FINAL REPORT

North Cameroon Livestock and Agricultural Development Project

Prepared for:

USAID/Cameroon and the Government of Cameroon

Contract AID/afr -C-1566

April 30, 1985

EXPERIENCE, INCORPORATED
MINNEAPOLIS, MINNESOTA 55402

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I. INTRODUCTION

This final report is submitted in compliance with Paragraph I-C-Reports of Contract No. AID/afr-C-1566 (herein after referred to as E.I.). E.I. entered into this contract with the Agency for International Development with enthusiasm and a conviction that the objectives set forth-in the contract could be achieved. For all practical purposes the USAID put the project on hold in the Fall of 1980 and full scale implementation did not start until the USAID purchased heavy equipment arrived at the project in April 1983. E.I. was forced to compress a five year project into a two year period beginning in April 1983 and ending April 30, 1985. E.I. is of the opinion that the technical assistance to the project was terminated prematurely and E.I. is saddened by the feeling that the project will likely result in a more rapid degradation of the resource base in the project area. The project suffered a Mid-Term Project Evaluation by a poorly prepared and poorly motivated evaluation team. The E.I.'s home office was not consulted by the evaluation team and the responsible corporate officer was refused permission to be present during the evaluation process. The evaluation team did not consult with the E.I. project team. They did lecture the team members. Nevertheless, the E.I. resident team did prepare a review of the project Mid-Term Evaluation Report and a Plan of Action Projections covering the period April 30, 1985 to December 31, 1987. These two reports were sent to the USAID in both French and English. These reports contained Experience, Incorporated recommendations. Since USAID technical assistance to the project was terminated as of April 30, 1985 it seems obvious that recommendations contained in the these reports were rejected, consequently, similar recommendations, will not be repeated in this report.

II. SUMMARY OF ACTIVITIES

A. Personnel Assignments:

Position	Incumbent	Months
Chief of Party	Peter K. Daniells	24
Agronomist/Extension Chief of Party	Clarence E. Burgett	66
Sociologist	Nicolas Kulibaba	25
Agricultural Economist	H. Schar	25
Agronomist	Thomas Cahalan	59
Range Management/Livestock	Donald Gipe	14
Range Management/Livestock	Linda Cleboski	30
Agricultural Engineer	Warren Leathan	12
Agricultural Engineer	Philip Childs	24
Heavy Equipment Specialist	Ralph Bagrowski	26
Range Management	Frank Abercrombie	3
Range Management	Leroy Rasmussen	3
Animal Health	Aaron Antroinen	2
	Total	313

Home Office Support:

Project Administration	Carl F. van Haeften	4
Procurement/Logistics	Robert H. Locke	2
	Total	6
	Grand Total	319

B. Reports Submitted:

- Weekly Reports: Each technician prepared a weekly report. Copies of this reports were sent to USAID/Yaounde.

- o A monthly prepared Newsletter was published and widely distrubuted.

- o By mutual agreement the monthly reporting requirements were changed to quarterly reports in both English and French were submitted to the USAID.

- o Annual work plans were submitted as required. The plan of work for 1980 revised August 1, 1980.

- o Formal published End of Tour reports in English and French were prepared by each technician listed under II.A. above with the exception of Warren Leatham. Mr. Leatham's report was submitted, but, was not reproduced for wide distribution. This was accepted by the USAID.

- o The following special reports were formally pulished in English and French:

  - The Agricultural and Livestock Situation - "A reconnaissance Survey in the Mindif Arrondissement". Burgett, Abercrombie, Pamo.

  - "A Survey of Water Resources and Distribution in Mindiff" - Kulibaba, Leatham, Lyons.

  - "Perspective on the Future of Livestock Marketing in Extreme North Cameroon". H. Schar.

  - "Result of an Agricultural Economic Census in Selected Areas of the Arrondissement of Mindif". H. Schar.

  - "Farming Systems in the Arrondissement of Mindif". H. Schar.

  - "The profitability of Small Farming Enterprises in the Arrondissement of Mindif". H. Schar

  - "Cattle Feeding Trial Report". Donald G. Gipe

- Design and Planning Factors Effecting the Development of Grazing Blocks No. 2 and 3 in the Mindif Arrondissement". Rasmussen, Nuza, Beka, Ousman.

- "Balanced Feeding of Lactating Beef Cows for Sustained levels of milk production during the Dry Season". Nuza.

- "Planning for the Coordination of Agencies and Organizations Operating in the Pilot Zone in the Arrondissement of Mindif". Burgett, Cahalan, Tsamo, Nuza, Edoa.

- "A Survey of Animal Health Services in the Mindif Arrondissement". Aron P. Antroinen.

- "Special Annual Report 1983". Cahalan.

- "Special Annual Report 1984". Cahalan.

- "Special Annual Report 1984". Childs.

- Review of Mid-Term Project Evaluation". Experience, Incorporated Team. Burgett, et al.

- "Plan of Action Projections for the Period Covering April 1985 to December 31, 1987. Experience, Incorporated Team. Burgett, et al.

- "Campaign for Organizations of Groupes and villages". Experience, Incorporated Team. Burgett. et al.

- "Model Block Council for Agriculture and Livestock Production". Burgett and E.I., et al.

- Development and Implementation of Range Management Plan: Grazing Block 1". Linda B. Cleboski.

In addition to the above reports there was an unpublished working document entitled "Range Use Planning Dosiers for the Arrondissement de Mindif". This document was maintained at the Mindif center in a loose leaf folder and continually updated as project staff members travelled in the project area.

