

CAMEROON
AGRICULTURAL
PLANNING AND
POLICY
PROJECT



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MINISTERE DE L'ELEVAGE, DES PECHES
ET DES INDUSTRIES ANIMALES

DIRECTION DES ETUDES, DES PROJETS
ET DE LA FORMATION

REPUBLIQUE DU CAMEROUN
Paix - Travail - Patrie

THE DESIGN AND IMPLEMENTATION
OF A MANAGEMENT INFORMATION
SYSTEM FOR LIVESTOCK
IN CAMEROON

by

Richard H. Cook

March 1990

Cameroon Agricultural Policy and Planning Project

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**TDY TRIP REPORT -
CAMEROON AGRICULTURAL POLICY AND PLANNING PROJECT**

**Richard H Cook, DVM, PhD
24 February - 17 March, 1990**

PURPOSE :

The purpose of the TDY was to assist staff in the Ministry of Livestock, Fisheries, and Animal Industries of the Government of Cameroon and the technical assistant staff of the Cameroon Agricultural Policy and Planning Project to elaborate a strategy for the design and implementation of a management information system to provide a sound basis for more effective decision-making for the livestock sector.

SUMMARY OF FINDINGS AND RECOMMENDATIONS :

1. **FINDING :** A well- developed data collection system already exists at the provincial level within the Ministry of Livestock, Fisheries, and Animal Industries. However, the system suffers from inadequately trained staff, inappropriate allocation of duties and responsibilities for field staff, unreliable data collection, and lack of appropriate logistical and operational support.

RECOMMENDATION : Efforts be made by the CAPP project to improve the existing data collection and reporting system of MINEPIA by : (1) strengthening the capacity of the Division of Studies and Projects to integrate central administrative needs and liaise and coordinate the management of information at the central administrative level with provinces ; (2) indentify one or two test provinces in which to implement a detailed program to improve the management of field data.

2. **FINDING :** Considerable Efforts have been made in the past to train central administrative staff at the post-graduate level in the United States. Presently 4 returned trainees are being under-utilized within the Division of Studies and Projects, MINEPIA.

RECOMMENDATION : Efforts should be made by the CAPP project to develop a local training program on data collection and analysis techniques for field staff within identified test provinces. The elaboration and implementation of this training program should be the responsibility of the Division of Studies and Projects, MINEPIA, and should strive to utilize the available human resources available within the Division.

3. **FINDING :** Efforts have been made to incorporate livestock survey data as an integral part of the agricultural survey instrument.

RECOMMENDATION : The feasibility and appropriateness of combining agricultural and livestock surveys into a single activity outside of established data reporting procedures within MINEPIA should be reevaluated.

4. **FINDING :** No formal signatory process is in place for the approval of annual workplans and activity budgets.

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RECOMMENDATION : A formal approval process, requiring the signature of a representative of USAID/Cameroon and of the Government of the Republic of Cameroon, (for example a P.I.L.) for CAPP Project annual workplans and budgets needs to be implemented. In addition, workplans need to specify, on an annual basis, anticipated activity outputs and monitoring and evaluation criteria.

- 5. **FINDING :** The role and responsibility of the development partners involved in the CAPP Project, ie. USAID/ Cameroon, MINEPIA/MINPAT/MINAGRI, and CAPP Project staff, as regards the identification and implementation of special studies appeared unclear.

RECOMMENDATION : The purpose of the CAPP Project special studies program is to provide the GRC and the donors, particularly USAID/Cameroon, economic data and policy analyses to assist the GRC in identifying appropriate policy options to meet the conditions of the economic reform and structural adjustment programs. Agreement on specific study needs should be the result of policy dialogue directly between the Mission and the appropriate GRC ministry, utilizing where appropriate technical input from CAPP Project staff. Drafting the scope of work and terms of reference for these studies should be the responsibility of CAPP Project technical staff and be approved in writing by both Mission and appropriate GRC Ministry representatives before being implemented.

- 6. **FINDING :** Existing economic conditions in Cameroon have compromised the GRC's ability to provide resources for CAPP Project activities at the level foreseen in the Grant Agreement ; CAPP Project objectives and purpose appear overly complex and ambitious in the face of existing economic pressures and general resource availability.

