PD-AAY-472

PROJECT AUTHORIZATION AMENDMENT NO. 8

MALI LIVESTOCK SECTOR II

(688-0218)

ACTION MEMORANDUM TO THE DIRECTOR

FROM : PROG: Valerie Dickson-Horton

SUBJECT: Mali Livestock Sector II No. 688-0218
Project Authorization Amendment No. 8

PROBLEM: Your approval is required to amend the subject Project by increasing the Life of Project (LOP) funding by $5,000,000, from $18,220,000, to $23,220,000; and by extending the Project Assistance Completion Date (PACD) by two years, from September 30, 1989, to September 30, 1991. It is planned that $3,800,000 will be obligated in FY88, and the remaining $1,200,000 in FY89.

AUTHORITY: (1) Under Delegation of Authority (DOA) 551, Principal officials at Schedule A posts may: a) amend project authorizations provided that the amendment does not result in a total LOP funding of more than $30 million; and b) approve project extensions provided that the extension does not result in a new total LOP of more than 10 years.

(2) Handbook 3, Chapter 13, also provides the following additional guidance: "If an approved project is being amended to facilitate attainment of its objectives, e.g., through more funds, an extension of time or changing AID/W required covenants, a PID or PP Amendment is not required. The Mission should, however, consult by cable with its Regional Bureau as to the extent of the proposed changes and its implication early in the modification process, and before the PP supplement is initiated." AFR Bureau was advised of this proposed action during Mali Program Week, May, 1987. The Bureau's agreement was contained in (87) State 22307. A PP Supplement has been prepared for your approval.

BACKGROUND: The Grant Agreement for the Livestock Sector II Project was signed on August 31, 1982, for $17,585,000, with an initial PACD of September 30, 1987. The Project was amended in 1983, to add $635,000 to fund additional technical assistance, bringing total Project funding to $18,220,000. An Action Memo dated October 12, 1984, extended the PACD by two years, to September 30, 1989.

The purpose of the Project is to:

(a) expand those activities that have brought about increased production;

(b) continue testing those activities that show potential;

(c) identify, through on-farm systems research, improved technologies for future extension; and

(d) develop the institutional capacity of Mali's public and private sectors to identify, plan, implement, and evaluate viable livestock sector investments.

The livestock sector is one of the most important sectors in the Malian economy. It accounts for approximately 20% of GNP, around 50% export

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earnings, and employs about 30% of the work force. The Livestock Sector II Project represents the first phase of a proposed 20-year collaborative effort by the GRM and USAID/Mali to bring about sustained improvements in the incomes and well-being of producers and others dependent on the livestock sector. The Project has made significant progress, which was confirmed by the mid-term evaluation (Sep - Oct 1986). The evaluation concluded that, since inception in 1983, the Project has made significant progress toward attainment of Project objectives, and that the Project investment has the potential to make a sound contribution to the Malian economy as well as to individual livestock owners. With the exception of the on-farm cattle feeding credit program, which the Mission has already terminated, all Project components (management development, forage and livestock production research, veterinary research and veterinary extension) are achieving their objectives. The evaluation team recommended that the Project be continued with certain necessary mid-course corrections, and that plans should be made for a follow-on Project.

PROPOSED MODIFICATION: In addition to extending the PACD by two years, from September 30, 1989, to Sept 30, 1991, and increasing the Life Of Project funding by $5 million:

Specifically, future Project activities will focus on:

(1) designing and implementing a disease diagnostic network in Regions I and II and the District of Bamako (DNE/CVL);

(2) improving the capacity of field agents through in-country training seminars to address animal nutrition and production problems (DNE/CVL/INRZFH);

(3) designing and implementing a monitoring network that will provide reliable, accurate, and timely information on the disease status and on the status and use of natural resources in pastoral areas in Regions I and II and the District of Bamako (DNE/CVL/MDST);

(4) designing and implementing an improved system for the distribution of vaccines and medications in the Project zone (DNE/CVL/DNPV);

(5) implementing a forage and animal production research program in the sub-humid zone, while continuing promising activities in semi-arid zone (DNE/INRZFH);

(6) strengthening the capacity of the extension service to disseminate improved animal health and production technologies by improving integration of field and research services (DNE/INRZFH/CVL);

(7) implementing a program/financial management system for project elements (MDST-MRNE); and

(8) implementing a management information system (MIS) which will meet Ministry-wide program needs (MDST/MRNE).

The PP Supplement also modifies the Project as noted below:

(a) The on-farm cattle feeding component has been dropped as recommended by the USAID auditors because of problems in management of the credit fund.

(b) To increase the coordination between MRNE, CVL and DNE, Project activities have been regrouped under three major project elements:

1. animal health,

2. animal production, and

3. management support.

(c) The logical framework has been revised; however, the goal and purpose statements remains the same. EOPS, Outputs, Objectively Verifiable Indicators, and some assumptions have been revised to better focus activities and provide quantifiable targets for output achievement and indicators of purpose achievement.

(d) The implementation plan has been revised to identify key implementation activities for the remainder of the Project.

(e) The revised financial plan details the budget for the additional funds including provision for evaluation and audit; and

(f) The training plan, commodity lists, and scopes of work for proposed technical assistance are included in the PP Supplement and its annexes.

FINANCIAL SUMMARY: In addition to increasing the LOP funding of the project by $5 million, the budget line items have been revised to better reflect Project implementation actions.

The revised budget breakdown is as follows:

Project Element	Current Project Budget	Amendment No. 8	Proposed Future Obligations	Project Revised Budget
(1) Tech. Asst.	7,304,000	950,000	294,087	8,548,087
(2) Construction	3,267,557	-0-	-0-	3,267,557
(3) Training	1,869,000	160,000	60,673	2,089,673
(4) Commodities	2,347,659	640,000	237,987	3,225,646
(5) Studies	400,000	80,000	35,000	515,000
(6) Credit	429,707	-0-	-0-	429,707
(7) Eval./Design	300,000	-0-	118,664	418,664
(8) Operating Costs	2,264,970	1,160,000	291,285	3,716,255
(9) AID Proj. Support	-0-	250,000	-0-	250,000
(10)Contingency (15%)	37,107	560,000	162,304	759,411
Total	18,220,000	3,800,000	1,200,000	23,220,000

PROCUREMENT: In order to correspond with the Project's major emphasis of long-term institutional building activities, the PP Supplement proposes to

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use the Collaborative Assistance Mode of contracting to procure technical assistance during the extension period.

USAID proposes to contract with a Title XII University to provide the Malian Government with the institutional linkages and technical assistance in areas where U.S institutions have a comparative advantage: veterinary medicine, tropical forage, animal nutrition research, natural resources management, and training. In addition to assisting the Malian Government to develop a long-term relationship with a U.S. institution, the Collaborative Assistance Mode would simplify the existing contract arrangements. Instead of having three separate contracting entities the project would only have one. USAID/Mali informed AID/W of its intention to propose the Collaborative Assistance Mode to the GRM in Bamako 2285. Final decision of the contracting mode for the extension phase is contingent upon further discussions with the GRM.

CONGRESSIONAL APPRISAL: Congressional notification was not required since the amount to be obligated in FY88 is not more than that submitted in the FY88 CP.

INITIAL ENVIRONMENT EXAMINATION: The IEE was prepared and signed by the REDSO/WCA Environmental Officer on June 3, 1988. A cable was sent to AID/W requesting their concurrence, which was given in STATE 205208, dated June 25, 1988.

RECOMMENDATION:

That you sign:

(1) the attached Project Authorization Amendment No.8 increasing the LOP by $5 million and extending the PACD by 24 months; and

(2) sign the cover sheet of the attached PP Supplement.