C. Contract Management:

Home office management support consisted of technical and administrative back stopping of the field team, payment of salaries and allowances, handling logistics of travel and transportaton of technicians and their dependents, procurement of repair parts and urgently needed project materials, home office vists to project by project administrator, recruitment and orientation of project staff, proposing and negotiating contract amendments.

The E.I. team leader served as the official project director during the first two years of the project during which time he supervised and directed the activities of the E.I. and Cameroonian project personnel, suppervised the construction and other development activities at the Mindif Center, managed an E.I. account to pay contract financed support costs and managed two USAID accounts to pay project support costs financed directly by USAID. The team leader position was abolished after two years and team leader responsibilities were added to the technical responsibilities of the extension specialist. The second team leader was called upon to provide total leadership and manage the project without authority from September 1981 until February 1983 when the GRC finally named a project director. The second team leader continued to manage the E.I. account to pay contract funded local costs and the two USAID accounts. Prior to completion of the contract, during March and April 1985, E.I. prepared inventories for four categories of USAID financed commodities. The inventories were co-signed by the E.I. team leader and the GRC Project Director and were turned into USAID/Yaounde. Project commodities included:

- Commodities Purchased by the Experience, Incorporated Home Office with Contract Funds.
- Commodities Purchased by Experience, Incorporated in Cameroon with Contract Funds.

- o Commodities Purchased by the Experience, Incorporated Team Leader in Cameroon with Funds Provided Directly by USAID.

- o Commodities Purchased by USAID. This category included vehicles, household furniture and appliances, office equipment and furniture, heavy construction machinery and farm machinery.

D. Minorities and Women:

We are pleased to respond to the requirement to include a statement with this report on the extent to which Experience, Incorporated used miniorites and women in implementing this project. Two minority technicians were nominated and included in the contract as key persons. Mr. Khoi N. Le, nominated for the agronomist position, withdrew to accept employment with USIAD in Senegal. Mr. Robert Wilson, nominated for the extensiton specialist position, withdrew when he learned that he was being asked to travel to Post even though USAID had not yet provided housing, furniture, appliances or vehicles. Miss Linda D. Cleboski, was nominated as the range management/livestock specialist and ultimately served the project for the final 30 months. It took eleven months to obtain USAID approval and arrange for Miss Cleboski to join the Experience, Incorporated Team in Cameroon.

E. Activities and Accomplishments

In conformance with the project goal and the project purpose as expressed in the original Project Agreement, the Experience, Incorporated Technical Assistance Team at Mindif directed its major development thrusts since 1981 basically as outlined in the Reorganization Document dated November 1981, and Amendment No. 10 to the E.I. Contract AID/afr-C-1566. The project goal and purpose are as follows:

> Project Goal: "To intensify and integrate livestock and associated agricultural production in the central plains of the North Province and reverse the current degradation of the land resource base - soils, grazing and agricultural land - as a necessary foundation for improving the socio-economic standards of the rural population."

Project Purpose: "To demonstrate in a pilot zone the feasibility of implementing through local organization a series of technical practices for integrating and intensifying livestock and agricultural production while reversing the natural resource degradation process and improving the resource base".

Briefly summarized, technical assistance effcrts toward realization of the project purpose resulted in: establishment of a working relationship with project related GRC agencies and organizations; completion of an operational project center at Mindif; effecting coordination with existing agriculture and livestock research organizations; establishment of a project adaptive research capability; development of a system of improved range management and livestock water development; development of an improved small farm integrated livestock/agriculture management system; establishment of range and conservation demonstrations; training of motivated, assigned GRC project and related agency personnel; improvement of MINEPIA's project related animal health program capability; establishment of an extension skills and information delivery system; and motivation, organization and training of traditional leaders and producers. In short, the pilot zone demonstration called for in the project purpose was established but due to the premature abortion of technical assistance to the project was not completed and Experience, Incorporated has no way of judging whether the strategy implemented will prove feasible or not. Proving feasibility would normally require several cycles of satisfactory experience for all persons participating in the demonstration.

Detailed activities leading up to these accomplishments involved the reorganization of the project design and establishment of major project program thrusts. These were:

1. Project Center at Mindif:

Developed 48 hectares of fenced trials area, access road grid and drainage system, electric power and water system, buildings - 11 houses, 7 units of trainee living quarters, garage and equipment storage hanger, office complex, warehouse, drying floor, seed storage facility, heavy equipment maintenance facility, catttle feeding facility, generator shed and pump house, 5 deep drilled wells, hand dug well and 6 guard boukarous/houses.

2. Grazing Land Management and Conservation:

a. Three grazing blocks totalling approximately 24,350 hectares were established in the pilot zone. These block areas were surveyed with the assistance of local cooperating village leaders and producers whose inputs concerning grazing patterns, inter-village cooperation, and waterpoint location requirements significantly influenced project prepared designs. Each block location and design was coordinated with political, technical, and traditional leaders, then when designs were completed, again presented for additional inputs/ correction from these leaders before finalization.