RECOMMENDATION : The CAPP Project's logical framework needs to be reexamined in the light of existing economic and political realities. All partners in the CAPP Project development effort need to re-assess and come to a consensus on both short term (output level objectives) and medium term (purpose level objectives) for the PACD of the project. Alternative implementation modes need to be examined for achieving short-term outputs such as the use of short-term consultant teams and local private sector initiatives.

INTRODUCTION :

Although the purpose of my TDY focused on indentifying an appropriate strategy for strengthening the institutional capacity of the Ministry of Livestock, Fisheries, and Animal Industry to improve information management for decision making, the vehicle for implementing this strategy is the Cameroon Agricultural Policy and Planning Project. Thus, in addition to addressing technical and institutional issues related directly to implementing such a system within the Ministry, a brief assessment of the project 's capacity to respond to the technical and institutional issues will be given.

It should be stated at the outset of this report that my time in Cameroon has been brief and it has not been possible to make contact with all staff associated with this project, nor has there been sufficient time to read all related materials and documentation. The majority of my time has been spent in the field, in the North-west, Extreme North, and Adamaoua Provinces, discussing with provincial staff their system of data collection, analysis, and reporting, and assessing with them the constraints and their capacity to strengthen the reliability and effectiveness of the existing data system. Since the basis of any ministerial management information system is determined by the effectiveness of field data collection, analysis, and reporting, my time in the field has provided me with some first hand impressions of what needs to be done.

As stated in the project paper, the purpose of the CAPP Project is to continue institution building efforts which were begun under the previous AMP Project. and as such, I have given some consideration to the existing political and economic factors in Cameroon which, in my opinion, will

directly influence the ability of the project to achieve its stated goals and purpose and provided my impressions as to how modifications in present project design could allow the project to better respond to institutional building opportunities within this dynamic political and economic environment.

CAMEROON'S ECONOMIC CLIMATE

Between 1980/81 and 1985/86, the Cameroonian economy recorded a high growth rate (nearly 8% in real terms) due mainly to the development of the oil sector. This performance resulted from high annual growth rates investment (7%), exports (16%), and consumption (3.3%). This trend followed a period of intense development efforts during which the country's credibility and credit-worthiness abroad were maintained while the economic indicators were nearly all favorable.

However, since 1986/87, the economy has contracted considerably (2.8% in 1986/87 and 8.6% in 1987/88, in real terms) and progress towards improving the welfare of the population and more effectively meeting its basic needs has been compromised. This decline is likely to persist for some time.

The economic crisis which the country has been experiencing since 1985/86 has completely reversed the positive trends registered during the early 1980s. This crisis has been the result of the fall, on the world market, of the prices of major export crops (oil, coffee, and cocoa), generating a decline in the country's terms of trade by nearly 45% over the last three years. A depreciation of nearly 40% of the U.S dollar vis-a-vis the FCFA, the currency in which main export products are valued, has led to a sharp fall in the value of exported goods and services with adverse repercussions on Government revenues and household and enterprise earnings.

In order to address the fiscal deficit issue the Government has undertaken a comprehensive review of all public enterprises with a view to abolishing those that are not fiscally sound, and privatizing those that are revenue generating. The Government has also expressed its interest in proceeding rapidly with a structural adjustment program, the core of which would consist of public enterprise and public finance reforms, dealing at the same time with agricultural prices, trade liberalization, industrial promotion, and administrative reforms.

THE LIVESTOCK SECTOR & THE MINISTRY OF LIVESTOCK, FISHERIES, AND ANIMAL INDUSTRIES

The livestock sector accounts for approximately 16% of agricultural production and is a source of income for approximately 30% of the rural population. (World Bank, 1988) Cameroon's livestock population was estimated in 1986 at 4.4 million cattle, 5.3 million sheep and goats, 14 million poultry, and more than 1 million head of swine. Total production from the sector was estimated at 120,000 tons of meat, 45,000 tons of milk, 2,300 tons of eggs, representing a total value of approximately \$ 400 million. The livestock sector also provides the draft power to cultivate more than 100,000 ha annually for staple food crops and cotton.

