap, conflicting plans and duplication of effort. As to ongoing relationships,

certain specific comments are in order: once the Bureau's role is defined within the Forest Service and its parent ministry, a liaison with the Ministry of Plan should be developed to channel its overall involvement in sector planning. This relationship should be task-oriented to start with and modest in its expectations. It could, for example, start with a study of recurrent costs for forestry projects and programs to complement ongoing work by the Ministry of Planning in rural sector. The Evaluation Team also considers that the relationship with the Ministry of Rural Development could be strengthened, again with a task orientation. The Bureau could be charged with participation on behalf of the Forest Service in the ongoing MDR/FED work on long-term manpower planning for the rural sector. It was originally envisaged in the project paper that the Bureau Forestier Technique would help develop an extension forestry curriculum and materials for the IPDR at Kolo. This appears beyond the present capability of the Bureau and should not be pursued at the moment. In the opinion of the Team, however, USAID would do well to investigate the need for assistance to forestry training at Kolo, and include such an element in the second phase of its present project aiding the school. More and closer contacts with the Forestry Research Division of the National Agricultural Research Institute seem warranted, a gradual move towards shifting responsibility for implementing the natural resources/forestry inventory and model sites work to that institution. This will, in large measure, depend on INRAN's ability to sort out its own problems in the future. The Evaluation Team feels that the BTF might best try to first reconstitute the Forest Service/INRAN linkages that were employed in the past to formulate national forestry research priorities. A National Forestry Research Committee might be formed to assist INRAN to determine these priorities and lobby for needed support. Linkages between the Bureau and the Projet Forestier (IDA) must be strengthened; both entities have plans for forestry training (recyclage) and forestry research in their budgets. Coordination, cooperation and an agreed mini-work plan should be sought.

The description of the Bureau Technique Forestier in the project paper also attributes to it certain larger though less defined functions. These include project formulation, analysis, monitoring and evaluation, and joint studies. Each of these broad activities suggests the need for strong inter-institutional linkages. As to project preparation and evaluation, the Evaluation Team feels that these types of tasks should beapproached carefully. In terms of project design, the Bureau can certainly make a contribution by providing information to design teams through its Documentation Center and perhaps seconding personnel on a very limited basis for this work. Monitoring and evaluation would appear to be second phase activities. The BTF should be firmly established before accepting these roles; it is inconceivable that the Bureau, confused as the situation is at present, be seen to be taking a role in evaluating other projects at this point. The joint studies should remain modest and well defined so that the Bureau may successfully deal with them and, through meaningful accomplishment, take its proper measured place in the development of thr rural sector in Niger.

C - Continuing Validity of Project Objectives

The USAID Mission in Niger has brought into question the continuing validity of project objectives, no doubt in recognition of the fact that project design began as early as 1977. Much has been said in the preceding pages indicating that considerable changes have taken place in the way the project is being implemented and that further adjustment seems necessary. It is therefore useful to devote some attention to the broad view of the project and how it fits into overall Government policy and strategy for the rural sector and how it articulates with USAID's declared strategies and project portfolio.

1. In Terms of the Nigerien Economic Situation

Desertification can be viewed as the most serious problem facing Niger today. It is a phenomenon which results from a variety of causes, rendering the problem extremely complex. In order to deal with the situation, the following solutions have been put forward by the Water and Forestry Services as suggested interventions:

- Massive intervention aimed at protecting the soil (e.g. through windbreaks and the planting of gao trees) and production of firewood and timber within the framework of integrated projects.

- Forestry research focused on species that are compatible with the ecological system.

- Conservation.

- Establishment of small nurseries.

- Reforestation.

- National and controlled use of forest resources.

- Reinforcement of the Forest Service's means of carrying out forestry interventions.

Despite the urgent nature of the struggle against desertification, the forestry section has traditionally been the "poor relative" when it comes to the GON's setting of investment priorities. Indeed, according to the current Five-Year-Plan, forestry activities will receive only 4 per cent of total investment allocated to the rural sector over the plan period. This situation can be explained by the role assigned to the forestry section in GON overall rural Development strategy and also by the relatively low level of interest expressed by foreign donors toward the forestry sector.

The situation in which the forestry sector finds itself is also tied to widely-held perceptions that the best way to control desertification is through the establishment of tree plantations, an operation which is extremely

costly (especially when rural populations are not directly associated with the effort), requiring funding levels that the Government cannot meet. Even under the Interim Consolidation Program (Programme Interimaire de Consolidation - PIC) §, actions already in progress will continue while looking for a way to improve their effect on erosion and desertification.

It is of vital importance that the Government launch a systematic and large-scale program to control the main causes of desertification within the framework of an overall plan proposing innovative and integrated solutions. The extension of forestry problems to those of broader environmental concerns constitutes a solid framework within which appropriate solutions may be sought. It is the view of the Evaluation Team that the Niger Forestry and Land Use Planning Project offers good possibilities for capability on this new orientation.

2. In Terms of Government of Niger Priorities

In terms of GON priorities related to the control of desertification, the evolving role of the Forest Service within the overall strategy of rural development can be seen at two levels; (a) the management of natural vegetation and integrated (mainly agroforestry) actions and (b) the emphasis placed upon obtaining a better understanding of the management of these activities. This new approach, supplemented by restoration and conservation activities, constitutes an indispensable element of research aimed at the achievement of food self-sufficiency. It should be pointed out that, at present, research directed at this goal is the priority among priorities for the GON. It is for this reason taht activities carried out under the Niger Forestry and Land Use Planning Project may be considered to be of major national importance. Indeed, investigating the best ways of exploiting forestry capital and establishing a plan of intervention and use of these resources is as important as the purely technical aspects of forestry.

Recommendations made under the current evaluation must identify ways and means by which activities of the Technical Planning Unit may effectively be launched. The Technical Planning Unit should be the key element in designing, planning and programming actions aimed at environmental improvement, reinstating the Forestry Service once and for all as the forms of agro-sylvo-pastoral production.

3. In Terms of USAID Priorities and Strategy

The goal towards which the Project is directed is, as stated on page 10 of the Project Paper "food self-sufficiency, and sustained economic growth in the rural sector through the wise use of natural resources." This goal is consistent with the USAID/Niger FY 1985 Country Development Strategy and its medium-term strategy objectives of continuing efforts to assist the Government to increase food production and to move towards food self-sufficiency.

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§ The PIC is a nationwide plan to consolidate rural development projects.

Niger's production of millet and sorghum, its major foodcrops, has been increasing at an average annual rate of about nine per cent since the end of the great drought of 1968-73. These increases, however, have not resulted from improved production systems yielding greater per area harvests. Rather, they have come about through the expansion of the agricultural frontier into new and increasingly marginal lands. The result has been noticable soil erosion especially where grazing and the harvest of crop residues strips the land of its cover and lowers the organic matter content of the soil. Examples of this phenomenon are now becoming increasingly apparent throughout the country, notably in the Department of Tahoua and northern parts of Maradi Department.

The pressure on these marginal lands constitutes a serious national environmental hazard in terms of long-term agricultural productivity. It runs the risk of short-term profit-taking that leads to long-term weakness in the productive base and even more susceptibility to the variations of weather. It is no surprise therefore that USAID's long-term strategy corollary is to seek to identify appropriate technical packages for Niger's fragile agricultural base. Other stated strategy foci include helping Government to husbank its available public sector resources and to reinforce the middle-level cadre to implement development programs. USAID has also recognized the critical role of fuelwood as a major and costly energy source for the population and the long-term effects that using animal wastes and crop residues will have on overall soil fertility and agricultural productivity.

It should therefore come as no surprise that the Evaluation Team feels the present project and the need for improving the planning capability in the Forest Service is even more necessary today than it was when the project was designed. A fuller realization of the limited trained personnel available to the sector and emerging difficulties in the national budget due to declining export earnings means that Government must plan and marshall its resources ever more carefully. Furthermore, a clearer understanding of forestry problems and the need and opportunities for a more integrated approach to the finding of solutions, now emerging after a first generation of such projects across the Sahel, lends significant advantage to the modest start that has been made with the Niger Forestry and Land Use Planning Project. This advantage must be compounded with continued USAID support.

The Private Sector and Forestry in Niger:

In the minds of many forestry sector development specialists and in the deeds and actions of many of these sector projects and programs, the role of the Private Sector has acquired new meaning in recent times. This interest arises from the recognition that in many of the developing countries of the world the forest services alone cannot cope with the needs for plantation and production or adequate management of previously little-regarded natural forests. It should be noted that across the globe, even the countries where forestry production through exploitation of rich tropical hardwood resources generates important foreign currency earnings through export

the forest services have rarely been allocated the public funding to even properly control that exploitation, let alone manage and rehabilitate forest lands. It is small wonder then that, given the relatively meagre wood resources of Sahelian Africa, the forest services have failed to attract sufficient government support to put them over the threshold of action. Things are improving, however, to be sure. Many of the Sahelian countries are coming to recognize the value and principal role played by fuelwood in their national energy budgets - often supplying in excess of 80% of total domestic consumption. Other important lessons are also emerging including an appreciation, both qualitative and quantitative, of the place of forest and brushlands in supplying other basic human needs (food, medicines, materials for shelter, forage for animals and raw material for basic artisan needs). Even more significant is the awakening by policy-maker, practitioner and farmer alike to the fundamental role of trees and brush in maintaining the fragile environmental stability on which agricultural productivity, and thus basic human prosperity, so critically rests in these harsh, arid environments.

It is becoming clear indeed that in many places man's destiny is linked tangibly and economically to the destiny of the land and the trees and forests which protect it. In the past the role of the private sector in forestry was seen almost exclusively as being composed of entrepreneurs who could undertake capital intensive tree planting for commercial production or who could organize, capitalize and manage medium and large-scale exploitation of natural forests. In the arid zones of Africa little of this so-called private sector entrepreneurship has emerged to date, for various reasons. The first is the tenuous viability of capital-intensive block plantations burdened by high interest rates and low productive yeilds. Indeed the forestry community is currently questioning the overall economic viability of plantations of this nature below 200 mm of rainfall. Who, then, will produce the wood to serve the cooking needs of the many millions of people who live in the Sahelian zones of Africa? A certain level of entrepreneurship has already emerged in response to the demand for fuelwood. It is now common to find fuelwood markets in all the urban centers of the zone; fuelwood has distinctly joined the cash economy. The question remains, however, who is producting this wood and who will continue to do so?

Niger is no exception to this question. Throughout the country wood is being cut and stacked along the roadside for sale to vehicles bount for urban centers. It is produced by farm families cutting the native vegetation, uncontrolled and often destructively, unencumbered by permits or fee systems. Nothing is being reinvested as clearly today, these families have no incentive to invest. The small amount they receive (and this is merely speculation because the subject has not been studied) from the drivers and middle men is probably insufficient even to drive them to full-scale employment as fuelwood cutters - they simply use their spare moments to generate a little cash income. Are they protecting stands of trees or foregoing cutting to maintain sustained yield or guarantee environmental stability? The easy answer would be that they have no sense of such

concepts; the truth is that they probably do but cut anyway because if they do not someone else will. There are no management plans, no forest service control and few if any customary or societal guarantees for those who might be willing and able to accept the tradeoffs.

Are they indeed aware of the cash market value of what they produce, or, if they are, can they do anything about achieving greater returns from their labors? It is now widely known that, in many rural areas, the forests and the peasants are being expolited to provide cheap energy to the urban areas. Is this the case in Niger? The questions beg to be answered. It is an opportunity cash market begging to be rationalized, in which the private sector (the farmers) can play a significant role.