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PROJECT AUTHORIZATION AMENDMENT
No. 8

COUNTRY : Mali

PROJECT TITLE : Livestock Sector II

PROJECT NUMBER : 688-0218

1. Pursuant to Part 1, Chapter 121 of the Foreign Assistance Act of 1961, as amended, the Livestock Sector II project for the Republic of Mali was authorized on August 31, 1982, and last amended on May 13, 1986. That Authorization, as amended, is hereby further amended as follows:

a. The planned life-of-project is increased to nine years from the initial date of obligation.

b. The authorized life-of-project funding is increased by $5,000,000, from $18,220,000 to $23,220,000. The planned FY88 obligation is $3,800,000, and the planned FY89 obligation is $1,200,000.

c. In Article 5, Section 5.2, Additional Covenants, add the following covenants:

"(5) The Ministry of Environment and Livestock will perform, by the beginning of 1989, an economic and technical study of the Vaccine Production Unit at the Central Veterinary Laboratory, to assess the cost of vaccine production, and identify and make recommendations on how the unit can be made more cost effective. The recommendations of this study will be used to determine appropriate technical equipment to be procured for the Vaccine Production Unit. Also, another study related to recurrent costs associated with the delivery of animal health services will be performed by the end of 1989. The conclusions of this study will be submitted to the JMC, and they will permit the Ministry to identify effective policies for establishing prices and allocating revenues for vaccine production, and the distribution of vaccines and veterinary pharmaceuticals.

(6) As agreed to between the Minister of Environment and Livestock and the Director of USAID/Mali on April 28, 1988, project payment of salary supplements to project personnel, as authorized in PIL No. 8, dated September 18, 1985, will be discontinued September 30, 1989. From

October 1, 1989, through September 30, 1991, project salary supplements will be paid only for "responsabilite" to certain National level project personnel at a rate which is consistent with Ministry of Environment and Livestock guidelines for donor assisted projects. Per diem will continue to be paid to all GRM personnel on project related travel. A PIL is to be prepared establishing specific conditions for salary supplements and per diem payments, to take effect October 1, 1989.

(7) Before October 1989, the Ministry of Environment and Livestock is to conduct an evaluation of how to integrate the functions of MDST into the Ministry. The evaluation will make recommendations and present an implementation plan to the JMC. The JMC will review the recommendations and make necessary decisions.

(8) USAID financing of the ECIBEV Credit Fund is to be used by the Ministry of Environment and Livestock to further the goals and objectives of the Mali Livestock II project and will constitute additionality to the GRM's contributions to the Project. The Ministry will make a presentation of their proposed uses for the funds at the 7th JMC.

(9) AID considers that greater effort is required of the Project to better define the important role that women play in traditional livestock production systems. In this regard, during the Project extension phase the following actions should be taken and progress toward achieving them reported in project quarterly reports:

(a) Increase training opportunities for women, especially women field agents, in animal health and production extension;

(b) Work with women producers directly in designated villages on improved animal health and production packages;

(c) Assess more thoroughly and accurately the role of women in animal health and production by disaggregating relevant data collected for the MIS by gender and ethnicity. This should assist in better targeting project interventions to this important beneficiary group."

d. Article 6, "Procurement Source," is amended as follows: In Section 6.1, the present paragraph is designated as paragraph (a). Add a new paragraph, (b), as follows:

1.1 Source and Origin of Commodities, Nationality of Services

Except as AID may agree otherwise in writing:

a. Commodities financed by AID under the project shall have their source and origin in the United States, or in countries included in Geographic Code 935;

b. The suppliers of commodities and services financed by AID under the project shall have the United States, or countries included in Geographic Code 935 as their place of nationality;

c. The procurement policies established by AA/AFR for the Development Fund for Africa shall be applied to the procurement of goods and services financed by AID under the project.

2. The Project Authorization cited above remains in full force and effect except as hereby amended.

Eugene R Chiavaroli

Eugene R. Chiavaroli
Director, USAID/Mali

DATE: Aug 13, 1988

Drafted:PROG:CCantell:5/20/88
Cleared: RLA:EDragon: draft Date: June 18, 1988

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE: C (A = Add, C = Change, D = Delete) — Amendment Number

DOCUMENT CODE: 3

COUNTRY/ENTITY: MALI

3. PROJECT NUMBER: 688-0218

4. BUREAU/OFFICE: BUREAU FOR AFRICA — AFR

5. PROJECT TITLE (maximum 40 characters): MALI LIVESTOCK SECTOR II

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM 09 DD 30 YY 91

7. ESTIMATED DATE OF OBLIGATION (Under 'B.' below, enter 1, 2, 3, or 4)

A. Initial FY 82 B. Quarter 4 C. Final FY 91

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 82 B. FX	C. L/C	D. Total	LIFE OF PROJECT E. FX	F. L/C	G. Total
AID Appropriated Total						
(Grant)	(5,630)	( )	(5,630)	(23,220)	( )	(23,220)
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S. 1.						
Other U.S. 2.						
Host Country					3,818	3,818
Other Donor(s)						
TOTALS	5,630		5,630	23,220	3,818	27,038

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE 1. Grant	2. Loan	D. OBLIGATIONS TO DATE 1. Grant	2. Loan	E. AMOUNT APPROVED THIS ACTION 1. Grant	2. Loan	F. LIFE OF PROJECT 1. Grant	2. Loan
(1) DFA	114	078		18,220		5,000		23,220	
(2)									
(3)									
(4)									
TOTALS				18,220		5,000		23,220	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each): 252 | 720 | 840

11. SECONDARY PURPOSE CODE: 210

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	BF	F/AG				
B. Amount						

13. PROJECT PURPOSE (maximum 480 characters)

TO EXPAND THE ACTIVITIES THAT HAVE BROUGHT ABOUT INCREASED LIVESTOCK PRODUCTION; TO TEST THOSE ACTIVITIES THAT SHOW POTENTIAL; TO IDENTIFY BY SYSTEMATIC RESEARCH, IMPROVED TECHNICAL PACKAGES THROUGH ON-FARM TESTING; TO DEVELOP THE INSTITUTIONAL CAPACITY OF MALI'S PUBLIC AND PRIVATE SECTORS TO PLAN, IMPLEMENT AND EVALUATE VIABLE LIVESTOCK INVESTMENTS.

14. SCHEDULED EVALUATIONS: Interim MM YY MM YY; Final MM 09 YY 91

15. SOURCE/ORIGIN OF GOODS AND SERVICES: ☐ 000 ☒ 941 ☐ Local ☐ Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a ____ page PP Amendment)

THIS PP SUPPLEMENT PROVIDES FOR AN EXTENSION OF THE SUBJECT PROJECT, THROUGH AN INCREASE IN LOP FUNDING AND AN EXTENSION OF THE PACD FROM 9/30/89 TO 9/30/91. THE PROJECT'S GOAL AND PURPOSE REMAIN UNCHANGED.

METHODS OF IMPLEMENTATION AND FINANCING APPROVED BY:

Douglas W. Arnold

DOUGLAS W. ARNOLD, MISSION CONTROLLER

17. APPROVED BY

Signature: Eugene R. Chiavaroli

Title: EUGENE CHIAVAROLI, MISSION DIRECTOR, USAID MALI

Date Signed: MM 08 DD 13 YY 88

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

PROJECT PAPER SUPPLEMENT

MALI LIVESTOCK SECTOR II PROJECT, 688-0218

I. Project Summary
   1. Background
   2. Project Inputs

II. Mid-Term Evaluation Summary
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   2. Project Performance
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III. Proposed Project Modifications

IV. Project Program Description
   1. Animal Health Program
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   1. Gender Issues
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VI. Financial Summary
   1. Revised Financial Plan
   2. Methods of Implementation and Financing

VII. Procurement Plan

1. Responsible Agencies
2. Procurement of Technical Assistance
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VIII. Training Plan

IX. Economic Analysis

X. Evaluation And Implementation Plan

1. Evaluation Plan
2. Implementation Plan

Annexes

1. Revised Logical Framework
2. Detailed Input and Budget Tables
3. Supplementary documentation to the Economic Analysis
4. Local Cost/Foreign Exchange Financing
5. AID/W Allowance Cables (
6. AID/W Evaluation Review Cable (State 330374, dated 10/23/87)
7. AID/W Guidance Cable (State 222307, dated 7/21/87)
8. Initial Environmental Examination
9. Host Country Project Request Letter

I Project Summary

1. Background

The Mali Livestock Sector II Project (688-0218) was originally designed as the first phase of what was envisaged as a 20 year effort in the continuing involvement of AID in the development of Mali's livestock sector. The Grant Agreement was signed on August 31, 1982 for a total life-of-project funding of $17,585,000. The PACD was initially September 30, 1987. An Action Memorandum dated March 3, 1983, increased the authorized life-of-project funding by $635,000, bringing total project funding to $18,220,000. Another Action Memorandum dated October 12, 1984, extended the PACD by two years to September 30, 1989.