Controlled, deferred grazing systems and schedules were prepared and coordinated in the same manner. Controlled grazing began in block No. 1, (which had been roughly laid out by hand labor) during the 1981 rainy season and in a partially completed block No. 2 during the 1982 rainy season. Block No. 3 controlled grazing began in 1983. An extension of 2000 ha in block No. 2 was still underway as of PACD.* Approximately 25% of total area of the completed portion of the 3 systems or 5,600 was deferred in 1984. When completed, this deferred area will be roughly 6,100 ha. each year.

b. Livestock/agriculture development groups were receiving technical assistance through 60 village councils (averaging 39 livestock and agricultural producers) and 3 grazing block councils. This technical assistance was a joint responsibility of the project team, the Department of Kaele, Arrondissement of Mindif, and District of Moulvoudaye technical services with the cooperation of political and traditional authorities. These councils are designed to operate in a democratic manner under leadership largely elected by their respective producer members. Assumption of responsibility for self disciplined management of resources related to project interventions (use and maintenance) by these councils was progressing satisfactorily and accelerating at PACD. Intensive technical assistance follow-up will be required through several years of local experience with this new democratic approach if it is to be adopted by all parties concerned.

c. Conservation of water and soil is built into the project's range and livestock water management system. Since reestablishment of grass cover provides the most effective way to combat soil erosion and to provide infiltration and retention of water in the soil, the project area was well on its way, at PACD, toward the objective of reversing the degradation

* April 30, 1985

of resources on the largest proportion of the pasture areas in the 3 demonstration grazing blocks. Whether the rate of re-establishment of ground cover (pasture grasses) continues or not depends upon the degree of control of grazing which will be exercised by village and block councils in the future. The councils' future efficiency in this respect will be directly proportional to the encouragement and support they receive from the project, its related agencies and civil/traditional authorities. In addition, the project established in selected areas of its zones of activity, successful demonstrations of contour ripping (deep tillage), scoop depressions on hard, packed, denuded pasture land to trap and store rainfall that would normally run off, strip reseeding behind rome plowing operations, and a trial water spreading/diversion which arrested further gulley erosion. In all cases, except those areas established during the 1984/85 dry season, vegetation reappeared in denuded and eroded areas. In addition, in coordination with MINAGRI's Service of Water and Forests, shrubs and trees were planted as natural gully barriers and also as a deterrent to erosion. In the first instance, the trees/shrubs recommended failed to become established (unadaptability) and, in the second instance, about 80% of two successive planting failed during two successive years of drought.

d. The project attempted establishment of 135 hectares of reseeded pasture utilizing Andropogen guyanus and Hyparrhenia filipendula in Grazing Block No's. 1 & 3. Block seedings and strip seedings were established in approximately 50% of the instances with stands realized ranging from excellent to poor depending on the season seeded.

e. Livestock watering points were designed, laid out and constructed with heavy equipment (which arrived in late April of 1983) at 2 locations and, by PACD, 2 additional waterpoints were nearing completion. These waterpoints were constructed with limited livestock access (fenced for health reasons) and with a concrete structure stabilized inlet canal system. Late delivery of heavy equipment to the project, a USAID moratorium on water point construction for the greater part of the 1983/84 dry season (from December to May) and the intervening rainy seasons all combined to preclude construction of additional waterpoints. USAID's requirement that the project produce an acceptable water development strategy proposal prior to continuing waterpoint construction was accompanied by their position that the number of water points constructed was irrelevant. What mattered was proposing a sound water development strategy for GRC acceptance. By PACD, the Experience, Incorporated team had received no word from U.S.A.I.D. concerning GRC/USAID action pertaining to the project's waterpoint development strategy proposal.

f. 250 kilometers of firebreak construction in the grazing blocks were designed, laid out and completed except for 25 kilometers of the extension section of Block No. 2. In addition, 51 km of access roads, about 50% of which also serve as firebreaks, were constructed to facilitate travel beween the 3 block areas and between project headquarters and the blocks. Among other uses, firebreaks and access roads have greatly improved the farm to market transportation problem which existed in the area. Fourteen additional Km. of firebreaks were constructed to protect the projects fenced "demonstration grazing block" (mini-block) and project center trials/ demonstrations.

g. In-service training was provided to 2 livestock counterparts successfully with one being less motivated (and subsequently transferred) and the other, more motivated and adopted to the work. Together with counterparts, the Range Management Specialist participated in adaptive research work of the project and in organizing and presenting training of range monitors, technical service personnel, and traditional leaders, and producers in range, livestock water, and conservation management activities.

h. Mr. Kulibaba, team Sociologist, monitored livestock market composition while, Mr. Schar, Project Economist, monitored market prices of livestock and produced a report "Perspectives on the Future of Livestock Marketing in North Cameroon". The range management specialist, in addition to cattle feeding trials, was involved in collecting pasture forage species from block pastures for analysis at the forage research institute at WAKWA (N' gaounderé). Animal health action programs were the responsibility of the Project Director (veterinarian); however, monitoring the health of project trial livestock was done out by the Livestock Specialist and counterpart.

i. Cattle feeding trials were carried out during 4 dry seasons and preparations for a 5th year of trials were still underway as of PACD. Trials were held by different classes of livestock (e.g.: fattening of old cows; maintaining milk production of cows during the dry season; comparisons of bulls, steers, heifers, old cows; maintenance feeding). Reports prepared for distribution included "Cattle Feeding Trial Report", Gipe 1981 and "Balanced Feeding of Lactating Beef Cows for Sustained Levels of Milk Production During the Dry Season", Nuza 1982. While much interest was expressed in these trials the instability of the livestock markets for quality cattle in the north was such that extension of feeding practices through the project's small farms systems intervention was premature. Thus, this activity remained in the pre-extension phase through April 30, 1985.

j. Contacts and sociological determinations, by team sociologist Kulibaba of the nomadic and sedentary populations in the proposed grazing block areas as well as observations of livestock movements, transhumans, and grazing patterns assisted the team to work more effectively with Cameroonian officials, technical services, and traditional leaders in development of range/agricultural/conservation interventions.

k. Maps of the three project grazing block areas were prepared which included: pasture locations, sizes of pastures, natural temporary and permanent water point locations, artificially constructed waterpoints, and village locations (see Maps 1 thru 4). The project has also obtained the CBLT series of maps which depicted among other things, areas of population density, livestock density, range lands, forests, and geological features of the project zone. In addition, the project had obtained two sets of aerial photographs of a large part of the project zone from Georgraphic Nationale, Yaounde and a Landsat color infrared photo of the project zone. Unfortunately, time and unavailability of program support and personnel did not enable the range management specialist to produce mylar overlays.

l. Research studies were developed for monitoring the deferred grazing system and eventually qualifying the measured success of the grazing program. These were:

1) Measured forage production of pastures in the 3 blocks (1983-1984). Studies to date have been unconclusive and will require 2 or 3 additional years of repetition for verification since control measures exercised by the local population on deferred pastures were not yet well enough established to ensure accurate measurements.