Similar opportunities exist for tree planting, albeit with similar problems. It will be these same farmers, who can afford to plant trees using less capital intensive methods, planting along the field margins and in small uncultivable patches across their lands and thereby reducing costs. They will be able to do so because they will realize tangible and multiple benefits: forestry support to agricultural productivity through the shelter effect on the harsh climate, by addition of leaf litter to raise the organic material levels in the soil and by tree roots that mine the deeper layers of the soil inaccessible to farm crops and deposit the nutrients in the fields, or by trees that fix nitrogen in the productive layers of the soil. They stand to gain from multipurpose trees that produce fruit, forage for animals, medicines and nutritional ingredinets in the family diet (such as the famous sauces of Nigerien peasant cuisine). Through these benefits, and by being able to sell firewood, they may finally be able to afford the conservation and protection practices they have so long been exhorted to take up.

What will be required to get the farmers - the private sector - involved? The needs are many but basically it will be long-term change in the way forestry policy and practice is exercised in the country. The control and police function of the Forest Service of today must be replaced by a service orientation, as its name (at least in English) implies. This function will not and cannot be spontaneous and will take years yet to put in place in Niger. The efforts, however, of the Bureau Technique Forestier with the assistance of the Niger Forestry and Land-Use Planning Project, can help, and indeed they have already taken up the challenge. The studies on wood supply to Niamey, on the fuelwood market, on natural forest management and fuelwood production, on the social aspects of organizing rural populations to participate in the management of the reserve forests are all steps in the right direction. Much remains to be done and the Government and USAID are encouraged to embark on this challenging, perhaps only remaining, path.

Let there be no mistake; the private sector opportunities in forestry presently lie with the farmers themselves. The day may come when middle class entrepreneurship can take up block planting, but for the time being the investment-growth ratio makes it an uneconomic proposition. Indeed, block

plantations by the Forest Service may tend to exacerbate the situation by reinforcing the untenable dichotomy between forestry and agriculture and the unreasonable notion that the Forest Service is somehow going to save the environmental "day" by producing all the fuelwood the country needs through random block plantation. Plantations will have their place, and experimentation should go forward, but the time is at hand for a shift away from traditional practices. This shift will take a long time, but the moment to begin is now; planning and studies can lead the way. The Evaluation Team feels sure that the current pragmatic efforts along these lines by the present project and its staff should not go unrecognized.

D - Level of Support Provided by the Government of Niger and USAID

The Evaluation Team, in its Terms of Reference, was also asked to review the support provided by the Government of Niger and USAID to the project in fulfillment of the Grant Agreement. It was later decided, just before Team arrival in-country, that part of the assessment of these aspects should be carried out by an administrative-financial specialist who would undertake a fullscale review of administrative support, project management, financial management, and accounting procedures. At the time of preparation of the other members' report, this idividual had not yet reached Niger despite the original intention of having him overlap with the main Evaluation Team. The other members of the Team, therefore, due to the press of other work and its limited command of these speciality subjects, gave relatively less attention to these matters.

It is obvious that there have been serious constraints to project implementation deriving from certain administrative/managerial deficiencies, some of which are more straighforward than others but all of which require urgent attention. Some of these problems have been touched on in earlier sections of this report; they will be reiterated here for sake of coherence. It should be noted that the machinations of the administrative, managerial, and financial apparatus required to properly conduct such a project are both complex and intricate. Furthermore, precisely because of some of the problems inherent to the administration and management of this project, there was relatively less written analysis available of the problems in this area. Many of the observations expressed below derive from responses to questions posed by the Team about the technical and institutional matters towhich it was directing the bulk of its attention. That is not to say, as was evident from many of the people interviewed, that the problems are obscure or difficult to see. Indeed many shout to be answered. The Evaluation Team does, however, feel it necessary to qualify the remarks that follow as some misunderstanding of the issues may have arisen. The Team feels sure, nonetheless, that the principal actors responsible for administration and management, namely, the Project Director Mr. Mamadou Mamane and USAID Project Manager Mr. Patrick McDuffie, will clearly recognize these problems. Renewed efforts of late by these two individuals appear to be making headway to eliminating some of these problems. The Team urges that they continue to strive for a free and frank exchange of views and expression of mutual needs. Where they alone cannot resolve the issues, and there were indeed a number of such instances, these must be turned back to their superiors to

find the appropriate solutions. This is a promising project but it has and continues to suffer from an unacceptable level of administrative and managerial problems as will be evident below and which if not confronted will throttle its chances for success.

1. Level of Support Provided by the Government of Niger

The principal problem here is a failure to provide the trained cadre stipulated in the Grant Agreement. The project design was specifically premised on a certain level of Nigerien capability. Even with the tasks newly defined and pragmatically limited, additional counterpart personnel will be required. These issues were raised with the Director of the Forest Service and they are acknowledged difficulties. It would seem that there are or will be opportunities in the near future to resolve some of these problems by: making more systematic use of the rich experience of Niger's older, retiring foresters; by assigning engineers currently in training abroad (at least one individual) to the project; and by assigning new cadres from the upcoming class at Kolo.

Another problematic situation is the lack of full-scale financial support specified in the Agreement. The Evaluation Team recognizes that Government is attempting to cope with the present stressed economic situation. These problems have been temporarily alleviated by USAID picking up some of the expenses; the realignment of project activities suggested during this evaluation should consider this factor carefully. What is troublesome is that this situation bodes ill since the Government is expected to institutionalize the Bureau Technique Forestier and its functions and take over the associated recurrent costs. The Government is encouraged to confront this situation and the Evaluation Team can only reiterate its firm belief that money spent on planning will be well spent and will assist the Government to better rationalize the allocation of its restricted resources for the sector.

The need for administrative and management skills at the project level is notable. The Project Director must be freed to perform the technical work for which he was trained and is well dispose. Using him as at present is both inefficient and a waste of valuable national human resources. In addressing the institutional framework of the Bureau, the need for clear lines of delegation of authority and a careful listing of the attributions and responsibilities for each section and staff member will help to resolve some of these problems.

There is also an obvious need for systematizing and rationalizing the use and maintenance of project commodities. The present heavy emphasis on the field orientation of the principal activities is excellent but it puts great demands on the logistical capabilities of the project. Resources must be carefully marshalled for completing these tasks. This is especially true about the vehicles which both American and Nigerien project staff have cited as a continual constraint. These do not seem to be properly allocated to the needs of the field teams. For example, the cost of transporting staff

to and from Niamey twice a day seems, to the Evaluation Team, too burdensome on the project in terms of both gasoline expenditures and vehicle depreciation. The Team has repeatedly been informed of present shortages of motor pool for the Forest Service field staff. Can the project or the Government really afford the luxury of chauffeured door-to-door service for its staff? The possibility of acquiring a small bus, perhaps jointly with the Project Forestier IDA should be considered. The Evaluation Team is emboldened to raise these difficult issues because of recent affirmative moves by Government itself to sensibly restrict and limit the Niamey administrative motor pool.

Past financial management difficulties which resulted in delayed salary payments of project staff need little further comment. It is clear to all that herein lies a problem that must be sorted out if staff morale and motivation and, therefore, project efficiency, is to remain high.

The Government must also confront the issue of staff salary indemnities; the present inequitable situation is also causing tensions and problems of staff morale. USAID has taken a firm stand on this issue; the Government must do likewise.

Most development projects and all bureaucracies have a daily need for greater attention to communication and understanding and this project is no exception. Regular meetings of senior Forest Service personnel with project staff should be encouraged. Senior officers should endeavor to limit the burden of ad hoc activities placed on the project. The Evaluation Team recognizes that this is the goal of any able administrator but realizes that in many cases the urgency of the moment demands response. Through more regular meetings and more frequent project reporting to its parent organizations, senior officers will be better informed of project activities and sensitive to their relative capabilities. The same system should be introduced at the project level by the Project Director.

Space problems at the project headquarters are becoming acute. The Evaluation Team trusts that the delayed construction of an additional garage/storage facility can go forward soonest.

2. Level of Support by USAID

The project began with the arrival in-country of the principal technical advisor, Mr. John Heermans, on December 31, 1980. Thereafter the funds which were obligated (FY 80 and 81) have been adequate to maintain the rhythm of project operations. Pending the evaluation exercise, FY 83 obligations have been held up. These are expected to amount to approximately $ 800,000, bringing the total for the first three fiscal years to about $2.48 million or about $ 300,000 below anticipated spending levels. Financially grosso modo the project is proceeding almost as planned; indeed certain fiscal flexibility has facilitated operations as USAID has been able to absorb some costs originally destined for the GON. It is noteworthy, however, that disbursements of funds during the first year of the project

were somewhat restricted. The Evaluation Team has been told that this was in part due to the failure to work out an appropriate financial management system and probably also to the lag time associated with project start up. There do, however, seem to be continuing problems of financial management which continue to obstruct the day-to-day workings of the project.

Project management capability has been a severe constraint throughout the life of the project to-date. Some improvements appear to be in the offing as the workload of the USAID Project Manager has been and will continue to be reduced to more manageable levels. The Evaluation Team notes that in the earliest management reports of the project the problems arising out of the dual responsibilities assigned to the project technical advisor were mentioned. It is a subject of considerable concern in that these problems have only been seriously addressed by USAID in the last six months. The lapses of the past must be corrected and project management capability maintained at promised levels. Both management capability for and interest in the project must permeate all levels of the Mission so that the forestry and natural resources sector can become an additional element of policy dialogue with the Government. The Evaluation Team has observed little evidence that either the sector or the project has been discussed above the intermediate levels. It is noteworthy that there is absolutely no mention of the existence, much less the goals of the project, in the newly prepared CDSS (FY 85). Considerable mention has been made of the pragmatic adaptations being made to the project workplan, i.e., the reduction in model sites and the shift from human resources development to social survey. No Project Implementation Letters seem to exist, except perhaps in reference to assiciated budget changes, to record GON/USAID agreement on these new terms for the project. The importance and significance of the Conditions Precedent (legal establishment of the BTF) to project disbursement has been lost in the resulting institutional malaise that has enveloped the project. There seems to be no record on the project files either recording the fact or significance of the transfer of the Forest Service, the Bureau Technique Forestier and the FLUP project from the Ministry of Rural Development to the Ministry of Water Resources and Environment. The Mission Director has candidly admitted he has been unable as yet to see the new minister involved.

It is not the place of the Evaluation Team to make a list of administrative mishaps nor to record a score on good and bad. The USAID Mission itself has frankly identified many of their ongoing difficulties, of which the problem of staff vacancies is prominent. The Evaluation Team recognizes that the USAID administrative process has become exceedingly complex and unwieldy and requires well trained, experienced and motivated staff to manage it. Neither, however, is the Evaluation Team so ingenuous or presumptuous as to suggest improvements in the system. It does, however, seem that part of the difficulties of communication, procedure, administrative overkill, and layering, etc.. etc.. and the delays in implementation these can provoke, can be planned for and actions initiated in a timely fashion. The Evaluation Team would like to point out that many project activities in forestry are linked to a rather rigid biological timetable, i.e. plant when it rains or lose a year, and similar situations for cutting, data collection, nursery

work, etc.. Administrators and managers cannot be expected to have a detailed sense of these exigencies peculiar to forestry or a forestry project. It is, therefore, vital that a project-wide detailed work-plan be prepared and used in guiding action, monitoring progress, and discerning problems; it should be flexible and dynamic, truly reflecting project implementation. Such a document does not presently exist for the Niger Forestry and Land Use Planning Project. Forestry institutions across the Sahel and in most of Africa are still young and weak and have little experience, relatively, with technical assistance projects and donor idiosyncracies. They will, therefore, require close support from their donor partners - possibly more so than in many other types of projects. This situation is certainly true in Niger today especially given the complexity of this project. This situation of course was exacerbated in the extreme by the failure to translate the Project Paper into French to ensure full Government participation.