This project represents a collaborative effort by the Goverment of Mali (GRM) and USAID to bring about sustained improvements in the incomes and well-being of producers and others dependent on the livestock sector. The strategy adopted for achieving this long-term goal envisaged: (1) an initial program focus on improving program planning, implementation, and evaluation at the project level with a long-term view of expanding successful management procedures throughout the Ministry of Environment and Livestock (MEE); (2) an initial technical focus on improving livestock productivity with a long-term view of emphasizing the integration of livestock and crop production; and (3) an initial emphasis on increasing the management capacity of public sector institutions with a long-term view of increasing private sector support.

During the first phase, the project supported five activities:

- Project management and management development in the GRM through the Management Development Support Team (MDST);

- A cattle feeding credit program (ECIBEV);

- Infrastructure and equipment support for improved cattle health activities of the National Direction of Livestock (DNE);

- Research on forage production, animal nutrition, and related socio-economic factors by the National Research Institute for Livestock, Forestry, and Hydrobiology (INRZFH); and

- Improved vaccine quality control, improved diagnostic capability, increased capacity to perform applied animal health research, lab construction, farm renovation and equipment support to the Central Veterinary Laboratory (CVL).

2. Project Inputs

To support the above activities, USAID provided financing for technical assistance, training, construction, commodities, and other local costs. The technical assistance is provided under three separate contracts/agreements:

- A Participating Agency Services Agreement (PASA No. IML-0201-P-AG-3066) signed April 11, 1983, which provided for: four research scientists for the Central Veterinary Laboratory (CVL): three staff members including the chief of party, administrative officer, and mechanic to MDST; and an accountant to ECIBEV;

- An amendment to the PASA (No. IML-C218-P-AG-3066) was signed September 23, 1983 with USDA/TAD/DPMC for a series of short term visits to improve management practices and systems under the project. The DPMC team made several visits to Mali;

- Technical assistance is also provided under a contract with CHEMONICS International Inc.. The first contract (No. 688-0218-C-00-3001) was signed on January 1, 1983 and extended through March 31, 1985. A subsequent contract (No. 688-0218-C-00-5057) was signed March 28, 1985, providing for the services of the Financial Director of MDST and a marketing specialist for ECIBEV and a replacement mechanic for MDST; and finally

- A Cooperative Agreement signed on June 17, 1983 between AID and the International Livestock Center for Africa (ILCA) provided for technical services of an agronomist and an agricultural economist with the research division.

By the end of the current PACD, September 30, 1989, all of the present technical assistance contracts/agreements will have expired. USAID/Mali will continue financing technical assistance to the project through 1991, but will do so under the Collaborative Assistance Mode with a Title XII institution.

II. Mid-term Evaluation Summary

An extensive mid-term evaluation was conducted from August to October 1986. A team of seven outside specialists worked closely with USAID/Mali project staff, and GRM personnel to assess the project's progress. The evaluation was corrective in nature and yielded several major recommendations. The overall findings were very positive. Indeed, the assessment team concluded that "the Mali Livestock Sector Project at mid-term is in good shape, with four of the five project activities where they should be, on the track for the four-phase twenty-year program envisaged in the Project Paper."

The following discussion highlights the major conclusions and recommendations of the evaluation report and is intended only as a brief summary of those aspects of the report considered critical to the extension and reorientation of the project. Readers are encouraged to review the evaluation document itself and consider it to be be, in effect, an annex to this Project Paper Supplement.

1. Viability of Livestock Sector Project Investments

The evaluation team concluded that since start up in 1983, there has been significant progress toward attainment of project objectives and that the project investment has the potential to make a sound contribution to the Malian economy as well as to individual livestock owners. With the exception of the on-farm cattle feeding credit program, which the Mission already

terminated, all project components (management development, forage and livestock production research, veterinary research and veterinary extension) are achieving their objectives. The team recommended that the project be continued, with certain necessary mid-course corrections, and that plans should be made for a follow-on project.

2. Project Performance

a. On-Farm Cattle Feeding Credit Fund

The evaluation team fully supported the Mission Project Committee's decision to terminate further credit and operating funds for the component. Serious flaws in the management of this activity had resulted in the decapitalization of the credit fund and a failure to progress toward the objective of transfer of functions. For example, the rate of interest charged on loans had fallen far below the actual cost of capital in the Malian economy. The team also concluded that neither the management performance nor the prospects for self-sustainability of this component warranted continued support. It was further suggested that the termination of this component would make available additional resources for the other project activities.

b. Management Development Support Team (MDST) and Joint Management Committee

The report concluded that project implementation efficiency and effectiveness had benefited immensely from the accounting, financial analysis, logistics, and work planning/control systems installed by the Management Development Support Team. Within two years of the start of the project, most commodities and equipment had been purchased and were already in place. Construction originally planned had been expanded and was, with the exception of the research lab, nearing completion. In addition the administrative and financial support provided by MDST had been very successful in lessening the normal burden of complying with USAID regulations and reporting procedures, procurement, and financial

management. The high level Joint Management Committee (JMC) was also a positive innovation in donor/recipient coordination. The team recommended that the following shortcomings should be addressed in the second half of the project: greater emphasis on the transfer of management skills, implementation of a management information system (MIS); reduction in management improvement costs; and specification of the role of MDST as an independent source of professional advice to the project. Resolution of the exact role of the JMC was considered critical to the continued viability of the project and to its replicability to other projects financed by USAID.

c. Forage and Livestock Research

The team found that much research of excellent quality had been carried out in this component by the ILCA contractor in collaboration with the Malian National Research Institute (INRZFH). The farming systems research approach had identified technical and economic problems in developing legume-based forage production packages for traction and feeding animals. Some promising legumes had been identified and a sound basis had been established for understanding how integrated crop and livestock farming systems can be advanced. Shortcomings include, the normal array of difficult administrative arrangements, insufficient networking with other programs engaged in related research, and delay in supply of technical assistance by ILCA. The team recommended that USAID and MEE should relocate the research unit to the sub-humid zones so that the researchers could focus on the problems and needs of migrants and on mixed farming and commercialized diary operations in those zones.

d. Veterinary Laboratory: Diagnostic Research

The report concluded that project objectives for this component thus far had been substantially met and that the CVL had been strengthened, both physically and in its ability to carry out its intended functions: vaccine quality control, diagnosis, and livestock disease research techniques, and epidemiology have been transferred. Short comings

included: the need to forge closer links between the diagnostic service and the veterinary extension field agents, lack of an improved cash flow for vaccine purchases, and the need to improve facility utilization. There was also an urgent need to better coordinate and integrate the functions of the CVL and the DNE.

e. Veterinary Extension Service

At the end of three years of the Mali Livestock Sector Project, it was clear that the veterinary services delivery system was improving. The purpose, "to the expand those activities that have brought about increased production", was being achieved. In Regions I and II and in the District of Bamako, the project had provided a wide range of equipment and supplies for the the cold chain, as well as funds for recurrent expenses that made it easier to carry out systematic immunization programs. The vaccination of herds for rinderpest in Regions I and II had increased from an average of less than 30 percent in the three years before the project, to an average in excess of 45 percent during the four project years; vaccinations reached as high as 55 percent in Region I in 1985. Short-comings in the performance to date included: lack of a plan to reduce costs and heighten effectiveness; absence of programs to better use the existing staffs' down time; insufficient attention to practical means of privatization of veterinary services without endangering national herd health during the transition; a need to perfect the flows of medicines to the field and users fees back to headquarters; requirements to improve the provision of diagnostic/curative services to owners by field agents; and the feedback of diagnostic samples of diseases to the regional and veterinary laboratory research facilities.

3. Recommendations For Mid-Course Project Correction and Status of Actions Taken

a. Participation in the on-farm cattle feeding program by USAID should be ended and uncommitted credit funds reallocated among existing and new activities within the Livestock Sector Project.

Status: completed.

b. Confusion over the role of the JMC as the ultimate decision making authority of the project should be resolved by giving the minutes and recommendations of the JMC meetings the legal status of a PIL.

Status: completed.

c. The MDST should take an enhanced role of independent advisory body and executive secretariat to the JMC.