2) Two exclosures (20m x 60m) were established one north west and one south east of the project center. A third (20m x 30m) was established near Kolara in grazing block No. 3. None was established in block No. 2 as of PACD. The use of grazing utilization cages (1 meter x 1 meter x 1 meter) were used experimentally in grazing block No. 1 pastures. However, the difficulty of maintaining schedules of observations and moving them proved them impractical under rainy season conditions. Had adequate numbers of project GRC supporting personnel materialized, the cages might have proved to be very valuable pasture forage production monitoring aids.

3) A double sampling technique, based on a modified step transect was used along 2 intersecting compass lines across each pasture left in deferrment during the growing season. Weights of herbaceous forage occuring within 1 $m.^2$ plots placed every 20 meters along the transect were estimated by species and recorded on a tally sheet. Weight of forage every 5th plot was clipped and weighted by species. These weights were recorded to provide correction factors for the estimators conducting the sampling and to provide a second set of data (weight) to correlate with the first (estimated) to assess sampling procedure accuracy. At least 4 years of data are needed.

4) Grazing block monitors were trained and supervised in the 3 blocks. These monitors' capabilities included collecting data, providing guidance to traditional leaders and producers in observance of grazing schedules, pasture forage measurements, assisting with group/council organization, conducting producer/livestock registration campaigns, and serving as the project's direct link between village council leaders and the project.

5) A mini-block (Fenced "demonstration grazing block") was still being installed at PACD. With sectioned paddocks, when completed, this mini-block will serve as a controlled means of determining pasture carrying capacity and effects of various densities of livestock upon pasture, vigour and resource degradation. Changes in size, of the mini-Block proposed by the project compounded materials procurement problems faced by the project, thus delaying installation completion past the 1984 rainy season.

3. Animal Health

Experience, Incorporated provided the services of Dr. A. P. Antroinen (TDY - 60 days) to study and evaluate the GRC animal health program as related to the project zone. His report entitled "A Survey of Animal Health Services in the Mindif Arrondissement", which he developed in cooperation with project veterinarian (Dr. D. Djalla), has been used as a guide for project interventions projected towards strengthening MINEPIA'S Animal Health services to the zone.

The 3 veterinary posts located in the project zones of activity have received veterinary supplies, medicines, and the 3 posts' offices and laboratories have been refurbished and provided with access to refrigeration for perishable medi-

cines. One demonstration vaccination park was constructed in block No. 3 (the GRC budget is supporting the construction of an additional 6 parks.) Three of the additional 6 planned vaccination parks have been completed in blocks I, II, and III. Additionally, heavy equipment completed clearing of 5 locations for installing of 6 programmed cattle dips (tick baths) in the 3 block (2 per block) with excavation completed at one area. Two wells to supply water to the baths were successfully completed and one was in the process of being dug on 4/30/85.

In 1983, the project started a campaign to treat all project zone livestock (cattle, sheep, goats) for internal parasites and to assist the veterinary posts with their vaccination programs. This campaign was conducted in 1983 and 1984 and will continue in 1985. A veterinary pharmacy, opened up in Maroua (Under MINEPIA supervision/funding) precluded the need for a project provided pharmacy.

4. Increased Association of Agricultural and Livestock Production

Prior to the application of a series of improved technical practices via the pilot demonstration project, it was necessary to establish at Mindif and later at Moulvoudaye an adaptive research capability. This was accomplished through: the importation of potentially adaptive seeds; coordination with existing research institutions within Cameroon; and the incorporation of locally developed indigenous/traditional varieties. A system of crop rotation was developed incorporating maximum use of legumes, improved fallow in the rotation, improved cultural practices, associated livestock feeding of crop by-products, and the recycling of unused crop and animal waste back to the soil. The crops, varieties and order in the rotation vary according to the individual situation, needs and types of soil. While the project did not develop or find a leguminous forage fallow to incorporate into its system, it did find suitable substitutes (Andropogon guyanus and Hyparrhenia filipendula), two easily established perennial grasses.

A five year, five hectare rotation was established at the project center beginning in 1980. Crop by-products from this rotation were fed to cattle during the 1980-1981 dry season project feeding trial. Results of the trial were published in a report entitled "Cattle Feeding Trial Report", 1981. Results that year were positive.

Project recommended rotations in the form of pre-extension trials were established under the management of and on the farms of 30 producer cooperators, 10 in each of the 3 grazing block areas. Results achieved by these cooperators were of considerable interest to their neighbors and, where weather conditions permitted comparisons, they consistantly out-yielded their neighbors who were using traditional crops and cropping practices.

At the projects' trial site located near Moulvoudaye, management was coordinated with and placed under the direction of the MINAGRI Chef de Poste. After 2 years of trials, the site was abandoned by the project since project staff shortages did not allow adequate time to properly provide on-the-job training to the MINAGRI staff at that location during the growing season. Later, work with the 30 farmer-operators established in that general area provided more realistic results since the cooperators were personally interested due to the fact that they were the beneficiaries of their own improved management efforts.