Technical staff is also still a constraint to the project and USAID should move affirmatively to resolve that problem. At present the Forestry Support Program, a USDA Forest Service unit funded through a central ST/FNR project, has a computerized roster of potential candidates for overseas posts in forestry and natural resources. Approximately 300 of these individuals are recorded as having FS-2 or better French language capability. The Mission can access this information either directly or through the offices of AFR/TR/SDP. They are encouraged to do so. Ample lead time should be used to find the staff required for the project.

Chapter III - RECOMMENDATIONS

Throughout the previous two chapters ideas relevant to resolving the problems and furthering the progress of this project have been put forword. The technical members of the Evaluation Team feel that on the whole the project is overwhelmingly positive in its impact - this despite considerable conceptual flaws in its original design and the problems encountered in its implementation. The evaluation exercise has provided an excellent opportunity to assess the situation, not because of the exercise itself or the team members who were recruited to carry it out. Rather it was the project staff and the USAID and Government personnel involved with it who firmly convinced that at least some things were going right, freely and frankly set the Evaluation Team on the path that led to the recommendations contained below.

A. Overall Situation of the Project

1. The first priority is for USAID and the GON to take up the progress and problems of this project and map a course of action for the time that remains to it. The Evaluation Team suggests that the Mission endeavor to get a French version of this report to Government before 15 June 1983 and convene a meeting to discuss the document and its recommendations before 15 July 1983.

2. Based on the outcome of these discussions and a common agreement, a team should be fielded to assist USAID and GON to better define the course of action and the resources both qualitative and quantitative that will be required to implement it and prepare requisite documentation including a detailed workplan agreed upon by both parties. The Evaluation Team feels it would be useful if one of its forester members were to participate on this second team for sake of coherency and continuity.

   The Evaluation Team would further recommend:

3. That USAID and GON agree to extend the project for one additional year to the end of December 1985 in order to make up for time lost in slow start-up and to see the present work through to satisfactory conclusion; consider a second phase to the project of possibly ten years duration in order to fully institutionalixe the planning process and extend it beyond the forestry sector to the broader arena of natural resource management, environmental management, and land use planning, properly integrated with all other sectors of rural development.

4. That USAID and GON take the appropriate steps, described in greater detail below, to strengthen both the national and expatriate staff of the project to enable them to carry out the tasks assigned.

5. That the Government resolve the present misunderstanding about the institutional role and function of the Bureau Technique Forestier and better integrate it into the organizational framework of the Forest Service and the Ministry.

6. That USAID and GON review the suggestions contained below to clarify and set reasonable limits to the work of the Bureau Technique Forestier and its component elements.

7. That USAID and the GON set up a high level project review committee to regularly meet and monitor the work, achievements, and problems of the project. The committee should meet at least three times a year.

8. That USAID and GON agree on the need for additional scholarships for professional level training abroad to be added to this phase of the project.

9. That USAID and GON agree on additional levels of funding that may be necessary to strengthen and reorient the project as put forward in the recommendations of this report.

B. Regarding the Bureau Technique Forestier

The Evaluation Team recommends the following actions directed at strengthening and improving the functioning of the Bureau Technique Forestier.

1. In addition to the macro-level institutionalization of the BTF suggested above, that the Government address the matter of internal organization and designation of line of command, responsibility and functional attributes for each section. Two alternative arrangements are suggested; see Figures 1 and 2 on the following pages and their accompanying explanations.

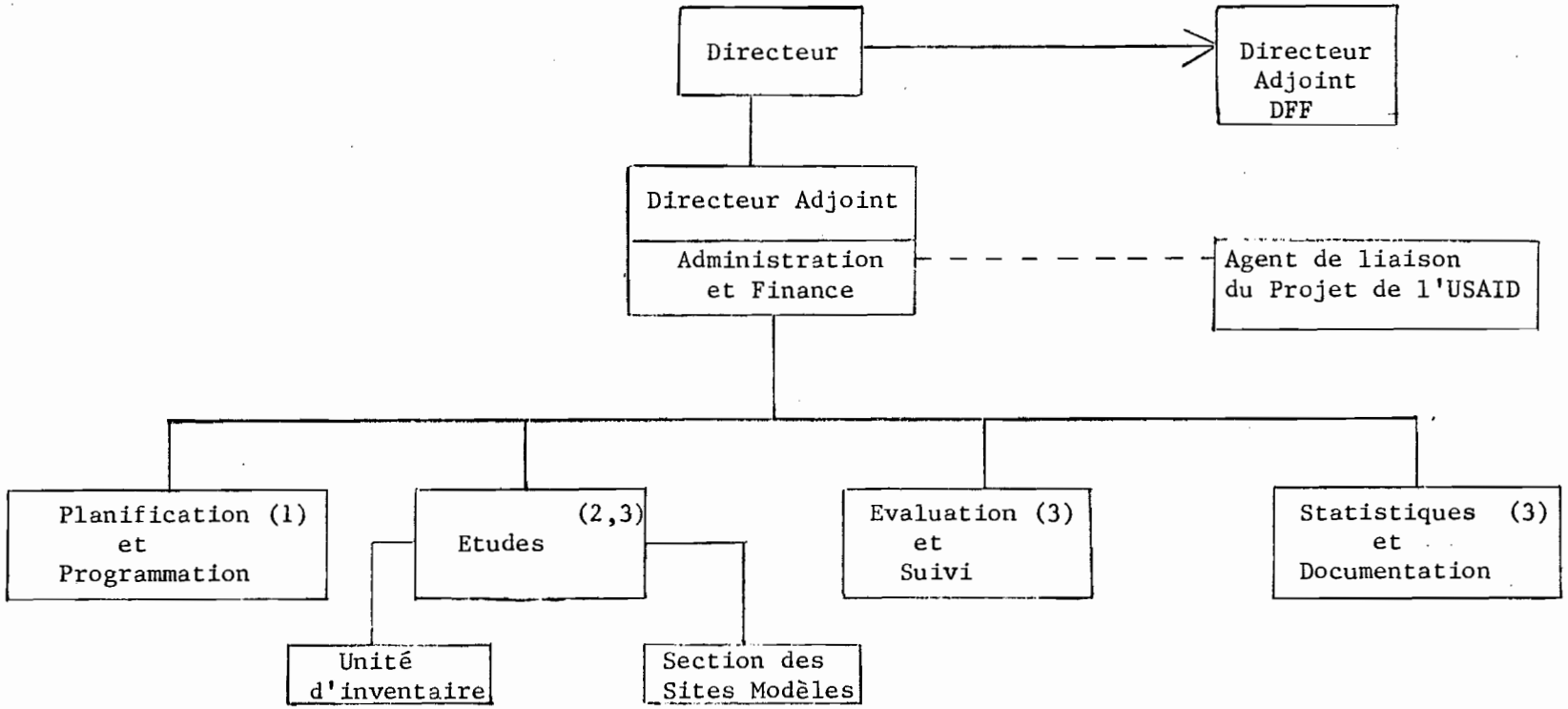
2. That a long-term forestry economist/planning advisor be hired by the project as soon as possible to work in close collaboration with the Director of the BTF.

3. That the administrative responsibilities of the Project Director be alleviated by the addition of an experienced senior Nigerien forester in the role of Director Adjoint for administration, logistics and finances and Chief administrative liaison with USAID. USAID and GON should work out the arrangements for funding this new position. The officer so selected could/would also act as chief administrative liaison with USAID project management.

4. That construction proceed soonest on the planned garage/storage facility; that once completed the entire system of project commodities, vehicles and equipment be reorganized, rationalized and suitable control systems be instituted.

Bureau Technique Forestier

Figure 1



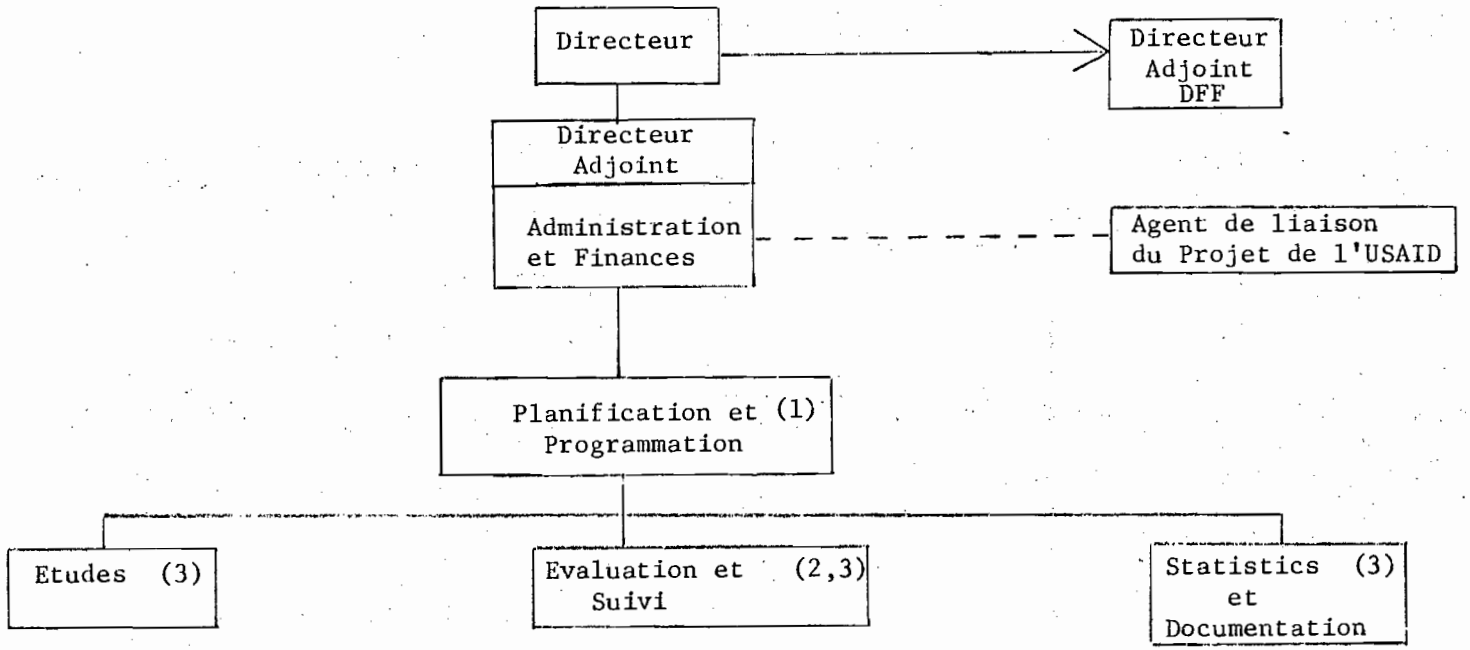
.Foresterie
.Social
.Faune
.(Pêche)

.Guesselbodi
.Tenda
.Gabi
.Karaphon

(1) Un Conseiller Technique Forestier specialisé en économie/planification
(2) Un Conseiller Forestier pour chacune des deux divisions
(3) Un spécialiste en Sciences Sociales à temps plein pour répartir le travail en trois parties égales

Figure 2

Bureau Technique Forestier



(1) Un Conseiller Technique Forestier specialisé en économie/planification
(2) Un Conseiller Forestier pour chacune des deux divisions
(3) Un spécialiste en Sciences Sociales à temps plein pour répartir le travail en trois parties égales

5. That the present Director be given the opportunity of short-term high-level training in development administration and management to better equip him for his role as Director. Given the crucial role which he will play in the present re-structuring of the project, however, this training will have to await such time as when the absence of the Director will not jeopardize project implementation.