Status: completed, however, the Ministry is evaluating options to better integrate MDST functions into the MEE administrative structure.

d. The farming systems research unit should be expanded or shifted to the sub-humid zones so as to better contribute to the commercialization of milk and meat production in the Bamako area.

Status: in process.

e. Continued support should be given to CVL to sustain the high level of investment already made and to prepare the way for ultimate privatization of the Malian Veterinary Service.

Status: in process.

f. The project should support the reactivation of the training center at Sotuba, the use of the CVL diagnostic units new facilities and expertise in training, and expand the program of short-term technical assistance in training.

Status: in process.

4. Recommendations for Future Project Support and Status of Actions Taken

a. Any future use of credit funding should be channelled exclusively through an established and mutually acceptable banking institution in Mali and should not be operated on criteria other than those of strict and conservative banking practices.

Status: the project will no longer provide credit funding.

b. The concept of a Joint Management Committee is useful and should be continued in any follow-on phase to the current project.

Status: the JMC will continue to provide project guidance and coordination.

c. The MDST should be instituted on a multi-project or Mission-wide basis to obtain economies of scale.

Status: this is being evaluated but is probably not feasible during the project's extension phase.

d. USAID should continue its technical assistance program with the forage and livestock production research unit, at least at the present level, throughout the life of a follow-on livestock sector project. Research should be expanded to include small ruminants.

Status: applied animal production research will continue with increased emphasis on on-farm trials, demonstration plots and extension of appropriate technical packages. However, the Cooperative Agreement with ILCA will not be extended. USAID and the Ministry are negotiating with ILCA to provide all technical assistance for these activities through their core funding, and USAID financing will fund operating costs, equipment and training for INRZFH to enable their effective participation with ILCA researchers.

e. Funding should be continued to the CVL and the DNE over at least another decade, but such funding should be tied to the development of self-sustaining financial policies.

Status: funding will continue to CVL and DNE through the project extension phase. Several studies are planned to assess and make recommendations for improving the cost effectiveness of animal health delivery systems, to evaluate the recurrent cost issue, and increase private sector involvement. Any possible follow-on project funding will be contigent upon the MEE finding satisfactory solutions and taking actions to begin to address these issues.

5. AID/W Evaluation Review, Recommendations and Status of Actions Taken (Reference 87 State 330374, Annex 6).

a. The entire logframe should be re-articulated to reflect the various de facto changes that have occurred in the project design: For example, the elimination of the ECIBEV program and the major diminution in the LOP budget that took place in the interval between design and authorization. The committee believes that this re-articulation will be a particularly useful exercise in light of emphasis now placed on performance evaluation at purpose achievement level.

Status: Done (Refer to Annex I).

b. Committee recommends that the Mission explore possibilities for cooperation with and utilization of the Small Ruminant CRSP's Research on sheep and goats. Further, the Committee recommends that the PP Supplement analyze the benefits that may occur to women from an increased emphasis on small ruminants.

Status: Mission has cabled S&T/Agr requesting information on the Small Ruminant CRSP and possible project collaboration.

Increased project emphasis on small ruminants is considered to be an important aspect of animal production research. There is no question that women will be a primary beneficiary from increased small ruminant production. (Refer to Gender Issues, Section V, I.) Better quantification and analysis of these benefits was an aspect of the scope of work for the economic analysis. However, it was found that insufficient data exists to more precisely address this question. Therefore, in the projects' MIS program and animal production research activities, efforts will be made to collect data on women's participation and benefits derived from increases in small ruminant and milk production.

c. Committee recommends that PP Supplement consider in detail Rhizobia issues as these pertain to forage production.

Status: Rhizobia issues pertaining to forage production will not be addressed during the project extension phase. The emphasis of the Project's forage production research program for the extension phase will be on adapting promising existing forage production technologies for producers in the project's semi-arid and sub-humid zones. Numerous donor projects in both the Ministry of Agriculture and Ministry of Environment and Livestock are undertaking both basic and applied research programs to promote the production of leguminous food and forage crops as an integral part of traditional cereal production practices. In order to ensure complimentarity of effort, the project intends to use results generated from its own earlier research efforts, as well as those of other projects, as the technical basis for its future research program.

Continued forage production research activities in the semi-arid zone will focus on refining technological packages already identified by previous research activities and on developing collaborative field programs with other projects to extend these packages to producers in the project zone. The strategy adopted for these research efforts is to build on the positive results achieved to date and not to initiate new

variety screening trials in the hopes of identifying new, potentially adaptable, exotic forage species. Collaborative efforts will also be undertaken to address the problem of seed multiplication and distribution.

d. S&T/Agr recommends that additional research be conducted on the use of both nitrogen and phosphate fertilizers. Nitrogen fertilizer, even if very expensive, should be used in production trials to assess fully its potential. The economic feasibility of using commercial nitrogen fertilizer could then be determined from the data thereby generated.

Status: The project has already undertaken numerous trials in the semi-arid zone utilizing nitrogen and phosporus fertilizer. Results to date have not shown a clear, positive economic return from their use, in part because of the persistence of poor rainfall conditions. The potential use of both nitrogen and phosporus fertilizer in the sub-humid zone appears greater, however, and the project intends to examine th's potential in its sub-humid research program.

e. The PP Supplement should specify in detail the target population which will benefit from the shift of forage production research from semi-arid to sub-humid areas.

Status: The forage production program in the sub-humid zone will target livestock producers already involved in the commercialization of livestock products, specifically meat and milk, for both large and small ruminants. The existing market demand for meat amd milk is considered an important leverage point for encouraging these producers to adopt appropriate forage production technologies to improve animal nutrition, and therefore productivity, as well as stabilizing traditional cereal production practices. Previous research has already identified several annual and perennial forage species which are well adapted to this sub-humid zone, and these will serve as a starting point for forage production research efforts in this zone.

f. Committee recommends that continued emphasis be placed on activities that keep up the livestock sector policy reform dialogue, particularly those that may lead to privatization of activities that the business community can handle. AID/W has noted the existence of new legislation that permits private veterinary practice and the GRM's initial efforts to seek effective methods of implementing this more widely. It will be very important to explore whether some initial privatization experiments could be accomplished during the life of this extension, and, if so, to schedule associated training activities.

Status: Privatization and recurrent costs are the two of the three areas for increased policy dialogue during the extension phase. (Refer to Section IV, 1.2. and V, 2.) The other policy area to be addressed is livestock commercialization.

The project assisted MEE in completing a preliminary study on the privatization of veterinary medicine. The objective of this study was to identify the economic criteria and professional regulations necessary to implement the GRM's new law authorizing the establishment of private veterinary practices. In addition, this study recommended a re-assessment of the public sector's role in the provision of veterinary services and in the distribution and sales of animal medications and biological pharmaceuticals.

Continuing project support for the veterinary privatization issue will focus on assisting the MEE to identify ways to provide economic incentives to encourage private sector participation in the delivery of animal health care services, while ensuring the maintenance of an effective prophylactic and curative animal health program for Mali's national herds and flocks. The project will also explore the possibilities of encouraging producer groups, through interventions with local development committees, to assume more direct responsibility for managing and financing appropriate health services for their livestock.

g. The committee notes that if forage production recommendations are to emerge and be extended during this project, short-term training for the extension agents should be programmed well in advance.

Status: Extension agent training has been programmed.

h. The committee noted with concern the evaluation's recommendation that continued funding be maintained for the CVL and DNE, "over at least another decade". This strikes us as an unduly pessimistic (and perhaps self-fulfilling) assessment of the prospects for making the services provided by these entities financially self-sustaining. We recommend therefore that USAID explore in the PP amendment the possibility of raising user fees, and thereby reaching financial sustainability, more rapidly.

Status: Refer to Section I, 4.e, and IV, 1.2; and to Annex 3, which provides supplementary documentation to the economic analysis.

i. The Committe expressed concern as to the feasibility of establishing a national research institute for livestock at the present time. For example, it may not be possible to do more than hold annual inter-organizational workshops and reviews. We suggest therefore that the PP Amendment team investigate this proposal in more detail.