More than 60% of the national cattle herd are maintained under traditional, extensive conditions, although semi-sedentarization is becoming increasingly more important, especially in the major livestock production provinces (Adamaoua, North-Western, North and Extreme-North).

The Ministry of Livestock, Fisheries, and Animal Industries (MINEPIA) is responsible for the planning and implementation of all livestock and fisheries development activities for the Country. The central staff in the Ministry, consisting of 25 professional and 150 medium and lower level technicians, is distributed mainly among four technical directorates (Animal Health, Animal Production, Fisheries, and Studies, projects, and Training), all of which are supported by a Directorate of General Administration.

In the field MINEPIA has approximately 80 professional, 600 middle-level and lower level technical staff, and more than 1,600 support staff divided among 10 provincial Livestock Delegations, 42 Sectors, 94 Subsectors, and 357 Animal Husbandry and Veterinary Centers. Nationally, this results in an average coverage of approximately 10,000 Tropical Livestock Units or 1,000 km² /animal husbandry /veterinary center. The main responsibilities of the National Livestock Service are preventive animal health care, food inspection, and animal production extension. As a result of limited funding for recurrent expenditure, contact between professional field staff and producers is very low, generally being limited to national vaccination campaigns.

MINEPIA's 1986/87 budget was \$ 12 million for recurrent costs, \$ 13 million for investments, and \$ 15 million for special activities financed with funds from oil revenues. The total budget of \$ 40 million constituted about 2% of GDP, in line with the sector's economic contribution to GDP. However, because of Cameroon's financial crisis, the Ministry's overall 1987/88 budget was reduced to \$ 22 million, of which \$ 14 million was for recurrent expenditures and \$ 8 million for investment. Furthermore the investment budget was mainly production-oriented and spread over more than 40 on-going and proposed new projects, 65% of which focused on production development and commercial activities. This budgetary allocation was done at the expense of public sector activities, such as extension, animal health and quarantine control.

The 1988/89 investment budget of MINEPIA was further reduced to \$ 4 million. These budgetary reductions have resulted in an imbalance in the distribution of recurrent costs in the Ministry, with an excessive share going to salary costs at the expense of non-salary expenditures. The salary/non-salary ratio has declined from an appropriate 60 : 40 level in 1983/84 to 84 : 16 in 1987/88. In addition, more than half of the very limited non-salary recurrent funds was used in 1987/88 solely to subsidize animal treatments and vaccinations.

Following my discussions in the North West, Extreme North, North, and Adamaoua Provinces, it was evident that staff were routinely collecting livestock data, eg. Numbers of animals, animal sales, animals vaccinated, diseases outbreaks, animals treated, etc., and in general were aware that the reliability of the data generated in many cases was questionable. The three most important constraints noted by all provincial delegations influencing the quality of data collection were : (1) lack of appropriate training for field staff in data collection methods (2) the requirement that field agents serve as both " tax collectors" and extension agents compromised their ability to gain producer confidence and therefore elicit accurate production data from them ; and (3) limited logistical and operating resources to allow agents to make regular and frequent visits to producers. Two other factors that were also cited in several discussions; (1) the lack of clearly expressed needs for information by the Ministry's Central Administration, the result being that little improvement or change was made in movement of field staff by the central administration presented problems in establishing and maintaining producer confidence and trust. An underlying factor in all discussions, and a factor which is of paramount importance in improving/strengthening institutional capacity, is that of motivation and incentives for staff. Presently the only motivation for field agents is a monetary one directly linked to their tax collection efforts, efforts that in fact compromise their ability to provide reliable data.

In general, a management information system for a livestock ministry should provide information to allow for an effective monitoring of : (1) evolution and utilization of the resource base, ie. animals - numbers, herd structures ; and the natural resource base-pastures, water, and forests ; (2) field disease situation, effectiveness of preventive animal health programs, distribution and availability of biologicals and pharmaceutical (3) commercialization- off takes, sales, inspection, and prices, exports and imports. The overall purpose of such a system is to provide an effective mechanism to assess the effectiveness of resource allocation, ensure national quarantine and sanitation controls, and assess overall production and distribution patterns for livestock and livestock products. The long-term objective should be to strengthen the capacity of the Ministry to effectively monitor and carry out surveillance in an increasingly privatized commercial sector.