6. That the principal tasks of the Planning and Programming Section be clearly defined and limited in scope so as to maximize the possibility of success. The following indicative list is put forward.

   a) responsibility for Forest Service liaison with the Ministry of Plan;

   b) study and analyze recurrent charges for forestry projects and programs (with the Ministry of Plan);

   c) participate in the formulation of new projects (previously the responsibility of the Forest/Environment Service of the Direction Forêt et Faune);

   d) carry out a study on the wood market in Niger and make recommendations about forest products pricing policy (in conjunction with Projet Forestier/IDA);

   e) carry out a study on tertiary and minor forest products (follow-up the USDA-funded so-called "Useless Brush Study");

   f) participate on behalf of the Forest Service in the ongoing MDR/FED study on long-term manpower needs;

   g) participate in the "Commission Pluri-Disciplinaire" (follow-up to MDR Zinder Seminar);

   h) continue participation with CILSS/ETMA Seminar on Agro-forestry and consider co-sponsorship of a second one on Forestry in Niger - What Future? Prepare basic documentation for the Niger seminar making concrete proposals on Forest Service Restructuring, New Forestry Orientations and Forest Policy;

   i) review the study produced by the World Bank "Energy Sector Study" and evaluate the repercussions for the forestry sector;

   j) prepare a project concepts document for the development of the "Cellule d'Education Mesologique";

   k) participate on behalf of the Forest Service in the upcoming evaluation being planned for the windbreak programs of the Majjia Valley.

7. Consolidate the Documentation Center by continuing to acquire more publications, books, and reports with more emphasis on available FAO and ORSTOM materials in French, by maintaining closer control on circulation. The magnitude of the tasks should not be underestimated and a full time person should be trained (through a fellowship at EBAD, Dakar) to take over the collection. The Documentation Center could also in the future take on the job of publishing a Bureau Technique Forestier Newsletter; Bureau and project staff should see that this newsletter gets started up soon and widely circulated in-country and in the region.

8. That GON and USAID agree to drop as one of the BTF activities the preparation of a long-term planning document until sufficient information on which to base it becomes available. The goal of the present phase as regards overall planning should be to employ the information being generated by the studies and surveys to assist the Forest Service to define priorities and allocate resources to viable field activities. In the medium-term (early Phase II of the project) the goal could be to help develop a Forestry Master Plan; for the long-term (late Phase II), begin work with other government agencies (MDR, Ministry of Plan, INRAN, etc.) to develop broader land use planning capability.

C. Regarding the Resources Inventory Component

The Evaluation Team recommends the following steps for improving and rationalizing this component of the project:

1. That the resources inventory work be subsumed under the proposed Studies Section of the BTF.

2. That the current national scale natural resources inventory work be stopped now and the work completed for Niamey and Dosso Departments only. The data, information, and maps obtained for these two Departments should then be presented in a suitable report.

3. That the present contract with the TAMS consulting team be reoriented to permit them to do the above. Sufficient existing leeway in contract wording would appear to make this possible.

4. That future inventory work be directed toward the present priority needs of the Forest Service. This should include the beginnings of an inventory of the reserve forests and a reconnaissance study to identify forest and brush wood resources located near the five major urban centers (Niamey, Tahoua, Zinder, Maradi, and Dosso) with a view toward future management for fuelwood production. These two studies should be more clearly defined by the TAMS consultants if time permits, and later a project reformulation by mission to follow.

5. USAID should proceed soonest to identify and hire the long-term resources inventory advisor previously agreed upon with the GON. The scope of work/qualifications should be rewritten to the account of the above mentioned changes.

6. That GON and the Forest Service consider relocating these inventory functions to the Labosol facility of INRAN where their work and resources could be used in a complementary fashion.

7. That the Project Director and the Project Manager confront the present problem of staff in the section and seek ways to resolve the situation.

8. That both the Fish Catch Assessment and the Wildlife Inventory activities be fully funded as proposed so as to enable the Government to take firmer control of these important dimensions of the nation's natural resources.

D. Regarding the Model Sites Component

The Evaluation Team recommends the following actions in regard to this component of the project:

1. That the model sites work be subsumed under the proposed studies section of the BTF.

2. That the present workplan proceed as described with the possible addition of one further site on non-reserve lands. A site near Niamey could be chosen in a different forest type, and attempts made to organize it in conjunction with the local people for fuelwood production for the urban market.

3. That the Nigerien staff be reinforced with the addition of an older, experienced Nigerien forester.

4. That closer ties be established with the Forestry Research Division of INRAN to expand the awareness of the important natural forest and brushland management experiments.

5. That if plans continue for the departure of the present advisor at the end of his contract, a new advisor be identified and brought on board so as to have sufficient overlap with the incumbent.

6. That the project consider funding a field trip to neighboring Sahelian countries for the Model Sites staff to learn firsthand of natural forest management experiments there (e.g. Senegal, Northern Nigeria).

7. That the present focus on participation of local people in preparing management plans for natural forest management on the reserve forests continue to receive the fullest support of USAID and GON.

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E. Regarding the Human Resources Development Component

The Evaluation Team recommends the following actions to improve this component of the project:

1. That the broad notion of a human resources development component be dropped and the present work on social survey constitute the principal direction and bulk of this work. This will require dropping the notion of this section undertaking manpower planning and staff training; in the future it may take on some extension functions based on the lessons learned through the survey work.

2. That the refresher and reorientation training ("recyclage") activities, if pursued, be carried out in conjunction with the Projet Forestier IDA which also has funds for such activities.

3. That the BTF and the project bear in mind that the IPDR at Kolo has larger problems than the need for curriculum revision, which at any rate the project is incapable of providing at the present moment; it would be better to look to the present Belgian assistance project for forestry training at Kolo.

   USAID, based on a review of the needs and resources for forestry training at Kolo, may wish to consider funding a separate additional project to strengthen the program there.

4. That the Social Survey and the Natural Resources Inventory data, following a scaled down version of the Thomson/Grushkin Unsolicited Proposal of 14 Janaury 1983, be analyzed. This will permit the BTF to take a closer look at the applicability of the two resource inventories now underway, and will permit an informed, critical revision of the survey for future use. Clearly there is not enough time or money set aside in the consultant's current contract to analyze the data, despite the fact that this was specified in his terms of reference. The current data collection effort should not even continue for the two departments if the consultant cannot be supplied with additional resources for the analysis. The evaluation team therefore recommends that the current survey be completed only for the Departments of Niamey and Dosso at this time, and that additional funds be allocated for a computerized data base and statistical analysis. Depending on the time required for coding and computerized data-file construction, the subsequent analysis may require additional inputs of about 3-4 person-months and about $50,000.

5. That serious consideration be given to elimination of one of each set of "duplicate" questions (i.e. pages 4 and 6 and pages 7 and 9)*

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* See Annex III

effective immediately. Although these questions are not quite identical, and there is some rationale for leaving them in as is. Simplifying the questionnaire by removing them may in fact result in a net increase in the amount of reliable data collected.

6. That the individual-level questionnaire not be submitted to a major rewrite for completing the Departments of Niamey and Dosso. Suggested changes found under Recommendation 9 below might be considered, but for every questionnaire revision at this point, there is a resulting loss of comparability with those questionnaires already completed. Most of the changes should be made after completing the data collection and analysis for the first two departments.

7. That the "national" inventory be replaced with area specific inventories, concentrating on the immediate needs of the BTF. Rather than sampling by arrondissement across the board, sample those areas near the Forêts Classés, the project's model sites, and within a 100 kilometer radius of the major urban centers. The new individual samples should include women, urban residents, and other ethnic groups as applicable. In addition to a revised survey, a series of directed, site-specific studies should be designed in a collaboration with the director of the technical planning unit.

8. That collaboration with other Nigerien institutions be increased. The difficulties in interviewing women, for example, may be resolved by hiring the female IRSH sociologist who speaks both Hausa and Zarma and has a Diplome d'Etude Approfindie. In addition to IRSH, the Rural Economy Research Department at INRAN has similar interests and skills and might have some useful inputs for the research process.

9. That the questionnaire itself be simplified to make it more relevant to immediate needs and to increase the reliability of the survey execution. Specific suggestions follow:

A. General

Conceptually, there are three areas that seem to be weak in the current questionnaire. These are (1) information on land tenure and on tree tenure, (2) the feasibility of protecting trees from foraging livestock, and (3) the enforceability of land tenure rights (in addition to tree tenure). In addition, the questionnaire needs to be carefully tailored to the population sampled. It is likely, for example, that questions 9 and 52 on fuelwood availability and fuelwood gathering might be more easily answered by women than by male heads of households. The examples used in Questions 2-5 should be carefully studied. When speaking of the condition of natural resources in the local environment, it may be useful to go beyond perceived soil and forage degradation to include general questions on forests and trees.

In addition, one might include questions on trees around compounds, and not just fields. Finally, there should be a careful review of questions 41-44 prior to analysis. These questions are both difficult to understand and sensitive as the peasant may not want to give Forest Service representatives (i.e. the enumerators) a truthful answer.

Each of these possible changes must be reviewed in light of the results of the analysis performed on the initial data set plus a clear definition of a set of testable hypotheses related to the questionnaires. Such an extensive survey on social forestry in the Sahel is necessarily preliminary in nature. At the same time, however, analysis of the data from the Departments of Niamey and Dosso will result in the development of testable working hypotheses which can serve as the basis for the revised questionnaire. These changes should also be made in collaboration with personnel from IRSH and INRAN who may have previous relevant experience. Close attention should also be paid to the village survey administered to the village leadership. It may turn out that those questions provide more useful, relevant information to meet the needs of the project.

B. Questionnaire Construction

The individual level questionnaire can and should be simplified. The following examples, while not necessarily comprehensive, are indicative of the type of changes that could be made:

Question 01: Replace "est-ce que vous avez l'habitude d'accomplir certaines des actions suivantes?" by "que faites-vous?"

Question 10: Replace the 4-point ordinal scale with a simple yes or no.

Questions 11-16: Both the questions themselves and some of the answers may be too precise for existing peasant reality.

Question 20: Simplifying the replies to a three-point ordinal scale or even using a yes/no categorization may speak more to current reality.

Questions22-38: Suggest rewriting these questions as follows:

(a) Are these trees now plentiful? Yes/No (list of species)

(b) Were these trees plentiful 5 years ago? Yes/No (list of species)

(c) What kinds of trees do you use for_____? (each of the various uses) (permit respondent to list up to two or three species for each use).

ANNEXE L

List of People Interviewed by the Evaluation Team

Government Personnel

Name	Position	Institution
Mr. Ibrahim Nagada	Conseiller Technique Forestier	MH/E
Mr. Amoul Kinni	Directeur	Direction Forêt-Faun
Mr. Bagnan Beido	Directeur	Direction des Ressources en Eau
Mr. Anada Tiegz	Directeur des Etudes	IPDR, Kolo
Mr. Mousa Saley	Directeur General	INRAN
Mr. Adamou Abdou	Directeur du Projet Forestier	IDA
Mr. Ly Samba	Eng. Agronome, Responsable de Dept. de Recherche en Economie Rural	INRAN
Mr. Nouma Gilbert	Economiste Dept. de Recherche en Economie Rural	INRAN
Mr. Arouna Hamidou Sidikou	Directeur	IRSH
Mr. Assoumane Bawa	Directeur	Direction de Programation et Etudes MDR
Mr. Daouda Adamou	Chef d'Arrondissement forestier de Gaya	(Dosso)
Mr. Garba Annou	Chef de Section Cartographie, Labosol	INRAN
Mr. Moussa Goubé	Chef de Section Etudes Cliniques Labosol	INRAN
Mr. Ganda Mamadou	Chef de Section Etudes Phyiques de Sol Labosol	INRAN

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FLUP Project Personnel

Name	Position	Institution
Mr. Mamadou Mamane	Project Director § Chief	BTF
Mr. Boureima Yara	Head, Human Resources Development Section	BTF
Mr. John Heermans	Model Sites Advisor	BTF
Mr. Mamane Seyni Sidi	Model Sites Officer	BTF
Mr. François Sessou	Admin/Personnel Officer	BTF
Mr. Steve Long	Natural Resources Inventory	Peace Corps Voluntee
Ms. Cecilia Polanski	Natural Resources Inventory	Peace Corps Voluntee
Mr. James Thomson	Socio-Political Advisor	(in Washington)
Mr. Steve Daus	Remote Sensing Consultant	TAMS
Mr. Chuck Dorigan	Remote Sensing Consultant	TAMS
Mr. Boubacar Miko	Hausa team leader/enumerator	Social Survey
Mr. Idi Issa	Hausa enumerator	Social Survey
Mr. Mahamdou Alio	Hausa enumerator	Social Survey
Mr. Souley Malam Doudou	Hausa enumerator	Social Survey
Mr. Ousmane Mamadou	Zarma team leader/enumerator	Social Survey
Mr. Djibo Souley	Zarma enumerator	Social Survey

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USAID Niger Personnel

Name	Position
Mr. Irving Rosenthal	Mission Director
Mr. Jesse Snyder	General Development Officer (Deputy Mission Director Designate)
Mr. Myron Golden	Program Officer
Ms. Celeste Robinson	Assistant Program Officer
Mr. Boyd Whipple	Controller
Mr. Cam Pippitt	Project Design/Evaluation Officer
Mr. Patrick McDuffie	Project Manager
Mr. Wilbur Thomas	Agricultural Development Officer

Others

Name	Position	Institution
Mr. Frank Brechin	Director	CARE-Niger
Ms. Mary Mahaffy	PCV	Parc W
Mr. John Grettenberger	PCV	Wildlife Specialist
Mr. Earl Meridith	PCV	Fish Survey

List of Documents Reviewed by the Evaluation Team

Directly Project Related

Project Paper - Niger Forestry and Land Use Planning Project (683-0230) USAID - Dec. 1979.