Status: The GRM has made the decision to combine the national agricultural and livestock research institutes (IER and INRZFH) into one national research structure. In addition, the World Bank and ISNAR are in the process of assisting the GRM to establish a more effective mechanism to define national research priorities and implement national research programs. In collaboration with other donor-funded activities, the project will continue to assist MEE and its national research institute to better integrate and coordinate agricultural and livestock research. The focus of these efforts will be on technical program development and implementation, and on strengthening the linkages between researchers and field agents. The objectives of these efforts will be to ensure greater relevance between research themes and the priority production constraints of producers.

j. The committee recommends that the PP Amendment include a detailed economic analysis of the project at the proposed new LOP funding level of $22.0 Million. Such an analysis will determine if the project remains an economically viable investment at this level.

Status: An economic analysis of the livestock sector was performed by consultant in February and March 1988. The consultancy served as the basis for the Mission's Program Economist to perform the economic analysis section of the Project Paper Supplement (Refer to Section VII , and to Annex 3.) Life of Project funding has been increased to $23.22 million.

k. While committee notes evaluation's criticism of USDA's performance, there may well be a possible role for USDA during the proposed two-year extension. Note that given the PASA contracting procedure, a decision will have to be made on this point by the end of FY 1988.

Status: Following the completion of the USDA/PASA and CHEMONICS contract on September 30, 1989, the Mission is discussing with the Ministry the possibility of using a modified Title XII Collaborative Assistance Mode contract to implement the project extension phase through September 30, 1991, and to design and implement the possible follow-on project. (Refer to Section VII, Contracting/Administrative Arrangements)

III. Proposed Project Modifications:

The purpose of this Project Paper supplement is three-fold: (a) to extend the PACD by two years, from September 30, 1989 to September 30, 1991; (b) to increase the life-of-project (LOP) funding by $5 million to finance project activities during the extension period; and (c) to reorient and modify project activities as necessary from October 1988 through the end of this phase of the project in September 31, 1991.

Project activities will be modified to reflect the programmatic changes and re-orientations suggested by the mid-term evaluation, the MEE sector assessments, the Mission, and by the project staff. These changes represent clearer picture of what has to be done in the dynamic social and environmental millieu in which the project operates. The strengthening of institutional infrastructures, the design and adoption of improved management systems, the coordination and integration of project resources across service divisions, the establishment of qualitative and quantitative criteria to measure program achievement and impact, and the establishment of an in-country training program will receive particular emphasis during the extension period.

Sustainability is one of the key elements which will be addressed in future project programs. In consideration of Mali's limited resources, the short-term objective of this strategy is to assist the MEE to develop a more effective management structure which will; (1) clearly and realistically identify and prioritize sector objectives; (2) assign clear roles and responsibilities to service divisions for program achievements; and (3) monitor and evaluate resource allocation and use based on priorities and program achievements and impacts. Efficient management of scarce resources is considered to be a prerequisite to achieving long-term economic sustainability of MEE programs, and therefore the most likely way to attain project goals.

Program development will also address assessment of the cost effective utilization of present project investments. These include: improved physical infrstructures at DNE and CVL, and equipment provisions and human resource development at DNE, CVL, INRZFH, and MDST. Accordingly, the project will identify realistic qualitative and quantitative indicators of program achievements and impact, and for implementing a more comprehensive monitoring and evaluation program.

In accordance with MEE priorities and recommendations of the mid-term evaluation, project activities will focus in those ecological areas where the chances of long-term economic growth appear most likely, while continuing those activities in lower rainfall areas that have a high chance of success. Thus, production systems in medium and high rainfall areas, where existing markets offer an opportunity for economically viable changes in existing

production practices, will be critically examined. Where economic conditions favor an increased degree of specialization in livestock production, or where livestock are essential for crop production (traction animals), it is anticipated that producers will become increasingly dependent on a more effective animal health care service.

Approximately 50% of Mali's national herd is located in mixed-farming areas. Producers (clients) willing and able to pay for animal health care will be those with intensive or semi-intensive production systems where the level of economic investment per head of livestock is the highest. Such clients are also most likely to be the principal beneficiaries of an expanded animal health service, and therefore, the project considers them an important target group for future activities.

The long-term objective of these activities is to increase the intensity and diversity of livestock product outputs, better integrate crop and livestock production, and where feasible, provide viable economic options for producers to replace the production of cereal crops with forage crops. In lower rainfall areas, efforts to improve the efficiency and effectiveness of animal health and production extension services and to extend new forage producton technologies to producers will continue. The overall goal is to stabilize existing cropping patterns.

Specifically, future project activities will focus on; (1) designing and implementing a disease diagnostic network in Regions I and II and the District of Bamako (DNE/CVL); (2) improving the capacity of field agents through in-country training seminars to address animal nutrition and production problems (DNE/CVL/INRZFH); (3) designing and implement a monitoring network that will provide reliable, accurate, and timely information on the disease status and on the status and use on natural resources in pastoral areas in Regions I and II and the District of Bamako, (DNE/CVL/MDST); (4) designing and implementing an improved system for the distribution of vaccines and medications in the project zone (DNE/CVL/DNPV); (5) implementing

a forage and animal production research program in the sub-humid zone, while continuing promising activities in semi-arid zone (DNE/INRZFH); (6) strengthening the capacity of the extension service to disseminate improved animal health and production technologies by improving integration of field and research services (DNE/INRZFH/CVL); (7) implementing a program/financial management system for project elements (MDST/MEE); and (8) implementing a management information system which will meet Ministry-wide program needs (CVL, DNE, INRZFH, MDST, MEE).

To maintain consistency with the reorientation of project activities, this Project Paper Supplement also modifies the project as noted below:

a. The on-farm cattle feeding component has been dropped as recommended by the evaluation.

b. To increase coordination between Ministerial divisions, project activities have been regrouped under three major project programs: animal health, animal production and management support.

c. The goal and purpose statement, remain the same but End of Project Status, outputs, Objectively Verifiable Indicators, and some assumptions have been revised to better focus activities and provide quantifiable targets for output achievement and indicators of purpose achievement.

d. The revised implementation plan identifies key implementation activities for the remainder of the project through September 30, 1991.

e. The revised financial plan details the budget for the additional funds including provisions for evaluation and audits; and

f. The training plan, commodity lists, and scopes of work for proposed technical assistance are included in the PP Supplement and its annexes.

IV. Project Program Description

As was stated above, project activities will be grouped under three major programs: animal health, animal production, management support. A discussion of each program and the required inputs follows. Project program activities during the extension phase, begining October 1, 1988, will be financed from the estimated budget pipeline of $946,316, and from the new obligation of $5 million. (Refer to program input tables following the narrative description section of the 3 programs, and to Section VI, financial summary.)

1. Animal Health Program

1.1. Background/Status

The Animal Health Program is implemented under two Ministerial Divisions, the Central Veterinary Laboratory (CVL) and the National Direction of Livestock (DNE). The collaborative development of animal health programs among service divisions, establishment of inter and intra-ministerial linkages, and implementation of more efficient program and financial management systems have only been addressed in any significant manner since 1986/87. Continued collaboration is considered essential if the project is to achieve a measure of sustainability, and if the project is to maximize benefits from current project investments. As outlined in the mid-term evaluation, administrative and program linkages must be strengthened between the veterinary field service (DNE) and the Central Veterinary Laboratory, to ensure that the animal health program will address disease problems of major economic importance to Malian producers.

The project is trying to implement a coordinated animal health program with the integrated efforts of CVL, DNE, INRZFH and the Malian Veterinary Pharmacy (PVM). This program, designed to operate within the budgetary, technical, and logistical capabilities of the MEE is expected to generate increased producer support. Successful project efforts to strengthen and improve the quality and effectiveness of animal health care services depend on the ability of DNE to effectively mobilize its field staff to more effectively address animal health and production constraints of producers.

As indicated in the mid-term evaluation a significant improvement in vaccination coverage has been achieved in Regions I and II and the District of Bamako, which is directly attributable to project interventions. However, the development of an effective and efficient animal health and production service requires consideration of a broader range of animal health/production field activities than have been addressed to date by project programs.

In addition to rinderpest and pleuropneumonia, which have been the preoccupation of present project activities at DNE. Greater attention is now being given to developing effective preventive and curative measures for a range of economically important diseases. The critical question of improved animal nutrition is being addressed, and DNE is expected to fill an important extension role for the project's applied forage/animal production research program.