Effective decision-making for the Ministry of Livestock, Fisheries, and Animal Industries implies the need for an efficient and reliable information management system that incorporates the collection and analysis of reliable field data, and a timely and effective reporting procedure. Such a system

must also include a " feedback mechanism, whereby senior decision -makers communicate their information requirements to mid level administrative and technical staff, and thereby permitting them to prioritize the type and form of field data needed and allocate their resources appropriately

The design and implementation of an effective management information system is not a simple task of technology transfer, but rather an iterative process that more frequently than not evolves as part of an institutional or organizational development effort. Such a system must be flexible enough to respond to the changing organizational needs for information and be institutionalized or routinized within the management fabric of the institution. Ideally, the system becomes the mechanism by which priorities are established, resources are allocated, activities are monitored and evaluated, and policies are made, in effect the basis of decision-making at all levels of the organization. It is therefore, a long-term development process that needs to be predicated on a clear vision of the future role and responsibility of the institution/organization within the economic, social, and political environment.

The organizational perception of information needs is the driving force the implementation of an effective management information system. A perception that is determined in the first instance by short-term political, economic, and social factors, and rarely by the perceived need to develop long term strategies and undertake long term planning and programming efforts. An environment characterized by " traditional management" (sometimes referred to as " crisis" management) is rarely conducive, at least initially, to the allocation of resources, whether it be human, material, or financial, to develop a system that has as its objective to change the traditional basis on which decisions are made.

Consequently, the strategy for implementing such a system must incorporate a mechanism that begins with an institutional consensus and commitment as to why information should be collected, what information is priority, and how information should be analyzed and reported.

GRC DEVELOPMENT OBJECTIVE FOR THE LIVESTOCK SECTOR

The Government's main development objective for the livestock sector has been to increase domestic meat production and improve the capacity of the livestock sector to meet a growing domestic demand for meat and animal products. Under earlier development plans, the public sector was the preferred means to achieve this objective. However, the strategy has recently shifted towards a greater emphasis on the private input supply and production units, support for more capital intensive poultry enterprises, better cost recovery for government services, and rehabilitation of para- statal enterprises.

In the livestock and fisheries sub-sector, the flooding of the market with illegally imported frozen products, sold at very low prices, has in the past seriously discouraged local production and initiatives. This external factor, however, has only worsened the already existing problems associated with the inadequacy of animal protection facilities (quarantine, vaccines, veterinary infrastructures), lack of advisory services for producers, the scarcity of financial resources, and general inability to monitor and control activities within the sector.

Presently Government initiatives focused on rural development are emphasizing : (1) increase rural sector output by harnessing the existing production potential ; (2) restructuring the industrial fabric and creating competitive incentives that will promote private initiative and exports. Within the context of preserving and sustaining the management of natural resources, efforts are focusing on : (1) food security ; promoting and diversifying exports ; (2) increasing revenue in rural areas ; (3) re-examining pricing and marketing policies for agricultural products - removing subsidies, establishing a pricing system which takes into account world fluctuations and incentives for production, (4) liberalizing internal and external marketing for primary commodities with a view towards enhancing their competitiveness; (5) revising existing tax policies ; (6) providing institutional support to strengthen research and extension services, particularly for the livestock sector and maintain and upgrade assistance made to the small holders to promote the creation of medium sized farms ; and (7) increase the efficiency and value added of the agricultural sector.

Specific actions being implemented in the livestock sector include the institution of a policy that requires livestock farmers to participate in their own development by gradually transferring to them the development expenses previously paid for by the state. In the areas of cost Recovery, the Government is setting up mechanisms that will ensure cost recovery for clinical services and vaccinations as well as pharmaceutical products mainly by phasing out the distribution of free veterinary products. As concerns the preservation of tsetse fly -free zones, the Government will set up a financing system that will require livestock producers to participate either financially or in kind. Such revenue will, as a matter of priority, be used to meet the operating costs (excluding salaries) of the livestock services. The revenue thus collected will be paid either into a special treasury account opened for such purposes or into the livestock development funds that already exist in each province.