Project Grant Agreement - GON/USAID Niger Forestry and Land Use Planning Project (683-0230) - July 1980. - French and English versions.

Rapport Annuel - 1982 - Projet Planification et Utilisation des Sols et Forêts - Ministere de L'Hydraulique et de L'Environnement.

Rapport FAO/USAID - in French - original project design document/working paper - 1977.

Project Design Committee Paper - Niger Forestry and Land Use Planning Project by F. Weber, Sept. 1977.

Final Report of Work done under IQC No. PDC-1406-I-01-2083-00 by S.J. Daus and C.J. Dorrigan/TAMS 10 Jan. 83 (draft)

Progress Report on IQC No. PDC-1406-I-01-2083-00 by S.J. Daus and C. Dorrigan/ TAMS - 25 Nov. 1982.

Final Report - Development of Model Sites Sector - by R. Jemison - 18 June 82.

Intervention du Projet P.U.S.F. à la reunion annuelle des cadres nationaux et departementaux des Eaus et Forêts, Avril 1982.

Resource Inventory of W National Park (NIGER) and Preparation of a Park Management Plan - Technical Proposal - n.d.

Rapport Preliminaire sur l'Evaluation du Programme Foyers Ameliores - A.F.N. - C.W.S. - par Issoufou Boureima, Projet P.U.S.F. et G. Deschambre, Association "Bois de Feu", 1982.

Report on Guesselbodi Forest: Alternative Frameworks for Sustained Yield Management by J. Thomson - 25 Aug. 1981.

Tenda Forest: Possibilities for Popular Resource Management Institutions by J. Thomson - 12 Oct. 1981.

General Report on First Phase of Training: FLUP Human Resources Inventory Section - Interview Training Program (Aug. 1 - 28 Oct. 1982) by J. Thomson - Contract No. AID-683-0000-C-00-2042-00.

Rapport Methodologique d'Enquete Section Inventaire des Ressources Humaines du Projet P.U.S.F. par J. Thomson - Contract No. AID-683-0000-C-00-2042-00, 29 Oct. 1982.

Section Inventaire des Ressources Humaines - Plan de Travail - 1 Nov. 1982 - 19 Jan. 1983 par J. Thomson - Contract No. AID-683-0000-C-00-2042-00, 29 Oct. 82.

Fiche d'Enquête Villageoise - Projet P.U.S.F. - sample village level questionnaire. n.d.

Sample Questionnaire - Nigerien Renewable Resources Survey: Social Aspects (Villager level questionnaire) - also seen in French, Hausa and Djerma versions, n.d. - Projet P.U.S.F.

Visit Report: First Mission 1983 - Section Inventaire des Ressources Humaines du Projet P.U.S.F. by J. Thomson - Contract No. AID-683-0000-C-00-2042-00. 10 March 83.

Plan de Travail Provisoire (1983) Section Sites Modèles, Projet P.U.S.F. Mars, 1983.

The Model Site Component of FLUP - Report No. 1 by F. Weber, Contract No. AID-683-0230-C-00-2054-00, Niger Forestry and Land Use Planning Project, 1982.

Programme de Travail de la Composante "Sites Modeles" 1982/83 Projet P.U.S.F. n.d.

Note aux Responsables Departementaux, paper explaining the model sites component of FLUP and criteria and guidelines for Forest Service field staff involvement, Projet P.U.S.F., Sept. 1982.

Strategie Pour Developper un Plan d'Amenagement Pour la Forêt Classee de Guesselbodi, Projet P.U.S.F., 1982.

Niger's Forestry and Land Use Planning Project: A Proposal to Analyze Human Resources Survey and Natural Resources Inventory Data and Produce Policy Recommendations (unsolicited proposal) by J. Thomson and B. Grushkin, Niamey, 14 Jan. 1983.

Proposal for Management and Technical Assistance Related to Niger Forestry and Land Use Planning Project (unsolicited from Tippetts-Abbett-McCarthy-Stratton (TAMS), Feb. 1983.

FLUP: Niger Forest and Land Use Planning Report - Activity Report by F. Weber - USDA Contract No. 53-319R-1-50, Dec. 1980.

In addition the Evaluation Team had full access to Project files held by USAID. A wealth of materials, too numerous to mention, were reviewed including:

Quarterly Reports of the Project,

Quarterly Implementation Reviews,

PILs, PIO/Ts

and many USAID memoranda.

Not Directly Project Related

Participation, Local Organization, Land and Tree Tenure: Future Directions for Sahelian Forestry by J. Thomson, prepared for Club du Sahel, 15 Dec. 1982.

Peasants, Rules and Woodstock Management in Zinder Department, Niger by J. Thomson, prepared for Panel on Economic Development and Ecological Change: Perspectives on the Zinder Region, African Studies Association - Annual Meeting, Nov. 1982.

Etudes Socio-Economiques et Pratiques des Mini-Pepinières au Niger par Michel Keita pour Projet Forestier IDA, Niamey, Avril 81.

Rapport - Séminaire National sur les Stratégies d'Intervention en Milieu Rural Ministère du Développement Rural, Zinder, Niger, Nov. 1982

Rapport de Synthèse: Recherches Multidisciplinaires sur la Region de Maradi par Cl. Raynaut, Université de Bordeaux II, 1981 (?)

Niger - Country Development Strategy Statement - FY 1985 - USAID Niamey, Jan. 83

Study on Impact of Windbreaks in Majjia Valley, Niger by Els Bognetteau - Verlinden, CARE, Niger Feb. 1980

Analyse du Secteur Forestier et Propositions - Le Niger - Volume I: Rapport CILSS/Club du Sahel, Août 1981 - Volume II - Annexes 1 à 9, Avril 1981.

Review of CILSS Forestry Sector Program Analysis Papers by F. Weber for USDA/OICD - USAID Dec. 1982 (draft)

Draft Environmental Profile on Niger by Arid Lands Information Center, University of Arizona for USAID/MAB/NPS April 1980.

Sociological Aspects of Forestry Project Design - World Bank AGR Technical Note No. 3. Nov. 1980.

The Role of Evaluation for Renewable Energy Projects in Africa by G. Burrill, prepared for Overseas Development Council for Workshop on Fuelwood and Other Renewable Fuels in Africa, Paris, Nov. 1979.

Final Report of the Natural Resource Planning Project for the Province of Zinder, Niger by Arid Lands Natural Resources Committee, Univ. of Arizona, April 1979.

Final Report - Aerial Survey of Human, Livestock and Environmental Conditions in a Central Region of the Pastoral Zone of Niger by International Livestock Center for Africa Aerial Survey Unit for USAID Niamey, March 1982.

Rapport - Réunion Annuelle des Cadres Nationaux et Départementaux des Eaux et Forêts - 1981/82 - Direction des Services des Eaux et Forêts - Chasses, AVril 1982.

Annex III Terms of Reference for the Evaluation Team

1. Forester/Team Leader

a. Technical Planning Unit

- To what extent is the Technical Planning Unit accomplishing its principal tasks of (1) preparing a long-term perspective plan for the rehabilitation and protection of Niger's natural resources and (2) coordinating and managing implementation of other project components i.e. model sites, human resource development, natural resource inventory?

- Is the Technical Planning Unit (BTF) coordinated with other forestry and natural resources related projects and activities being undertaken in Niger? With the Productivity Projects?

- Is the Technical Planning Unit adequately staffed by qualified individuals (both GON and USAID) to fulfill its intended functions?

- Is the function of the Technical Planning Unit understood by national and field level personnel of the Forestry Service?

- Is regular contact maintained by the BTF with field personnel where model sites are located?

b. Model Sites

- What is the progress of the Model Sites component and have sites been established in accordance with criteria specified in the Project Grant Agreement?

- What is the status of the Project's development of management plans for Niger's forest reserve areas?

- Does the Project have the capacity and organization necessary to fully implement the Model Sites component?

- Are the original objectives of the Model Sites component still valid?

c. Natural Resource Inventory

- To what extent has existing resource information been gathered, interpreted, and evaluated? Was this accomplished before the gathering of new information?

- Have maps been produced showing ground cover, vegetation, land use, deterioration, etc?

- What is the status of establishing permanent aerial transects? Is this a valid objective for the Project?

d. Training, Information and Extension

- Have in-service and formal training programs been offered to improve staff capability in the Forestry Service and the BTF?

- What effort has been made to familiarize GON Ministries and the public to increase their awareness of and sensitivity to Niger's natural resource problems?

e. Other

- Does the GON have the human, material, and economic resources to continue the Project after termination of USAID assistance?

- Is the training component of the Project adequate to fulfill the needs of the Project?

- To what extent have the USAID and GON commitments to the Project been fulfilled?

- Has USAID and GON general management of the Project (personnel, vehicules, administrative support and structure) been effective?

2. Rural Sociologist/Institutional Analyst

a. Analysis of long-range manpower needs and design of training, orientation and extension education programs for SEF

- What is the current and prospective status of this component of the Project?

- What have been constraining factors? Are the objectives of this component realistically attainable during the projected life of project?

b. Extension

- The Project Paper envisaged a broadly based program of extension services and dialogue with the benefitting public, with the objective of establishing a better understanding of, and support for, the protection and conservation of natural resources. What is the current and projected degree of success in meeting this objective? What have been constraining factors? Is the project bringing the GON and the rural population into closer communication toward mutually desired goals?

c. Installation of a BTF capability to evaluate project proposals

- What progress has been made in developing a capability on the part of BTF staff in gathering, interpreting and utilizing socio-economic and technical data in pursuit of this objective? Is the development of such a capability foreseeable within the life of project?

d. Feedback from local populations in the selection and management of model sites

- To what degree is the project receiving feedback in this area? Does sufficient technical information exist to enable the project to adequately consider relevant social factors? What method has been established to correlate socio-economic and technical information?

e. Management plans for national forest reserves

- Are the following social factors being taken into account in the development of management plans for national forest reserves?