In its 30 trial/demonstration rotations, the project introduced improved varieties, density of plant population, inter cropping techniques, planting in rows, insect/disease control, observance of planting dates, proper weeding schedules, methods and timeliness of fertilizer application, and harvesting techniques. Throughout, in service and on-the-job-training was given to the 3 agricultural monitors serving the 3 blocks. All adaptive research and project trials performed by the project were coordinated beforehand with local research agencies and results shared with them after findings were evaluated. This procedure was in effect through the 1984 growing season.

Extension of the project developed management system for small farmers is premature at this time as a general campaign throughout the North. The reasons are: There are no readily available sources of the inputs required (e.g.: seeds and fertilizers); and there is no institutional extension capability existing in the North. For these reasons E.I. technicians did not expand the effort past the pre-extension stage even in the pilot zone. The project required more than the time allocated to it to ensure the GRC's capability to develop an action strategy incorporating the projects findings.

This activity faced a severe constraint to progress of technical assistance due to GRC's failure to assign the 3 programmed mid-level agricultural technicians.

5. Training

Achievements realized by the project, expressed in quantitative terms, related to progress made toward training objectives outlined in the project reorganization document are as follows:

	Number of People			
	Involved in Project Activities		Outside of Project Activities	
Persons Trained	Targeted	Actual	Targeted	Actual
To Ph.D. Degree	0	1	-	-
To M.Sc. Degree	4	2 1/	-	-
Short Term U.S.	3	0 2/	-	-
30 day Tours	8	0	-	-
5 Day Tour of Nigeria	0	4	-	-
On-the-Job Training				
- Management	2	1 3/	-	-
- Management Support	12	26	-	-
- Technical	16	47	0	8
- Producer/ Cooperators	60	30 4/	0	2
Ext. Tech. Training				
- Admin./Tech. Chiefs	7	17	5	35
- Tech. Assist. Monitors	8	19	37	5
- Traditional Leaders/ Village Representatives	62	660	-	40
- Producers (Agri/Elevage)	360	3462	-	245

Extension Events

- Attended Activity Tours & Field Days Combined	2400	600 5/	1090	980
- Demonstration Cooperators	51	30 6/	-	2
- Part. In Demonstrations	900	3600	-	-
- Part. In Educational Trips	36	4 7/	9	-
- Part. In Seminars	75	27 8/	30	35
- Contacted By Tech. Team	1500	6100 9/	500	1000

Notes:

1/ One of 4 scheduled earned Ph.D. - one not nominated by GRC.

2/ Three scheduled for short-term, U.S. Training in Mid-1985.

3/ No Deputy Director assigned to project.

4/ Includes only agricultural cooperators trained by technicians and excludes approximately 500 livestock producers actively following rotational grazing under guidance of monitors.

5/ Transportation facilites limited numbers that could attend. Many of those noted above attended all events so figures quoted are much lower than total attendance. Field days/tours were combined as one event usually lasting from cooperator pickup at 6:00 A.M. to return home at 6:00 P.M.

6/ Includes only 30 cooperator/demonstrators (small farm systems).

7/ Shortage of supporting program personnel restricted this planned technique. Seminars held 2 years only.

8/ Limited seminar space restricted numbers which could be invited.

9/ These are minimum estimates.

6. Extension Activities

Throughout the life of the project, the extension component was concerned with the establishment of an effective information and skills delivery system. The first opportunity to provide an orientation of officials, technical service personnel, traditional leaders and producers concerning project goals, purpose, and objectives came with the reconaissance survey in December/January 1980-1981. At the same time, feedback concerning problems and the situation facing the producers was realized. This survey also revealed the strengths and weaknesses of the existing traditional village organizations and their potential to serve as such a delivery system without upsetting the balance between political, technical and traditional interests which could occur by creating a parallel organizational system. Based upon this approach, the extension component of the project with cooperation and active participation of both Cameroonian and American team members, executed the following activities.

a. Developed project technicians whose primary roles consisted of carrying out adaptive research and its application in the field into functioning extension specialists within their respective disciplines.

b. Organized local official, technical and traditional support; established orientation and training meetings; secured participation of village organizations in surveys, planning, design and implementation of demonstration grazing blocks and establishment of 30 cooperating producers as pre-extension integrated small farm management demonstrators. This effectively establsihed 3 grazing block and 30 integrated rotational management system result demonstrations.

c. Provided further training/orientation to GRC services, project personnel, traditional leaders and producers through organizing and implementation of: tours/field days of project interventions and adaptive research; tours of cooperators "demonstration" farms; special technical training meetings; and individual contacts.

d. Organized and held inter-organizational coordination meetings as training devices to promote discussion and increased understanding of agencies and organizations concerning the project's objectives and purpose, and to develop closer and more active cooperation between these organizations.

e. Organized and held 2 seminars involving representatives of local government agencies, organizations, political governmental subdivisions, as well as the project related technical services of the extreme North Province Departments. The purpose of these seminars was to create a discussion of (contructive criticism) and understanding of the project's goal, purpose, implementation strategies, technical practices, and progress. Seminars proved to be sounding boards in the project.

f. Established an information activity which involved identification of project interventions, cooperating villages, and cooperating producers. In addition, a monthly project news letter was prepared explaining project objectives, tehnicians employed and opinions of cooperatives. These were sent to all cooperating organizations, agencies and to some 500 French speaking rural school children in project activity areas.

g. Obtained active support and participation of political, prefectural, sous-prefectural, technical and traditional leaders in conducting an organization campaign to establish 60 villages councils and 3 grazing block councils to increase the efficiency of the traditional organization to manage the further development of their own resources. Villages were given the opportunity to organize or not to organize. This was the first introduction into the project's development process of a formal, organized, democratic, self disciplined management of resources. As of PACD, 3 series of follow-up meetings involved organizational training and registration of members and their resources had been held.