1.2. Recurrent Costs

The major constraint to achieving sustained improvement in the delivery of animal health services to livestock producers remains the inadequacy of capital and recurrent cost support from the GRM (refer to page 53 & 55 of the Project Paper). This is the principal policy issue to be addressed during the extension phase.

The economic viability of the vaccine production unit at the Central Veterinary Laboratory is critical for the long-term sustainability of the CVL. In addition to the continued development of improved vaccine quality control methods, studies will be undertaken to identify practical ways to: (1) improve the efficiency of production; (2) improve the effectiveness of vaccine distribution and sales; (3) establish realistic costs for both production and distribution; and (4) monitor the effectiveness of present project investments in cold chain improvements and identify ways the system can be improved.

The 6th JMC budgeted funding for an initial economic and technical study of the Vaccine Production Unit at the Central Veterinary Laboratory, to be completed in early 1989, to assess the cost of vaccine production, and identify and make recommendations on how the unit can be made more cost effective. The recommendations of this study will be used to determine appropriate technical equipment to be procured for the Vaccine Production Unit. Also, another study related to recurrent costs associated with the delivery of animal health services will be performed by the end of 1989. The conclusions of this study will be submitted to the JMC, and they will permit the Ministry to identify effective policies for establishing prices and allocating revenues for vaccine production, and the distribution of vaccines and veterinary pharmaceuticals.

During the extension phase the project has budgeted funding for two additional, complementary studies that will address the recurrent cost, sustainability issues. The first study will analyze and make recommendations on ways in which the GRM can assume a greater proportion of recurrent costs in the delivery of animal health services (outlined above), and identify sound economic criteria the GRM can use for a more effective reinvestment of revenues generated by the livestock sector back into the sector. The second study will assess and make recommendations to improve the capacity of the Ministry of Environment and Livestock to assure the quality of veterinary pharmaceuticals available and undertake private sector initiatives for their distribution. This study will also re-examine the role of the public sector in providing veterinary services and recommend ways to increase private sector participation. Based on study results and recommendations, and the agreement of the MEE, the project will attempt during the extension phase to experiment with field testing privatization initiatives with local development committees to assume more direct responsibility for managing and financing appropriate health services for their livestock.

The Ministry of Environment and Livestock will prepare an annual report for the JMC reviewing the status of actions taken and proposed to address recurrent costs associated with the delivery of animal health services.

1.2. Animal Health Objectives

a. Establish a diagnostic network in Regions I and II and the District of Bamako;

b. Implement an effective animal health campaign in Regions I and II and the District of Bamako;

c. Assure vaccine production quality control and implement a sero-surveillance program;

d. Implement an applied animal health research program, focusing on the identification of improved preventive/treatment protocols for economically important diseases and improved vaccine production and preservation techniques;

e. Strengthen animal health extension services; and

f. Evaluate recurrent costs for animal health services in Regions I and II and the District of Bamako.

1.3. Animal Health Activities

1.3.1. Diagnostic Network

An important step in the implementation of efficient animal health and production services is the identification of diseases of major economic importance to producers (morbidity, mortality, production loss, type of production system, and species affected), and the establishement of a permanent monitoring and surveillance system. This system should provide information on disease incidence and on the changing economic importance of diseases resulting from new/improved control measures, changing patterns of production, and changing producer objectives.

The technical and scientific basis on which these activities depend is a cost effective diagnostic network. Utilizing the investments in infrastructure already made by the project, DNE and CVL are implementing an improved diagnostic network, initially in Regions I and II, with a long-term view of replicating the system in other Regions.

Presently very few field diagnoses are confirmed by the Central Veterinary Laboratory. Such confirmations are necessary not only for obtaining an accurate assessment of the national animal health situation, but also for prioritizing applied animal health research activities. DNE and CVL have started a collaborative effort to establish an effective and permanent animal health monitoring system which is attempting to utilize existing human and material resources in the most efficient manner possible. This program involves the training of DNE field agents in basic diagnostic techniques, and improving the diagnostic efficiency of the CVL and the communication network among DNE, CVL, and field veterinary staff.

Implementation of an effective diagnostic network requires an operational pathology section at the CVL. With the recent completion of the pathology facilities, the provision of technical assistance in pathology, the completion of short-term training of a Malian veterinarian in diagnostic pathology, and the procurement of necessary equipment and materials, the CVL now has the resources to implement their pathology program.

The following diagnostic activities are proposed:

a. Provide each veterinary post and each animal production sector in Regions I and II with materials to perform basic diagnostics, including autopsies, specimen collection and dispatch.

b. Train field technicians in basic diagnostic procedures through seminars and continuous education programs at the CVL. Coordination, and operations will be assured by the staff from DNE and CVL who will

make periodic trips to the field to consult with field staff and attempt to identify problems relating to diagnostic activities. Chiefs of veterinary sectors have recently received training in basic laboratory diagnostic techniques, in performing autopsies and in sample collection, preparation, and dispatch. The CVL has begun to undertake monitoring activities at the sector level and is in the process of preparing a practical field manual of diagnostic techniques to distribute to sector personnel.

c. Improve the communications network at DNE and CVL. Veterinary posts will transmit specimens to the veterinary sector offices. Samples will then be sent directly to the CVL. Laboratory results will be transmitted directly to the appropriate sectors and to DNE by the CVL. Radios at the sector level will provide direct communication between the sector and the CVL regarding disease outbreaks and technical diagnostic issues.

d. Put into operation the diagnostic unit at CVL (new buildings and equipment, training of technical staff, and improving diagnostic methods).

1.3.2. Vaccination Campaigns and Field Trials

The preoccupation of producers and the animal health service divisions is assurance of an adequate level of nutrition for livestock throughout the year. However, because of the persistent problems posed by certain epizootic diseases, respiratory diseases (pasteurellosis), trypanosomiasis, parasitoses, and important endemic diseases, the effective execution of a livestock development program requires that the existing disease risk for producers be reduced. Accordingly, the objectives of the project's animal health service program in Regions I and II and the District of Bamako, are to: (1) reinforce the immunization campaign of herds and flocks with high quality vaccines; (2) reinforce efforts to provide effective treatment against common internal and external parasites; and (3) improve animal health extension activities.

The following activities are proposed:

a. Immunization campaign: (1) verifying the status of infrastructures, material, and equipment; (2) establishing a calendar of operations; (3) assuring program coordination; and (4) controlling post-vaccinal reactions.

b. Install a system to assure the availability of materials and medications for treating livestock during the vacination campaign.

c. Install a system to assure rapid and accurate diagnosis and treatment of diseases and strengthen enforcement of animal health control measures.

d. Undertake a sero-surveillance program to evaluate the immunity of animals vaccinated with vaccines produced by the CVL.

1.3.3. Research

As the diagnostic network becomes functional, applied animal health research will be aligned with the disease priorities identified by this network. Research activities will focus on diseases of economic importance, emphasizing the development of new protocols for their prevention and control. Concerning vaccine production, the project will undertake to identify new/improved vaccine production techniques and financial management systems to improve the economic viability of the CVL's vaccine production unit.

Current research activities include the following:

a. Protozoology:
- clarify the importance of bovine trypanosomiasis and develop a strategic cost effective treatment program;
- clarify, in the project zone, the incidence of tick transmitted diseases and evaluate their economic importance.

b. Helminthology:

- determine the efficacity and cost/benefit of different anthelmetic treatment protocols for small ruminant flocks using products available on the local market;
- continue an epidemiological study of bovine liver fluke infestation in the Inland Delta area in collaboration with ODEM.

c. Entomology:

- continue a study on tsetse control using non-polluting methods.

d. Bacteriology:

- continue studies on respiratory diseases of small ruminants;
- continue studies on the etiology of infectious abortion in ruminants.

e. Virology:

- identify major viral diseases of Malian livestock.

1.3.4. Vaccine production research and vaccine quality control

The objective of the vaccine quality control unit is to assure a consistent, high quality vaccine. The two major aspects of this program are : (1) undertake appropriate quality control tests at the CVL; and (2) undertake a field program of sero-surveillance. Laboratory tests include testing vaccine lots in appropriate host species as well as testing for purity and safety. Sero-surveillance studies are planned for specific herds in the project zone. Other vaccine quality control activities include:

a. Undertake a study to identify the ways and means to increase the efficiency of vaccine production and reduce the cost (previously discussed).

b. Examine the feasibility of modifying the presentation of certain vaccines.

c. Enlarge the spectrum of vaccines presently produced to include avian vaccines.