  . Influence and meaning of reserves to local populations

  . Past, present and future benefits to local populations

  . Participation of local populations in conservation, management and natural resources policy making

  . Local revenue-sharing

f. Human Resources Development

- The project is to build up staff capability in the Forestry Service, particularly in the Technical Planning Unit (BTF), through inservice and some formal training programs. Are these programs being successfully carried out? Are they relevant to the attainment of project objectives? Does the BTF have an effective staff unit for training and extension education? Have training requirements been analyzed adequately? To what degree have the capabilities and curriculum content of Nigerien institutions that provide personnel for the Forestry Service been analyzed? Are the project's human resources development objectives realistically attainable as the project is currently structured? Has there been any training for non-BTF personnel?

g. Project Linkages

- Are socio-economic data generated by the project distributed to other institutions, especially social science institutions such as the Institute for Research in the Human Sciences (IRSH)? Is information from other institutions (including IRSH) available to the BTF? Is there sufficient contact between the BTF and non-project personnel in the field to repsond to the latter's training requirements?

In addition, the Evaluation Team was requested to focus attention on the following four concerns:

1. Continuing Validity of Project Objectives

How valid are project objectives as originally laid out in the Project Paper with respect to attaining the project goal of arresting and reversing then existing trends in deterioration of Niger's soil and vegetative resources? Is the project's perception of and approach to solution of the problem still considered appropriate, or have circumstances changed such that a re-examination of project objectives and means of achieving them is called for? How well were problems that the project seeks to solve defined at the time of project design?

2. GON/USAID Support and Institutional Linkages

What has been the level of USAID and GON commitment of resources to the project vis-a-vis thatcalled for in the Project Agreement? What have been the causes of any shortcomings? To what degree has the separation of the Forestry Service from the Ministry of Rural Development resulted in institutional isolation of the former? What assurance is there that the research results generated by the project will not only be disseminated to but also effectively utilized by other branches of the GON such as the Ministries of Plan and Rural Development?

3. Role of the Private Sector

What scope exists within the project as presently designed for increased involvement of the private sector in undertakings such as fuelwood production and sale?

4. Relative Priorities Among Project Components

Which components of the project are the most successful to date in terms of progress toward fulfillment of project objectives? Which components of the project, given a scaling back of the level of resources, would be recommended for termination?

Annex IV. Social Survey Questionnaire (French Version)

REPUBLIQUE DU NIGER
MINISTERE DE L'HYDRAULIQUE
ET DE L'ENVIRONNEMENT
SERVICE DES EAUX ET FORETS
PROJET PLANIFICATION
ET UTILISATION
DES SOLS ET FORETS
B.P. 12.520 TEL.:
NIAMEY, NIGER 72-20-87

ENQUETE SUR LES RESSOURCES RENOUVELABLES AU NIGER: ASPECTS SOCIAUX

Numéro du questionnaire | Ethnie de l'enquêté | (Données à demander à la question No. 52.) Nombre d'adultes à la charge de l'enquêté | Nombre d'enfants à la charge de l'enquêté | Date de naissance de l'enquêté

Nom du village | Nombre d'habitants dans le village | Chef au pouvoir depuis combien d'années | Profondeur du puits en mètres

Km au siège du canton | Nom du canton | Km au siège de l'arrondissement | Nom de l'arrondissement

Numéro de la tournée | Date de l'entrevue | Heure de l'entrevue | Initiales de l'enquêteur | Date de contrôle/chef de l'équipe | Initiales du chef de l'équipe

Date d'arrivée à la direction | Initiales du receveur | Date de contrôle par le chef de section ressources humaines | Initiales du chef de section ressources humaine

Date de contrôle par le consultant de section ressources humaines | Initiales du consultant | Date d'entrée des données dans l'ordinateur | Initiales de l'opérateur | Commentaires?

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				1.

.mple de l'écriture de l'enquêteur. [Dans les dix (10) cases ci-dessous, écrivez les chiffres zéro (0) à neuf (9).]

1. Pour maintenir la fertilité des sols dans vos champs, est-ce que vous avez l'habitude d'accomplir certaines des actions suivantes?

[Lisez la liste des actions ci-dessous. Pour chaque action mettez dans la case rese à cette fin le chiffre ou la lettre approprié (1,2,N). Ecrivez ensuite ces mêm chiffres ou lettres dans les cases correspondantes (01A. - H.) en bas de la page

[Actions]	[Accomplies ou non] Non (1)	Oui (2)	Non applicable (l'enqueté n'a pas de champ) (N)
A. Répandez-vous les ordures de la concession sur vos champs?			
B. Passez-vous les contrats avec les bergers pour qu'ils fassent paître leurs animaux sur vos champs?			
C. Brûlez-vous, sur les champs, les buissons, les branches et les restes de la récolte ramassés quand vous nettoyez vos champs?			
D. Appliquez-vous de l'engrais vert?			
E. Appliquez-vous des engrais chimiques?			
F. Construisez-vous les diguettes pour réduire le ruissellement des eaux de surface et l'érosion hydrique?			
G. Faites-vous pousser les arbres sur vos champs pour régénérer le sol?			
H. D'autres actions? [Décrivez les.] _____			

01A.	01B.	01C.	01D.	01E.	01F.	01G.	01H.

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2.

En certaines régions du Niger les gens constatent qu'ils épuisent diverses ressources naturelles, or en d'autres milieux, ils ne voient pas de changement ou ils considèrent même qu'elles deviennent plus disponibles qu'avant.

Concernant la condition des ressources suivantes, qu'avez-vous constaté pendant les dernières cinq (5) années?

[Lisez la liste ci-dessous, en demandant à l'enquêté la condition de chaque ressource. Ensuite, mettez la lettre (A, B, C, R, P ou N) correspondant à la réponse de l'enquêté dans la case réservée à cette fin. Ecrivez ensuite cette même lettre dans la case appropriée (02. - 05.) en bas de la page.]

[Ressources] / [Conditions]	En baisse (A)	Pas de changement (B)	En augmentation (C)	N'existe pas (R)	Ne sait pas (P)	Non applicable (N)
02. L'érosion éolienne des sols sur vos champs?						
03. L'érosion hydrique des sols sur vos champs?						
04. La fertilité des sols sur vos champs?						
05. La disponibilité du fourrage pour les animaux sur le territoire du village?						

06. Dans certains endroits les gens constatent qu'il devient plus facile ou plus difficile de trouver du bois d'oeuvre, pour construire les cases, ou les greniers et les clôtures. En d'autres régions il n'y a pas de changement sensible.

Quant à la disponibilité du bois d'oeuvre, qu'avez-vous constaté pendant les dernières cinq (5) années dans votre village?

[Lisez la liste des conditions. Mettez la lettre (F, C, D, B, P ou N) correspondant à la réponse de l'enquêté d'abord dans la case directement ci-dessous et ensuite dans la case réservée à cette fin (06.) en bas de la page.]

Plus facile (F)	Pas de changement (C)	Plus difficile (D)	Beaucoup plus difficile (B)	Ne sait pas (P)	Non applicable (N)

02.	03.	04.	05.	06.

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3.

07. Dans certains endroits les gens constatent qu'il devient plus facile ou plus difficile de trouver du bois de chauffe, or dans d'autres parties du pays il n'y a pas de changement sensible. Quant à la cueillette du bois de chauffe, qu'avez-vous constaté pendant les dernières cinq (5) années dans votre village?

[Lisez la liste des conditions. Mettez la lettre (F, C, D, B, P ou N) correspondant la réponse de l'enquêté d'abord dans la case directement ci-dessous et ensuite dans la case réservée à cette fin (07.) en bas de la page.]

Conditions Plus facile (F)	Pas de changement (C)	Plus difficile (D)	Beaucoup plus difficile (B)	Ne sait pas (P)	Non applicable (ne ramasse pas) (N)

08. Où est-ce que vous cherchez le bois de chauffe que vous brûlez dans votre famille?

[Lisez les sources, en demandant pour chacune la proportion de bois de chauffe que l'on y ramasse. Mettez d'abord la lettre appropriée dans le carré de la colonne. Mettez cette même lettre ensuite dans la case correspondante (08A. - 08P.) en bas de la page.]

[Proportion]	[Sources]	Champs de la famille (A)	Jachères de la famille (B)	Terres d'autrui (C)	Brousse (D)	Ne sait pas (P)	Non applicable (ne ramasse pas) (N)
Tout	(T)						
Grande partie	(G)						
Moitié	(M)						
Un peu	(U)						
Rien	(R)						

09. Les endroits où l'on ramasse du bois de chauffe se trouvent actuellement à quelle distance (en kilomètres) du village?

[Mettez le chiffre ou la lettre approprié (P: Ne sait pas ; N : Non applicable parce que les villageois ne ramassent plus le bois de chauffe) dans la case (09.) réservée à cette fin en bas de la page.]

07.	08A.	08B.	08C.	08D.	08P.	08N.	09.

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4.

10. Certaines personnes ont plus d'expérience que d'autres quant à la plantation des arbres, la production des petits arbres en pots, et d'autres actions de sylviculture. Dites-moi, s'il vous plaît, si vous avez fait les actions suivantes, et si oui, combien de fois.

[Mettez les lettres correspondant aux réponses de l'enquêté dans les carrés appropriés sur les lignes, et ensuite dans les cases (10A. - 10K.) en bas de la page.]

[Actions] [Fréquence]	Souvent (S)	Plusieurs fois (F)	Rarement (R)	Jamais (J)	Ne sait pas (P)	Non applicable (N)
A. Avez-vous coupé les petits arbres lors des travaux champêtres?						
B. Avez-vous évité de couper les petits arbres lors des travaux champêtres?						
C. Avez-vous fait pousser plus en haut la régénération naturelle en la taillant?						
D. Avez-vous transplanté les petits arbres poussés au pied des grands arbres?						
E. Avez-vous planté les graines des arbres?						
F. Avez-vous planté les arbres en pots?						
G. Avez-vous élevé les petits arbres en pots?						
H. Avez-vous planté les arbres, par exemple, les neems, pour les vendre?						
I. Avez-vous planté les arbres par boutures?						
J. Avez-vous planté une haie vive?						
K. Avez-vous planté un brise-vent?						

10A.	10B.	10C.	10D.	10E.	10F.	10G.	10H.	10I.	10J.	10K.

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5.

Je vais vous lire une liste des différentes façons de faire pousser les arbres sur vos champs. Pour chacune de ces techniques, je vous demande de me dire si elle est coûteuse ou non en argent, en matériel et en travail, si elle est très ou peu efficace, et si vous aimerez ou non apprendre à mieux l'employer.

[Lisez la liste des techniques ci-dessous, en mettant pour chacune d'elles les lettres ou les croix dans les carrés correspondant aux réponses de l'enquêté.]

[Critères d'évaluation] / [Techniques]	De point de vue d'argent, de matériel, de travail, est-elle couteuse/non couteuse (C) (PC) (P)	Est-elle très/peu efficace (TE) (PE) (P)	Ne sait pas	Voulez-vous oui ou non mieux l'employer (oui) (non)	Ne sai pas (P)
	C PC P	TE PE P		OUI NON	P
11. La technique d'eviter de couper les petits arbres lors des travaux champêtre est-elle:					
	C PC P	TE PE P		OUI NON	P
12. La technique de faire pousser plus haut la régénération naturelle en la taillant est-elle:					
	C PC P	TE PE P		OUI NON	P
13. La technique de transplanter les petits arbres poussés au pied des grands arbres est-elle:					
	C PC P	TE PE P		OUI NON	P
14. La technique de planter les grains des arbres est-elle:					
	C PC P	TE PE P		OUI NON	P
15. La technique de planter les petits arbres déjà poussés en pots est-elle:					
	C PC P	TE PE P		OUI NON	P
16. La technique de faire pousser les arbres par bouture est-elle:					

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6.

17. Les gens apprécient les arbres pour les raisons parfois diverses. Pouvez-vous me dire si, pour certaines des raisons suivantes, vous voulez avoir les arbres sur vos champs?