III. RECOMMENDATIONS

1. It should come as no surprize that our foremost recommendation to the USAID is to refrain from starting new projects unless there is a firm intention and commitment to complete at least the first phase.

2. USAID should review its decision to terminate U.S. technical assistance to the project and consider reinstating a technical assistance effort as soon as possible in order to take advantage of the momentum created since the project was given the means to function in April of 1983.

3. We believe that the USAID practice of insisting that one of the technical experts on a contract team serve as team leader constitutes a serious constraint. USAID should recognize the need for a full time team leader (or chief of party) for projects of the magnitude of the North Cameroon Livestock and Agricultural Development Project.

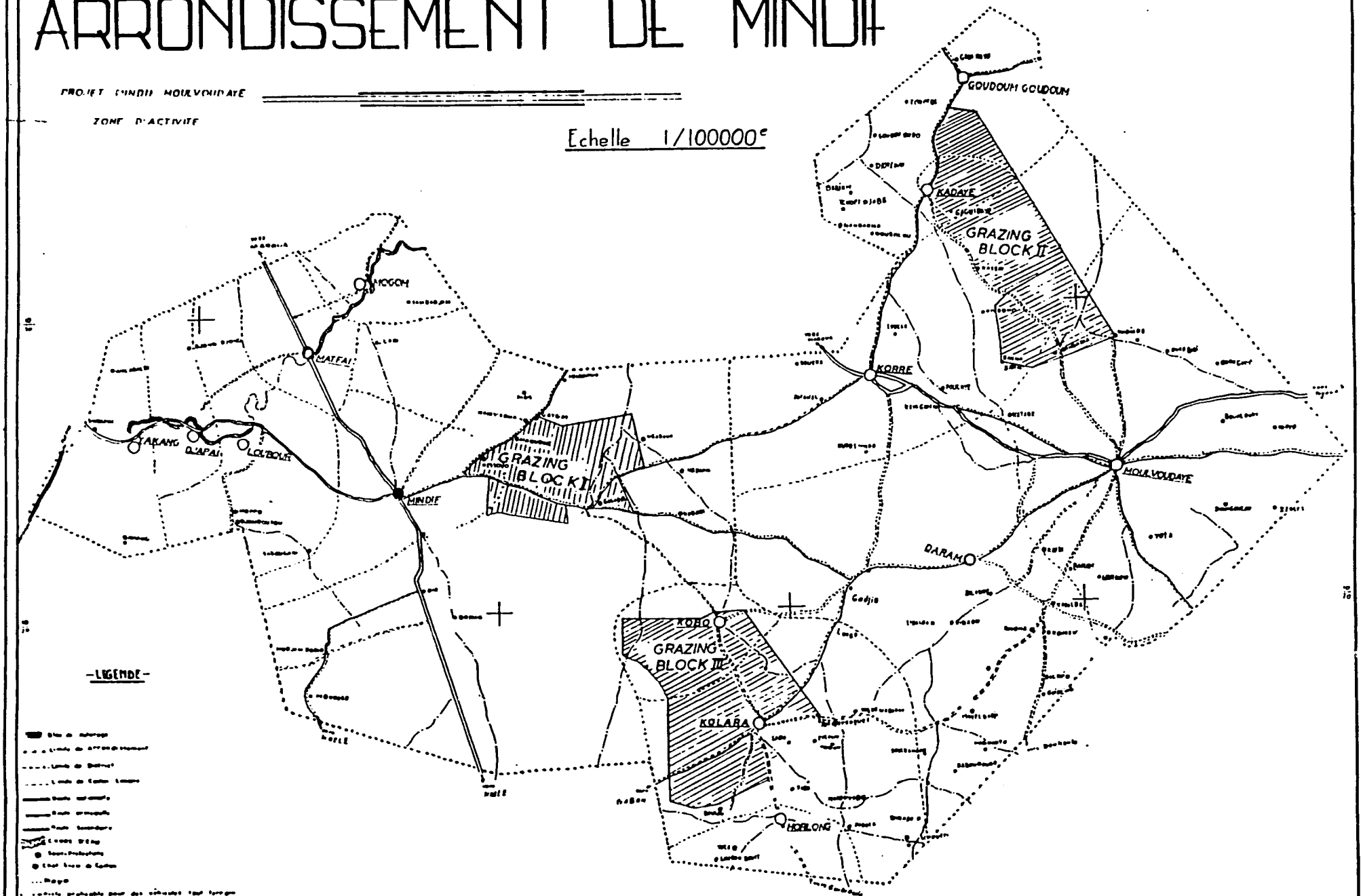
MAP # 1

ARRONDISSEMENT DE MINDIF

PROJET MINDIF MOURVOUDAYE

ZONE D'ACTIVITE

Echelle 1/100000e

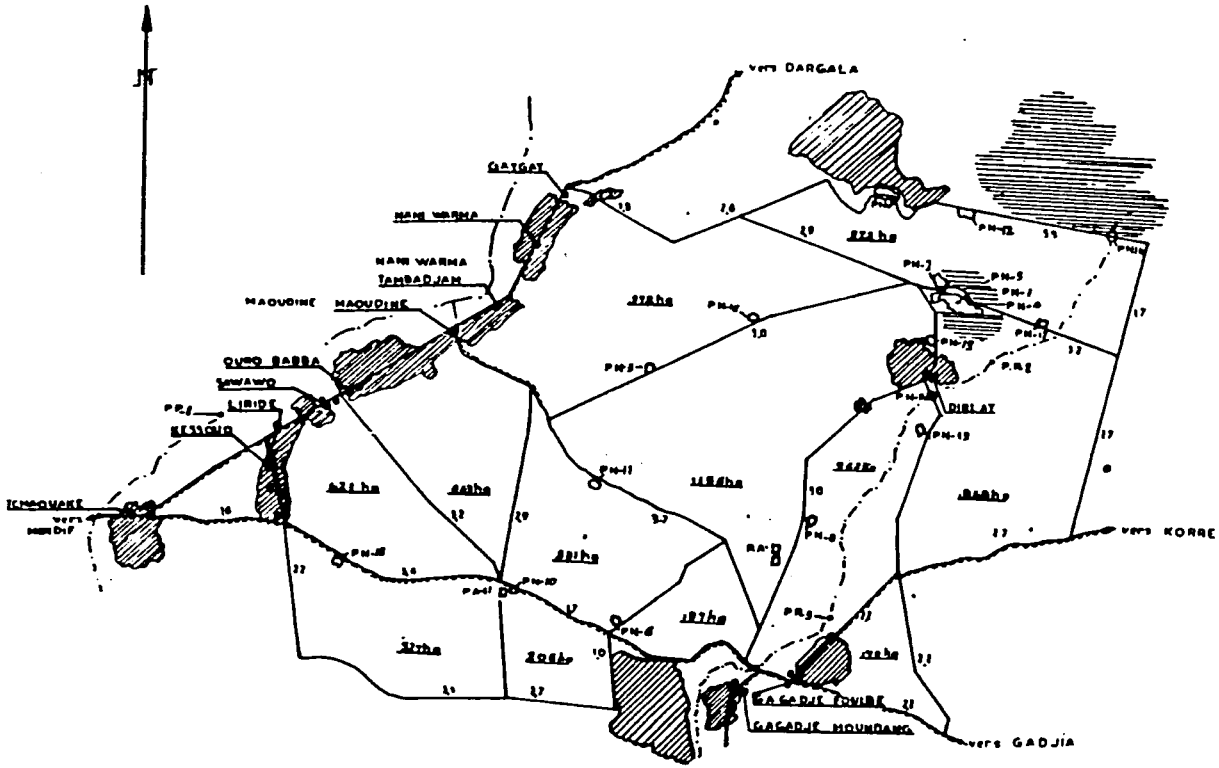


MAP #: 2

PROJET PILOT AGROPASTORAL – MINDIF MOULVOUDAYE

GRAZING BLOCK I

Total Area of Block 7014 ha



VILLAGE
ROUTES
PARE-FEU
MARES NATURELLES
MARES ARTIFICIELLES
MAYO
CHAMPS
YAERE
12 km
100 ha PARCELLES

Echelle 1/500e

3 km

Pn-Point d'eau Naturel
PP- Point d'eau permanent
Pa- Point d'eau Artificiel

reproduit par Hakoram Paul