The government is also encouraging and promoting private sector participation in the supply of inputs and services. The Government will encourage the development of private veterinary services, which is expected to ease the workload of Government services and stimulate the creation of jobs in the private sector. This policy will : (1) gradually accord private veterinary clinics exclusive rights to furnish veterinary services and to distribute veterinary products ; (2) when possible, subcontracting to private persons activities that are public in nature, such as vaccinations, the inspection of animal products, etc. ; (3) emphasize preventive animal health disease measures and accordingly broaden the range of vaccines manufactured by the National Veterinary Laboratory (LAVANET) ; (4) emphasize the selling of inputs and selected breeds to livestock producers and increase the technical advice to stock farmers ; and (5) re-organize the veterinary Pharmaceutical Office in order to gradually improve its performance and the quality of the service it provides. The re-organization should enable it to operate without state subsidies in two years time (1991).

Implementation of these actions will dramatically change the role of the Ministry of Livestock, Fisheries, and Animal Industry. Emphasis will no longer be placed on the provision of goods and services, but rather on monitoring and carry out surveillance activities within the sector for the benefit of producers and consumers. It is this monitoring and control activity which should provide the focus for development efforts aimed at strengthening the management information system within the Ministry.

MANAGEMENT INFORMATION IN MINEPIA

As indicated above, MINEPIA budgetary cuts have resulted in an increase in the ratio of salary/non-salary allocations from 60/40 in 1984 to 86/14 in 1988, clearly indicating the inability of the Ministry to presently fund sufficient operational recurrent costs to effectively utilize existing staff. Moreover, discussions with provincial delegations indicated that in addition to insufficient operating funds at the level of the animal husbandry/veterinary extension centers, there were also not a sufficient number of field agents to effectively undertake present activities, let alone become engaged in additional, periodic statistical surveys. Moreover, GRC civil service restructuring efforts will likely exacerbate present staffing problems in the near future.

Project efforts to combine livestock and crop data in the same survey, utilizing the same techniques will likely not prove effective. First, monitoring resource exploitation and productivity in the livestock sector does not involve the same production parameters, time frame, marketing and distribution factors, as it does for the agricultural sector. This is especially the case when the sector is dominated by a traditional, extensive, transhumant production system. If the livestock sector was dominated by sedentary, mixed agricultural production system, then basing a sampling frame on a population census might be more effective, but even in this case the chances of gathering accurate data is much less likely than in the case of pure cropping system. The reasons for this difference between sectors is well understood and will not be detailed here, suffice it to say that at present, with the GRC initiatives to increase taxes on livestock and to require producers to pay for inputs which were previously provided by the State, the likelihood of enumerators being able to elicit honest responses from livestock producers regarding animal numbers, offtake, etc. is, in my opinion, very remote. Secondly, it is unlikely that MINEPIA would want another ministry collecting and analyzing data from the livestock sector on a routine basis, an activity that is clearly an institutional responsibility of MINEPIA.

Efforts do, however, need to be made to improve the collection and analysis and reporting of data in MINEPIA. The last annual report published by Ministry was in 1987. The strategy that should be used to strengthen and improve on the existing system. The Division of Studies and Projects at the level of the Central Administration needs to play a more active and dynamic role in coordinating data collection, analysis and reporting for the entire Ministry. It needs to function as a unit which integrates the needs of the other national divisions (Animal production, Animal Health, Fisheries) and liaise with Provincial Delegations to establish a uniform reporting procedure. It also needs to take the lead in establishing training programs for provincial staff in better data collection and analysis procedures and provide an effective voice within the Central Administration to lobby for necessary administrative and policy changes required at the provincial and field levels. I think that limited efforts should be made by the CAPP Project to improve management information in MINEPIA as a start I would suggest selecting one or two test zones (provinces where livestock production predominates) and develop a program with the provincial delegate (s), an improved data collection system. Such a program should be developed to strengthen the provincial capacity to carry out monitoring and surveillance activities for the sector and provide the Central Administration with concise, well analyzed information. The effort should build on the existing system, not be resource intensive, and be a routine part of field staff activities. The system should also be replicable to other provincial areas. These efforts should also be coordinated with activities in the World Bank 's Third Phase Livestock Sector Project.