[Lisez la liste des raisons ci-dessous, en entourant chaque raison choisie par l'enquêté. S'il choisit même une des raisons A. - H., ne lisez pas les options J., P. et N.; suivez plutôt les instructions en dessous des options. Si l'enquêt ne choisit aucune réponse parmi les options A. - H., lisez progressivement J., P. et N., jusqu'au moment où il en choisit une. Mettez la lettre correspondant à sa réponse dans la case appropriée en bas de la page, et passez à la question 1

A. C'est utile d'avoir du bois de chauffe et du bois de service facilement disponible?

B. Les arbres réduisent l'érosion éolienne et hydrique et protègent ainsi les sols des champs?

C. Certaines essences d'arbres enrichissent le sol?

D. Certaines essences d'arbres fournissent de la nourriture, par exemple, les noix, les feuilles comestibles et les fruits?

E. Certaines essences produisent les feuilles ou les gousses appréciées par le bétail?

F. Pour l'ombrage?

G. On peut vendre le bois de certaines essences?

H. D'autres raisons? Décrivez les. _____

J. Vous ne voulez pas avoir les arbres sur vos champs?

P. Vous n'avez pas réfléchi pour savoir si vous voulez ou non avoir les arbres sur vos champs?

N. Non applicable [L'enquêté n'a pas de champ.]

[Si l'enquêté n'a donné qu'une réponse, mettez la lettre qui correspond à cette réponse dans la case 17a., en bas de la page, et passez à la question No. 18. Au cas où il y a plus qu'une réponse, suivez les instructions ci-dessous.]

Je vais vous relire les raisons que vous avez notées. Dites moi laquelle parmi elles est la plus important.

[Relisez toutes les raisons entourées. Mettez la lettre indiquant la plus importante dans la case 17a., ci-dessous.]

Il reste maintenant les raisons suivantes. La quelle parmi elles est la plus importante?

[Lisez de nouveau les réponses non choisies au deuxième tour. Mettez la lettre indiquant la plus importante dans la case 17b., ci-dessous.]

Ca nous laisse toujours les raisons suivantes. Parmi celles qui restent, laquell est la plus important?

[Lisez les réponses entourées et non choisies lors des tours précédents. Mettez la lettre indiquant la plus importante dans la case 17c., ci-dessous.]

17a.	17b.	17c.	17J.	17P.	17N.

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18. Parfois les cultivateurs ne veulent pas avoir les arbres sur leurs champs.

Est-ce que quelques-unes des raisons suivantes vous amènent à préférer ne pas avoir des arbres sur vos champs?

[Lisez la liste des raisons ci-dessous, en entourant chaque raison choisie par l'enquêté. S'il choisit même une des raisons A. - K., ne lisez pas les options L., P. et N.; suivez plutôt les instructions en dessous des options. Si l'enquêté ne choisit aucune réponse parmi les options A. - K., lisez progressivement L., P. et N., jusqu'au moment où il en choisit une. Mettez la lettre correspondant à sa réponse dans la case appropriée en bas de la page, et passez à la question 19.]

A. Les arbres réduisent la surface disponsible pour les cultures?

B. Vous pouvez trouver suffisamment de bois ailleurs?

C. Les arbres poussent trop lentement?

D. Certains des champs que vous cultivez ne vous appartiennent pas?

E. Les arbres attirent les oiseaux et les animaux sauvages?

F. Il est difficile d'entretenir les arbres?

G. D'autres personnes les couperont sans vous demander l'autorisation?

H. Le forestier vous défend de couper les arbres?

I. La sécheresse?

J. Vous avez déjà trop de difficulté à entretenir votre famille pour que vous vous occupiez des arbres?

K. D'autres raisons? [Décrivez les.] _____ _____

L. Vous ne voyez pas de raisons pour ne pas avoir les arbres sur vos champs?

P. Vous n'avez pas réfléchi pour savoir si vous voulez ou non avoir les arbres sur vos champs?

N. Non applicable [L'enquêté n'a pas de champ.]

[Si l'enquêté n'a donné qu'une réponse, mettez la lettre qui correspond à cette réponse dans la case 18a., en bas de la page, et passez à la question No. 19. Au cas où il y a plus qu'une réponse, suivez les instructions ci-dessous.]

Je vais vous relire les raisons que vous avez notées. Dites moi laquelle est la plus importante parmi elles.

[Relisez toutes les raisons entourées. Mettez la lettre indiquant la plus importante dans la case 18a., ci-dessous.]

Il reste maintenant les raisons suivantes. Parmi elles, laquelle est maintenant la plus importante?

[Lisez de nouveau les réponses non choisies au deuxième tour. Mettez la lettre indiquant la plus importante dans la case 18b., ci-dessous.]

Ça nous laisse toujours les raison suivantes. Parmi elles, laquelle est la plus importante?

[Lisez les réponses entourées et non choisies lors des tours précédents. Mettez la lettre indiquant la plus importante dans la case 18c., ci-dessous.]

18a.	18b.	18c.	18L.	18P.	18N.

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☐☐☐☐ B.

19. Certains cultivateurs veulent réduire le nombre d'arbres sur leurs champs, d'autres veulent en augmenter, ou ne pas changer le nombre. Est-ce que vous faites pousser ou est-ce que vous plantez plus d'arbres sur vos champs?

Oui ☐ [Si l'enquêté répond "oui", mettez une croix dans la case "oui" en bas de la page et passez à la question No.20.]

Non ☐ [Si l'enquêté répond "non", mettez une croix dans la case "non" en bas de la page et passez à la question No.21.]

20. Comment est-ce que vous faites pour avoir plus d'arbres sur vos terrains?

[Lisez à l'enquêté la liste des actions ci-dessous, en demandant à chaque reprise la fréquence et en mettant la lettre dans la case appropriée sur la même ligne. Après avoir traité toutes les options, écrivez ces mêmes lettres dans les cases réservées à cette fin en bas de la page.]

[Actions] / [Fréquence]	Souvent (S)	Plusieurs fois (F)	Rarement (R)	Jamais (J)	Ne sait Pas (P)	Non applicable [pas de champ] (N)
A. Evitez-vous de couper les petits arbres lors des travaux champêtres?	☐	☐	☐	☐	☐	☐
B. Faites-vous pousser plus haut la régénération naturelle en la taillant?	☐	☐	☐	☐	☐	☐
C. Transplantez-vous les petits arbres poussés au pied des grands arbres?	☐	☐	☐	☐	☐	☐
D. Plantez-vous les grains des arbres?	☐	☐	☐	☐	☐	☐
E. Plantez-vous les petits arbres en pots?	☐	☐	☐	☐	☐	☐
F. Plantez-vous les arbres par boutures?	☐	☐	☐	☐	☐	☐
G. Plantez-vous les arbres et les irriguez-vous ensuite?	☐	☐	☐	☐	☐	☐
H. Autre moyen? [Décrivez le.] _____	☐	☐	☐	☐	☐	☐

OUI	NON	20A.	20B.	20C.	20D.	20E.	20F.	20G.	20H.
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

[Passez maintenant à la question No. 22, p. 10.]

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9.

21. Voilà quelques raisons qui parfois amènent les cultivateurs à ne pas faire pousser les arbres sur leurs champs. Est-ce que certaines expliquent pourquoi vous ne faites pas pousser les arbres sur vos terrains?

[Lisez la liste des raisons ci-dessous, en entourant chaque raison choisie par l'enquêté. S'il choisit même une des raisons A. - L., ne lisez pas les options P. et N.; suivez plutôt les instructions en dessous des options. Si l'enquêté ne choisit aucune réponse parmi les options A. - L., lisez progressivement P. et N., jusqu'au moment où il en choisit une. Mettez la lettre correspondant à sa réponse dans la case appropriée en bas de la page, et passer à la question No. 22]

A. Vous avez déjà suffisamment d'arbres sur vos champs?

B. La sécheresse rend trop difficile la culture des arbres sur les champs?

C. Même si vous faites pousser certains arbres intéressants, d'autres personnes vont les prendre sans demander votre autorisation?

D. Même si vous faites pousser certaines essences d'arbres, le forestier vous défendra de les couper quand vous en aurez besoin?

E. Même si vous faites pousser les arbres sur vos champs, les animaux errant sur les champs vont les détruire?

F. Plus d'arbres sur vos champs réduiraient la surface disponible pour les cultures vivrières?

G. Plus d'arbres sur vos champs attireraient les oiseaux et les animaux sauvages dangéreux pour les cultures vivrières?

H. Vous trouvez déjà suffisamment de bois sans faire pousser des arbres?

I. Certains des champs que vous cultivez ne vous appartiennent pas?

J. Les arbres poussent trop lentement?

K. Vous avez déjà trop de difficulté à entretenir votre famille pour que vous vous occupiez des arbres?

L. D'autres raisons? [Décrivez les.] _____

P. Vous ne savez pas?

N. Non applicable [L'enquêté n'a pas de champ.]

[Si l'enquêté n'a donné qu'une réponse, mettez la lettre qui correspond à cette réponse dans la case 21a., en bas de la page, et passez à la question 22. Au cas où il y a plus qu'une réponse, suivez les instructions ci-dessous.]

Je vais vous relire les raisons que vous avez notées. Dites-moi laquelle parmi elles est la plus importante?

[Relisez toutes les raisons entourées. Mettez la lettre indiquant la plus importante dans la case 21a., ci-dessous.]

Il reste les raisons suivantes. Parmi elles, laquelle est la plus importante?

[Lisez de nouveau les réponses non choisies au deuxième tour. Mettez la lettre indiquant la plus importante dans la case 21b., ci-dessous.]

Ca nous laisse toujours les réponses suivantes. Parmi elles, laquelle est la plus importante?

[Lisez les réponses entourées et non choisies lors des tours précédents. Mettez la lettre indiquant la plus importante dans la case 21c., ci-dessous.]

21a.	21b.	21c.	21P.	21N.

On veut savoir, d'abord, si les arbres dont je vais vous lire les noms, étaient, il y a cinq (5) ans, et restent ou non nombreux sur vos terres (champs et jachères); et deuxièmement, si vous pourriez les couper et les utiliser à volonté, lesquels parmi eux vous préféreriez avoir pour le bois de chauffe et de service, pour le fourrage, et pour d'autres usages.

[Lisez la liste des essences (arbres et graminées) ci-dessous à l'enquêté, en demandant pour chacune d'elles si elle était présente ou non il y a cinq (5) ans et si elle reste ou non sur ses terres; et, pour les arbres seulement, s'il le préfère pour les usages notés. Mettez les croix dans les cases appropriées. (P = ne sait pas; N = non applicable parce que l'enquêté n'avait pas, pendant les cinq (5) ans un même champ.) Pour l'identification des graminées, montrez à l'enquêté les exemples et les photos du classeur.]

[Critères d'évaluation]	IL Y A CINQ (5) ANS					MAINTENANT					ESSENCES PREFEREES POUR LES UTILISATIONS SUIVANTES					
Essences	Trop	Beaucoup	Qqns	Peu	Aucun	Trop	Beaucoup	Qqns	Peu	Aucun	Bois de chauffe	Bois de service	Fourrage	D'autres usages	Ne sait pas (P)	Non applicable [pas de champ] (N)
22. Acacia nilotica																
23. Balanites aegyptiaca																
24. Prosopis africana																
25. Tamarindus indica																
26. Hyphaene thebaica																
27. Commiphora africana																
28. Acacia senegal (laets)																
29. Acacia albida																
30. Piliostigma reticulatum																
31. Guiera senegalensis																
32. Boraasus aethiopum																
33. Khaya senegalensis																
34. Parkia biglobosa																
35. Aristida longiflora																
36. Aristida pallida																
37. Andropogen gayanus																
38. Cymbopogon schoenanthus																

11.