1.3.5. Extension activities

Improve the capacity of field agents in the areas of communication, organization of producers and extension techniques. Activities at the producer level will focus on informing and training producers in new and improved animal health/production methodologies.

1.4. Inputs (refer to detailed input and budget tables in Annex 2)

1.4.1. Technical assistance

Funding of the long-term pathologist position will continue under the USDA/PASA through September 30, 1989. Proposed short-term technical assistance will be funded either under the CHEMONICS contract if it is required before September 30, 1989, or under the contracting mode decided upon with the Ministry, for the provision of technical services from October 1, 1989 - September 30, 1991. (Refer to Section VII, 2., Procurement of Technical Services.)

1.4.2. Animal Health Program Inputs

INPUT	MEANS OF FINANCING PIPELINE	NEW OBLIGATIONS
TECHNICAL ASSISTANCE		
PATHOLOGIST (12 PM)		$216,000
VIROLOGIST (3 PM)		$55,000
IMMUNOLOGIST (2 PM)		$40,000
EPIDEMIOLOGIST (1 PM)		$20,000
CLINICAL PATHOLOGIST (1PM)		$20,000
SUBTOTAL	$0	$351,000
CONSTRUCTION		
LAB/WATER SYSTEM	$17,507	
SUBTOTAL	$17,507	$0
TRAINING		
SHORT-TERM OVERSEAS		
CVL		
- CLINICAL PATHOLOGY (3 PM)	$14,327	$673
- DIAGNOSTIC IMMUNOLOGY (1 PM)		$5,000
- EPIDEMIOLOGY (2 PM)		$10,000
DNE		
- EPIDEMIOLOGY (2 PM)		$10,000
- ANIMAL HEALTH PLANNING (3 PM)		$15,000
IN-COUNTRY TRAINING (CVL, DNE)		$68,000
- ANIMAL HELATH DIAGNOSIS		
- ANIMAL HEALTH EXTENSION		
- COLD CHAIN MAINTENANCE		
- RADIO MAINTENANCE		
- COMPUTER TRAINING		
- MIS TRAINING		
SUBTOTAL	$14,327	$108,673
COMMODITIES		
CVL		
- REPLACEMENT VEHICLES (2 4X4)		$50,000
- VEHICLE SPARE PARTS		$21,600
- DIAGNOSTIC EQUIPMENT	$7,013	$81,387
- VACCINE PRODUCTION EQUIPMENT		$250,000
DNE		
- REPLACEMENT VEHICLES (3 4X4)		$75,000
- VEHICLE SPARE PARTS		$40,000
- REPLACEMENT MOBYLETTES: 50		$50,000
- DIAGNOSTIC/VACCINATIONS/COLD CHAIN		$110,000
SUBTOTAL	$7,013	$677,987
STUDIES		
ECONOMIC ASSESSMENT OF ANIMAL HEALTH SERVICES	$25,000	$45,000
2ND PHASE VETERINARY PRIVATIZATION		$30,000
SUBTOTAL	$25,000	$75,000

OPERATING COSTS		
CVL	$159,415	$275,185
DNE		$416,600
SUBTOTAL	$159,415	$691,785
CONTINGENCY	$29,951	$332,260
TOTAL	$253,213	$2,236,705

2.Animal Production Program

2.1 Background/Status

The critical constraint of poor year-round nutrition on animal productivity has recently been re-emphasized by MEE in its national strategy for improving livestock production. Moreover, the MEE has placed a priority on finding practical ways to improve the integration of livestock and crop production in the sub-humid zones, particularly for traction animals, and for milk, meat, and calf production. Because the project's initial forage research program was developed with a focus on supporting the project's on-farm cattle feeding program, efforts were concentrated in one of Mali's semi-arid areas.

Though significant progress has been made by the project in identifying forage-legume crops offering promise for increasing on-farm capacity to improve animal nutrition in the semi-arid zone, the sub-humid focus envisaged in the Project Paper, and now considered by MEE as a priority, was not exploited. In response to these factors, and recommendations of the mid-term evaluation, a re-orientation of program focus is underway which will exploit the successes achieved to date in the semi-arid zone to more effectively address animal nutrition constraints of agro-pastoral systems in higher rainfall areas.

Such production systems are considered to offer greater opportunities for both producers and researchers to develop forage production technologies that could be incorporated into, or partially replace, traditional cropping patterns to a greater extent than has been possible in semi-arid areas. Programs will focus on traction animals, and on meat and milk production of both large and small ruminants.

In the development of the project's animal production program, emphasis has also been placed on improving the monitoring of herds and flocks, their management and exploitation, and on the necessity of improving systems for monitoring the use of extensive rangelands and water sources. The project has adopted the view that a sustained increase in livestock productivity can only be achieved if it is undertaken in a way which will ensure the long-term productivity of the natural resource base. Improving natural resource management is recognized by the project as important. Accordingly, the project intends to continue to address aspects of natural resource management as an integral component of its animal production program by: identifying and extending improved and adapted technologies that will stabilize traditional cropping systems, improve the productivity of fallow land, more effectively use agricultural by-products as components of animal rations, and exploit appropriate tree and browse forage species that can be incorporated into traditional production systems. The means for continuing these activities are two-fold: (1) an applied forage/animal production research program through INRZFH, and (2) an extension/training program to strengthen the technical capacity and effectiveness of DNE field agents.

The comparative production advantage of traditional Malian producers has been an important consideration in program development. In this regard, activities have been proposed which will focus on improving small ruminant and poultry production. These activities are expected to have a positive, short-term impact on household incomes, while providing economically viable options for producers to better exploit improved forage/crop production techniques and improved animal health and production practices being developed by INRZFH, DNE, and CVL.

The Cooperative Agreement with the International Livestock Center for Africa (ILCA), which has provided technical assistance to the animal production research program, was completed on May 31, 1988. Because of the complementary between ILCA's ongoing program in Mali and the project's research activities, it was decided by the Minister and USAID Director on April 28, 1988, that ILCA should finance through their core funding all technical assistance associated with their continuing animal production research program in Mali. USAID/Mali funding for the extension phase is to maintain and upgrade the capabilities of INRZFH to manage their research program and to enable their effective participation in the joint ILCA/INRZFH animal production research program. Since, however, the ILCA/Mali Program has not been fully defined and officially approved by ILCA and the GRM, the projects position that ILCA is to provide all technical assistance associated with animal production research cannot be fully negotiated.

2.2. Animal Productions Objectives

a. Develop through continuing research appropriate technical packages to provide year-round, nutritive forage for livestock in the semi-arid and sub-humid project zones, which can be incorporated into traditional cropping systems and respond to producers needs.

b. Improve animal nutrition, increase forage production, and sustain production of the natural resource base in the project zone through a better allocation and rational use of land resources.

c. Facilitate the integration of agriculture and livestock by improving applied animal production research and strengthening the animal production extension service to more effectively disseminate appropriate technical packages to producers.

d. Identify production constraints, and the structure, composition, movement, and marketing of livestock within the project zone.

2.3. Animal Production Activities

2.3.1. Semi-arid zone:

a. Improve the productivity of small ruminants by developing improved technical packages for livestock management and year-round availability of nutritious feeds for increased production of meat and milk, and extend those improved technical packages to producers.

b. Enhance the work capacity of traction animals by developing improved management practices and feed rations. Study the possibility of acquiring agricultural equipment which is adapted to particular agricultural practices and conditions.

c. Increase the integration of agriculture and livestock to meet the needs of mixed farmers in the zone by developing technical packages which introduce improved forage species into traditional cropping systems, stabilize land use through improve productivity and conservation of fallow land, more effectively use cropping by-products as components of animal rations, and expand the use of composting and animal manure.