MAP # 3

PROJET PILOT AGROPASTORAL MINDIF MOULVOUDAYE

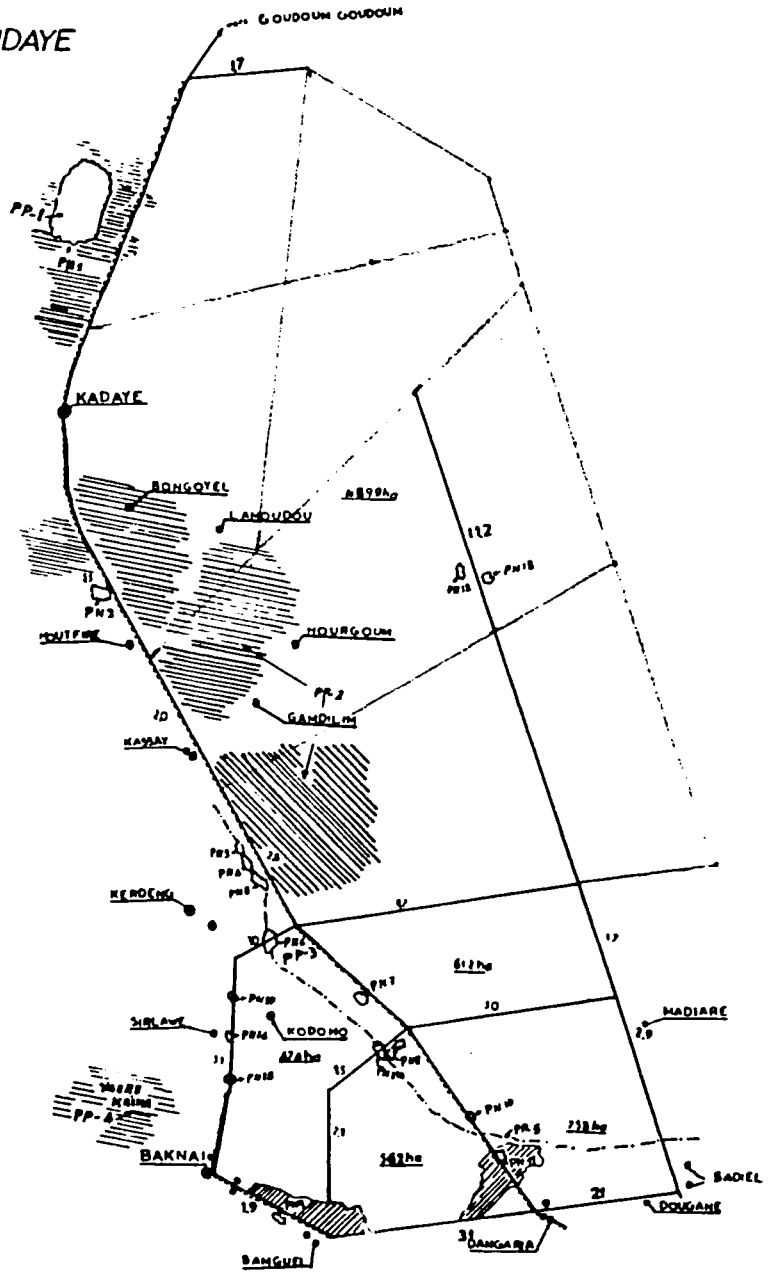
GRAZING BLOCK II

Total Area of Block 7300ha

- Village
- Route
- Par_Feu
- Mares Naturelles
- Mares Artificielles
- Maye
- Champs
- Yaere
- 1,2km
- 100ha Parcelles

Echelle 1/500°

3 km



PN- Point d'eau Naturel
PD- Point d'eau Permanent
PA - Point d'eau artificiel

-Levé Par Mokeyam Paul-

MAP # 4

PROJET PILOT AGROPASTORAL MINDIF MOULVOUDAYE

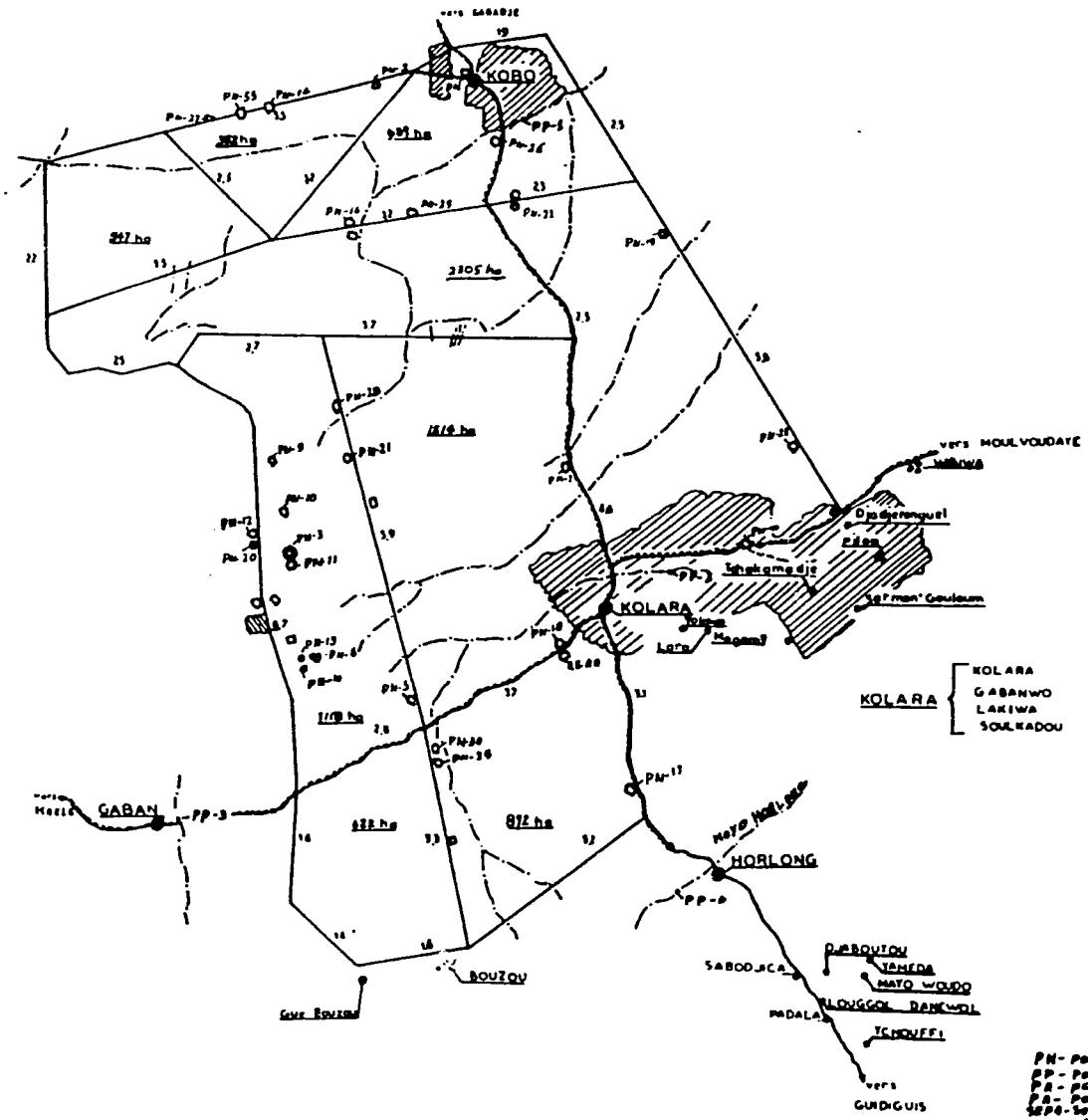
GRAZING BLOCK III

Total Area of Grazing Block 8039 ha

VILLAGE
ROUTES
PARE-FEU
MARE NATURELLE
MARE ARTIFICIELLE
MATO
CHAMPS
1,2 km
100 ha PARCELLE

Echelle — 1/500e

3 km



Levé par Nokoram Paul