39. Pouvez-vous me dire si d'autres personnes viennent parfois sur vos terres couper ou ramasser sans votre autorisation aucun des genres de bois que je vais vous citer maintenant?

[Lisez un par un les quatre genres de bois suivants, en demandant à chaque reprise, "Combien de fois par an?" et en notant le chiffre ou la lettre (P = il ne sait pas; N = non applicable parce que l'enquêté n'a pas de champ) dans les cases réservées à cette fin, sur les lignes et en dessous de la question.]

[Genre de bois] / [Fréquences des actes non-autorisées]	Nombre de fois par an	Ne sait pas (P)	Non applicable [pas de champ] (N)
A. Bois mort			
B. Buissons vivants			
C. Branches vivantes			
D. Arbres vivants			
	39A.	39B.	39C. 39D.

40. Dites-moi, s'il vous plaît, si sans demander autorisation à personne vous pouvez couper pour le bois de chauffe ou d'oeuvre aucuns des arbres suivants après les avoir plantés sur vos champs?

[Lisez la liste des essences ci-dessous, en demandant à chaque reprise si l'enquêté pense pouvoir couper, sans autorisation spéciale, un arbre qu'il a planté. Notez les réponses, d'abord dans les cases appropriées sur les lignes et ensuite dans les cases correspondantes en bas de la page. (P = il ne sait pas; N = non applicable parce que l'enquêté n'a pas de champ.)]

[Essences] / [Conditions de coupe]	Vous pouvez la couper sans autorisation (S)	Vous ne pouvez la couper qu'avec autorisation (Q)	Ne sait pas (P)	Non applicable [pas de champ] (N)
A. Acacia nilotica				
B. Balanites aegyptisca				
C. Prosopis africana				
D. Tamarindus indica				
E. Hyphaene thebaica				
F. Commiphora africana				
G. Acacia senegal (laeta)				
H. Acacia albida				
I. Piliostigma reticulatum				
J. Guiera senegalensis				
K. Borassus aethiopium				
L. Khaya senegalensis				
M. Parkia biglobosa				

40A. 40B. 40C. 40D. 40E. 40F. 40G. 40H. 40I. 40J. 40K. 40L. 40M.

12.

Indiquez les réponses de l'enquête aux quatre séries de questions suivantes en mettant les croix dans les cases

[Règles et pratiques]	[Genre de bois]						[Evaluation			
	Bois mort	Petit arbre vivant	Branches vivantes	Grand arbre vivant	Aucun genre de bois	Ne sait pas (P)	Cette situation est-elle bonne? Oui	Non	Cette le est-el respect ici? Oui	Nc
41. Selon les règles et les pratiques locales, si vous plantez ou entretenez un arbre non-protégé sur votre champ, est-ce que:										
A. vous avez le droit de couper le/les										
B. tout le monde a le droit de couper le/les										
42. Selon les règles et les pratiques locales, si un arbre non-protégé pousse naturellement sur votre champ, est-ce que:	Bois mort	Petit arbre vivant	Branches vivantes	Grand arbre vivant	Aucun genre de bois	Ne sait pas (P)	Cette situation est-elle bonne? Oui	Non	Cette le est-el respect ici? Oui	Ne
A. vous avez le droit de couper le/les										
B. tout le monde a le droit de couper le/les										
43. Selon les règles et les pratiques locales, si vous plantez ou entretenez un arbre protégé sur votre champ, est-ce que:	Bois mort	Petit arbre vivant	Branches vivantes	Grand arbre vivant	Aucun genre de bois	Ne sait pas (P)	Cette situation est-elle bonne? Oui	Non	Cette l est-el respect ici? Oui	Nc
A. vous avez le droit de couper le/les										
B. tout le monde a le droit de couper le/les										
44. Selon les règles et les pratiques locales, si un arbre protégé pousse naturellement sur votre champ, est-ce que:	Bois mort	Petit arbre vivant	Branches vivantes	Grand arbre vivant	Aucun genre de bois	Ne sait pas (P)	Cette situation est-elle bonne? Oui	Non	Cette l est-el respect ici? Oui	Nc
A. vous avez le droit de couper le/les										
B. tout le monde a le droit de couper le/les										

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				13.

45. Si quelqu'un vous couperait du bois sur vos terres, vous sauriez qui, et à votre avis, selon la loi ou les règlements il ne devrait pas le faire, où est-ce vous auriez le plus de chance à avoir un dédommagement, si vous le voudriez? Vu le temps, l'effort et l'argent nécessaire pour être accordé ce dédommagement, vaudrait-il la peine?

[Lisez la liste des options A. - D. à l'enquêté. S'il choisit une des options A. - D., mettez le chiffre (1) dans la case appropriée, et une croix dans la case indiquant son évaluation de valeur de ce recours. S'il choisi une des options A. - D., posez les questions suivantes.]

Où est-ce que vous auriez ensuite la plus de chance à avoir un dédommagement? Vu le temps, l'effort et l'argent nécessaire pour être accordé ce dédommagement, vaudrait-il la peine?

[Mettez le chiffre deux (2) dans la case appropriée, et une croix dans la case indiquant sonévaluation de valeur de ce deuxième recours.

S'il choisit une des options E. - H., mettez une croix dans la case correspondant et passez à la question No. 46. Si l'enquêté ne choisit aucune des options A. - H., lisez l'une après l'autre les options P. et N., jusqu'au moment où il en choisit une. Mettez une croix dans la case appropriée. Passez ensuite à la question No. 46.]

[Choix des recours, ou de la non-action]	[Evaluation du recours]	Ce recours vaudrait-il la peine? Oui	Non
A. Le chef de village?			
B. Le chef de canton?			
C. Le forestier?			
D. Quelqu'un d'autre? [Décrivez le.] _____			
E. En général il ne vaut pas la peine, ou bien il n'est pas bon de demander un dédommagement?			
F. Vous diriez à l'intéressé qu'il payerait l'amende si le forestier vous prend en infraction?			
G. Vous alliez gronder l'intéressé sans pour autant porter plainte contre lui?			
H. Il est impossible de se faire dédommager?			
P. Vous ne savez pas?			
N. Non applicable L'enquêté n'a pas de terres?			

46. Si, chaque fois que vous planteriez ou entretiniez un arbre sur vos champs vous pourriez vous faire dédommager d'une manière satisfaisante pour toute coupe ou dégât d'animal pratiqué sans votre autorisation, y-aurait-il plus de chance que vous planteriez ou entretiniez les arbres sur vos champs?

[Mettez une croix dans la case appropriée à gauche. Au cas où la réponse est "Non", demandez si l'enquêté a déjà suffisamment d'arbres sur ses champs, et mettez une croix dans la case appropriée au centre.]

Oui	Non	Vous avez déjà suffisamment d'arbres sur vos champs Oui	Non	Vous ne savez pas (P)	Non applicable (n'a pas de champs) (N)

14.

47. Si les arbres sur vos terres vous appartiendraient, vous pourriez en disposer à votre gré, et vous faire dédommager pour tout dégât causé par les gens ou par leurs animaux, y-aurait-il plus de chance que vous planteriez ou entretiniez les arbres sur vos champs?

[Mettez une croix dans la case appropriée à gauche. Au cas où la réponse est "non", demandez si l'enquêté a déjà suffissamment d'arbres sur ses champs, et mettez une croix dans la case appropriée au centre.]

Oui	Non	Est-ce vous avez déjà suffisamment d'arbres sur vos champs? Oui	Non	Ne sait pas (P)	Non applicable (N)
☐	☐	☐	☐	☐	☐

46. Si la majorité des chefs de famille du village voudraient, pourraient-ils, eux-mêmes, faire et faire respecter une règle que:

[Mettez les croix dans les cases appropriées.]

A. Les ramasseurs de bois doivent demander l'autorisation du cultivateur avant d'abattre les arbres vivants sur ses terres.

	Oui	Non	Vous ne savez pas
i. Ils voudraient faire cette règle?	☐	☐	☐
ii. Ils pourraient eux-mêmes la faire, et la faire respecter?	☐	☐	☐

B. Les ramasseurs de bois doivent demander l'autorisation du cultivateur avant de prendre du bois dans ses champs.

	Oui	Non	Vous ne savez pas
i. Ils voudraient faire cette règle?	☐	☐	☐
ii. Ils pourraient eux-mêmes la faire, et la faire respecter?	☐	☐	☐

C. Tous les animaux qui paissent sur le territoire du village doivent être garder en toute saison.

	Oui	Non	Vous ne savez pas
i. Ils voudraient faire cette règle?	☐	☐	☐
ii. Ils pourraient eux-mêmes la faire, et la faire respecter?	☐	☐	☐

D. Les cultivateurs doivent planter et entretenir les brise-vent sur leurs champs, chacun dans les siens.

	Oui	Non	Vous ne savez pas
i. Ils voudraient faire cette règle?	☐	☐	☐
ii. Ils pourraient eux-mêmes la faire, et la faire respecter?	☐	☐	☐

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15.

49. Concernant la conduite des animaux de la famille, on veut savoir pour les chèvres, pour les moutons et les vaches, si vous les faites garder pendant toute l'année, ou seulement pendant l'hivernage. En même temps on veut savoir si vous avez aucun, cinq têtes ou moins, ou plus de cinq têtes de chaque type d'animal.

[Pour chaque type d'animal, notez dans le carré correspondant ci-dessous, d'abord la lettre indiquant le nombre de têtes, et puis le chiffre indiquant le niveau de contrôle. Au cas ou l'enquêté ne possède aucune tête d'une espèce, mettez "0" dans la premiere case de chaque couple et laisser la deuxième vide.]

[Type d'animal]	[Niveau de contrôle]	Non applicable (N)	Gardés toujours (1)	Gardés qu'en hiverage (2)	Nombre de têtes 0 (A)	≤5 (B)	>5 (C)
i. Chèvre							
ii. Mouton							
iii. Vache							

49. i	49. ii	49.iii

50. On peut faire la cuisine avec différentes combustibles, telles les tiges du mil, les bouses de vache, et le bois. Dites-moi, s'il vous plaît, combien de votre cuisine vous faites sur les feux alimentés par chacun de ces combustibles.

[Mettez les lettres dans les cases correspondant aux réponses de l'enquêté. Ecrivez ensuite ces mêmes lettres dans les carrés réservés à cette fin en dessous de la question.]

[Estimation du montant]	[Genre de feu]	Du Bois (A)	Des tiges, etc. (B)	Des bouses du bétail (C)	D'autre combustible (D)	Ne sais pas (P)	Non applicable (ne fais pas la cuisine) (N)
Tout	(T)						
Grande partie	(G)						
Moitié	(M)						
Un peu	(U)						
Rien	(R)						

50A	50B	50C	50D	50P	50N

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16.

51. Comment est-ce que vous procédez pour avoir le bois que vous brûlez pour faire la cuisine de votre famille?

[Mettez les lettres appropriées dans les cases correspondant aux réponse l'enquêté. Ecrivez ces mêmes lettres dans les carrés réservés à cette fin en dessous de la question.]

[Sources des combustibles] [Proportion du total]		Ramassage (A)	Achat (B)	Autre source (C)	Ne sais pas (P)	Non applicable (N)
Tout	(T)					
Grande partie	(G)					
Moitié	(M)					
Un peu	(U)					
Rien	(R)					
		51A.	51B.	51C.	51P.	51N.

52. Il vous demande combien d'heures, à vous seule, de ramasser le bois de chauffe pour faire la cuisine d'une journée pour votre famille?

[Mettez, dans l'espace réservé à cette fin ci-dessous, le nombre de personnes dans la famille, le nombre d'heures de ramassage et les journées de cuisine faites avec le montant ramassé.]

Nombre d'enfants _____ + Nombre d'adultes _____ = Nombre de personnes dans la famille _____

Heures de ramassage _____ Journées de cuisine _____

Commentaires:

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