THE CAMEROON AGRICULTURAL POLICY AND PLANNING PROJECT

Since 1979 USAID/ Cameroon's program strategy has emphasized better GRC planning and management of the agriculture sector resource allocation and use. This strategy has been implemented through the Agriculture Management and Planning Project (AMP). The AMP Project was authorized in January 1975 to strengthen the capacity of the Ministry of Agriculture 's statistics and economic units to provide sound economic analysis on which the Ministry could rely for planning and policy development.

The conclusion of the assessment made for the AMP project was that while important progress had been made in developing the GRC's institutional capacity to carry out data collection and processing and policy analysis and planning, a great deal remained to be accomplished in both areas, particularly in the area of policy analysis and planning.

As stated in the project paper, the purpose of the CAPP Project is to provide needed data and analyses for the agriculture sector structural adjustment program. In addition to providing basic information required for future Mission program and project identification, design, implementation and evaluation needs, the project is also mandated to strengthen and institutionalize the GRC's capacity to conduct economic and agricultural policy development and planning.

CAPP PROJECT DESIGN AND MANAGEMENT

I do not think that the CAPP Project is appropriately organized to achieve its dual objectives.

A clear consensus between USAID/Cameroon, and the Ministries of Plan and Regional Development, Livestock, Fisheries, and Animal Industries, and Agriculture, needs to be reached as to the specific institution building and special studies objectives of the CAPP Project. These objectives need to be articulated in terms of annual workplans submitted by CAPP Project staff (both Cameroonian and expatriate) and approved in writing by both the Mission and the appropriate GRC Ministries. Workplans should be as detailed as possible, indicating in all cases the objectives of each activity, resource requirements of each activity, and the resource allocation by development partner, ie. CAPP Project- USAID or the GRC. Project management needs to have the flexibility to be more entrepreneurial in managing Project resources based on approved annual workplans. All phases of Project activities should be clearly output oriented and the means for monitoring and evaluating each project activity should be clearly detailed in the approved annual workplans. In addition, alternative mechanisms for the implementation of special studies and the generation of specific,

agreed to data /information requirements/outputs need to be explored, ie. Use of independent, short-term consultant team, local contracted private sector firms, ect Appropriate, alternative mechanisms should be consistent with and facilitate GRC efforts to comply with requirements of its economic reform, structural adjustment program.

A formal process, requiring the signature of a representative of the Mission and the GRC (for example a P.I.L) for CAPP annual workplans and budgets needs to be implemented. If some type of official approval system is not implemented, workplans will be no consensus document on which to monitor and evaluate project performance.

ACKNOWLEDGEMENTS

I would like to extend my appreciation to all MINEPIA and CAPP project staff for their assistance during my stay in Yaoundé. My special thanks to Mr. Foudjo Jonas, Division of Studies and Projects. MINEPIA, and Dr. L. Atouga, CAPP Agricultural Economist, for their continual assistance, support, and advice.

ANNEX - 1

ITINERARY OF TDY

DATE	DAY	DESTINATION	TIME	ACTIVITY
24/2/90	Saturday	Depart Pullman	4 : 30 AM	
25/2/90	Sunday	Arrive Douala	6 : 15 PM	
26/2/90	Monday	Arrive Yaoundé	12 : 30 PM	CAPP Meeting
27/2/90	Tuesday	Yaoundé		MINEPIA Meeting
28/2/90	Wednesday	Yaoundé		AID, Documents
01/3/90	Thursday	Depart Bamenda	7 : 45 AM	Pro. Delegate
02/3/90	Friday	Bamenda		Pro. Delegation
03/3/90	Saturday	Depart Yaoundé		
04/3/90	Sunday	Depart Ngaoundéré		
05/3/90	Monday	Arrive Ngaoundéré	8 :45 AM	Depart Maroua
06/3/90	Tuesday	Maroua		Prov.Delegation
07/3/90	Wednesday	Depart Garoua		Prov.Delegation
08/3/90	Thursday	Depart Ngaoundéré		Prov.Delegate
09/3/90	Friday	Ngaoundéré		Prov.Delegation
10/3/90	Saturday	Ngaoundéré		Field Visit
11/3/90	Sunday	Depart Yaoundé		
12/3/90	Monday	Arrive Yaoundé		
13/3/90	Tuesday	Yaoundé		Report Writing
14/3/90	Wednesday	Yaoundé		Report Writing
15/3/90	Thursday	Yaoundé		Submit Draft Rpt
16/3/90	Friday	Depart Douala		
17/3/90	Saturday	Depart Bamako		

ANNEX - 2
LIST OF PERSONS CONTACTED

Cameroon Agricultural Policy and Planning Project

Dr. Frank Moore, Team Leader
 Dr. L. Atouga, Ag.Economist, Ministry of Livestock
 Dr. Peter Wyeth, Ag. Economist, Ministry of Agriculture
 Mr. James Otto, Data Processing Specialist
 Dr. Monty Wallace, Statistician, Ministry of Agriculture

Ministry of Livestock, Fisheries, and Animal Industries

National Services :

Dr. Chungang Ayafor, Secretary General
 Dr. Simplicie Batimba, Deputy Director, Division of Studies and Projects
 Dr. Moukia Gotlieb, Director, National Direction of Fisheries
 Dr. Aamadou Saidou, Director, National Direction Veterinary Services
 Dr. YemYem Zachie, Prov. Delegate, Central Province

Provincial Services :

North-West Province :

Dr. Eneme Andrew Ngoma, Delegate
 Dr. Agharih Walter, Chief of Sector, Bamenda
 Mr. Bakari David, Chief of Provincial Animal Health Services
 Mr. Bara, Chief of Provincial Fisheries Services

Extreme Northern Province :

Dr. Nsangou Chouaibou, Provincial Delegate
 Dr. Banire Louis, Assistant
 Mr. Ben Amar Talba, Chief of S.A.F.
 Mr. Djidda Jean Boko, Provincial Chief Animal Production
 Mr. Doublon Marcel, Provincial Chief Animal Health
 Mr. Ousman Djobdi, Dept. Chief Production Animal
 Mr. Saya Joseph, Chief of Pastures and Natural Resources
 Mr. Oumarou Joseph, Chief, Animal Husbandry/Veterinary Center Dargala

Northern Province :

Dr. Kittio Denis, Chief S.P.P.N. at Sarna
 Mr. Temoa Jean-Marie, Chief Animal Husbandry/Veterinary Center, Garoua
 Mr. Yougouda Astanko, Student Trainee, Univ. Dchang
 Mr. Ndgobdi Denis, Dept. Chief, Animal Health
 Mr. Mohamadou Baba Bello, Chief, Animal Health
 Mr. Amadou Jada, Chief, Animal Production, Garoua
 Mr. Yinyang Christophe, Student Trainee
 Mr. Adamou Paul, Chief, Community Affairs Office
 Mr. Dawat Z. Fail, Chief, Animal Production

Adamaoua Province :

Dr. Dawa Omarou, Provincial Delegate
Dr. Taiga, Chief, Vina Livestock Sector
Mr. Bia Bakari, Animal Production
Mr. Fezeu D. Jean, Production Animal Production
Dr. Djonwe Gaston, assistant
Dr. Adda Remy, Chief, Animal Health

U. S. A . I . D ./Cameroon

Mr. John Dormann, Deputy Agricultural Officer
Mr. Robert Shoemaker, Project Design and Evaluation Officer

ANNEX - 3
DOCUMENTS CONSULTED

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2. Agricultural Management and Planning project, 631-0008, Revised Workplan 1988 and 1989 Extension, USAID/Yaoundé, July 12, 1988.
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12. Annual Report 1987-1988 Provincial Delegation of Livestock, Fisheries, and Animal Industries, Northern Province, Garoua January 13, 1989.
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19. Annual Report 1987-1988 Provincial Delegation of Livestock, Fisheries, and Animal Industries, South-West Province, May 1988.
20. Annual Report 1987-1988 Provincial Delegation of Livestock, Fisheries, and Animal Industries, Southern Province, Ebolowa, January 17, 1989.
21. Essai de Regroupement des Eleveurs en Vue de la Mise en Place d'une Coopérative dans l'Adamaoua, Dr. Dawa Oumarou, Provincial Delegate Adamaoua Province, Ngaoundere.
22. Project Paper - Third Phase Cameroon Livestock Project, World Bank, 1988.