2.3.2. Sub-humid zone

a. Increase feed resou ces for livestock by developing forage production:
   - evaluate the quantity and quality of available livestock feeds;
   - identify through applied research adapted forage species with high production potential;
   - test through applied research and pre-extension trials adapted leguminous forage species to intercrop with cereals and use as forage crops on fallow land;
   - test through pre-extension trials browse species adapted for multiple use as forage crops and living fence; and
   - study village land-use patterns to improve agro-pastoral land use.

b. Improve feed rations to increase milk production:
   - evaluate the actual level of milk production for the different breeds of cattle in the zone;
   - develop cost effective rations for intensive milk production which reduce supplemental feed costs to producers; and
   - develop improved strategies for the use of existing feed resources.

c. Identify the nutritional and health constraints limiting milk and meat production in the zone.

d. Identify the socio-economic, infrastructure, and policy constraints limiting milk and meat production and marketing in the zone.

2.3.3. Extension

a. Train extension agents and producers in both the sub-humid and semi-arid zones in the application of improved forage production packages and appropriate natural resource management techniques to improve soil and water conservation, forage production, and fallow land regeneration; and

b. Establish a pasture and water point monitoring system in the project zone to begin to assist the MEE and local populations to better evaluate and eventually control agro-pastoral resource use.

2.4. Inputs (refer to detailed input and budget tables in Annex 2)

2.4.1 Technical Assistance

If agreement is reached between ILCA, the Government of Mali and USAID, it is planned that all technical assistance associated with animal production research will be supplied by ILCA.

2.4.2. Animal Production Program Inputs

INPUT	MEANS OF FINANCING PIPELINE	NEW OBLIGATIONS
TECHNICAL ASSISTANCE	$0	$0
CONSTRUCTION	$45,000	$0
TRAINING		
SHORT-TERM OVERSEAS		
INRZFH		
- ANIMAL NUTRITION/FORAGE PRODUCTION (2 PM)		$10,000
DNE		
- ANIMAL PRODUCTION EXTENSION (2 PM)		$10,000
IN-COUNTRY TRAINING (INRZFH, DNE)		$39,000
- ANIMAL PRODUCTION/EXTENSION		
- ANIMAL PRODUCTION RESEARCH		
- COMPUTER TRAINING		
- MIS TRAINING		
SUBTOTAL	$0	$59,000
COMMODITIES		
INRZFH		
- REPLACEMENT VEHICLES (1 4X4)		$25,000
- VEHICLE SPARE PARTS		$17,000
- RESEARCH EQUIPMENT		$53,000
SUBTOTAL	$0	$95,000
STUDIES		
ANALYSIS OF LIVESTOCK MARKETING CONSTRAINTS		$40,000
SUBTOTAL	$0	$40,000
OPERATING COSTS		
INRZFH		$301,500
DNE		$43,000
SUBTOTAL	$0	$344,500
CONTINGENCY	$0	$93,900
TOTAL	$45,000	$632,400

3. Management Support Program

3.1 Background/Status

Management support activities during the first four years of the project have provided effective procurement, financial management, and program implementation support. The short-term objectives of MDST, as foreseen in the Project Paper, have been largely achieved; however, the institutional impact of MDST's activities have, to date, been limited. The design and implementation of a program/financial management ystem to respond to the needs of both the MEE and the Mission were begun in 1986/87, but still need to be further elaborated and implemented by project divisions, and eventually, by the Ministry.

The Ministry is currently evaluating options for integrating MDST's functions and activities into the MEE administrative structure. A proposal to this effect will be prepared for presentation to the 7th Joint Management Committee meeting in November 1988.

3.2. Management Support Objectives

a. Provide administrative, logistical and financial management support to project programs.

b. Coordinate project activity planning, implementation, monitoring, and evaluation.

c. Coordinate planning and implementation of project studies.

d. Coordinate training under project programs.

e. Put in place a management information system at the project level which provides quantitative information to direct program planning and resource allocation according to the priority needs of the MEE and livestock producers, and assures timely monitoring and evaluation of project activities.

3.3 Management Support Activities

3.3.1 Administrative and logistical support

Project adminstrative and logistical support activities will continue to ensure: (1) an efficient supply of materials and equipement for project activities; (2) improve the vehicle maintenance service for project and Ministry vehicles; (3) develop a garage consolidation plan for the Ministry; (4) continue vehicle maintenance and repair training programs; (5) contract and coordinate implementation of project studies; (6) provide procurement services for project activities; (7) provide logistical support for project personnel; and (8) provide internal control documentation for AID and the MEE.

3.3.2. Financial Management

MDST is implementing accounting and financial management systems that are integrated with operational planning and management. The Director of Finance and his staff maintain reliable accounting systems that permit tracking of expenditures for audit and financial control purposes. The financial management unit is implementing accounting systems which provide a record of catagories of expenditures against performance so that the cost effectiveness of project activities can be evaluated.

It is anticipated that by the completion date of the CHEMONICS contract, September 30 1989, Malian staff of MDST will be able to continue effective, efficient operation of the financial management unit without further long-term technical assistance. To provide adequate control and review of project financial systems the project will utilize short-term technical assistance bi-annually, beginning in 1990. Also, an outside consulting firm will perform annual project financial audits beginning in September 1989, before the departure of the Director of Finance, and in September 1990 and 1991.

3.3.3. Project planning, monitoring and evaluation

Up until 1986, the project's program was developed, approved, implemented, and evaluated as individual division activities. This process changed in 1986/87 to allow for a clearer monitoring and assessment of the three project programs focused on animal health, animal production, and management support. Each project division (CVL, DNE, INRZFH, and MDST) has a unique and interdependent role to play in each of these program thrusts according to its national mandate and existing technical, infrastructural, and administrative resources.

Accordingly, three program committees have been form d (animal health, animal production, and management support) to develop annual workplans and budgets, and evaluate activity progress. As well, standardized reporting procedures are being established. The committees meet every 3 months to review program progress, recommend mid-course actions, and develop strategies and orientations for future programs. Every 6 months the three committees meet to review the entire project program. Semiannually, or as deemed appropriate by the MEE, USAID or project management, the Joint Management Committee will meet. These meetings are to be chaired by the Minister of MEE and the AID Director or their representatives. The JMC will provide joint policy and program guidance and coordination to project management, and review and approve annual work plans and financial plans. As was recommended by the mid-term evaluation, MDST serves as the coordinating secretariat for the project committees and for the JMC and prepares all documents for their review. They also provide follow-up on JMC decisons, and assign responsibility to service divisions for the execution of decisions, and time frames for their completion.

3.3.4. Studies

MDST will continue to coordinate planning and implementation of all studies proposed for the various project programs during the project's extension phase.

3.3.5. Training

MDST will continue to coordinate all training under the project with monitoring assistance from OMBEVI and the AID Training Office. This includes completion of training for long-term participants, and the short-term and in-country training proposed for the extension phase. There will be no additional long-term training financed during the extension phase.

3.3.6 Management Information System (MIS)

The long-term sustainability of project programs by MEE and the GRM is dependent on the effective allocation of scarce human, material, and financial resources to address priority policy, technical, and economic issues. As envisaged in the Project Paper and emphasized in the mid-term evaluation, MDST is developing a management information system for the animal health/production sub-sector appropriate for eventual adoption on a Ministry-wide basis.

The implementation of a MIS will be the focus of the Management Support Program during the project's extension phase and will follow mid-term evaluation recommendations. Key elements in the system include: (1) continue the development of integrated project workplans involving all project divisions (establishing priorities, developing strategies, identifying activities, assigning implementation responsibilities, identifying and allocating essential resources, and establishing activity monitoring and evaluation procedures and criteria); (2) refine the existing project financial management system to provide effective financial monitoring information which is compatible with Mali's national budget accounting system and that of USAID; (3) establish a computerized documentation network throughout the MEE; and (4) implement an in-country continuing education program for all MEE service divisions in manual and computerized methods for the selection, collection, collation, analysis, and diffusion of data. Improving the managerial

capacity of MEE and its service divisions to more effectively plan, monitor, and evaluate public sector programs in animal health and production is a prerequisite for increased private sector participation in the livestock sector.

Program activities at the project level represent only one aspect of MIS development for the Ministry. However, because of the complexity of the task of defining and putting in place a Ministry-wide MIS, the project proposes a phased approach to MIS implementation. It is proposed to limit initial application of the livestock sector MIS to animal helath. Thus, initial focus will be with animal helath field services.

Animal helath field services are the responsibility of DNE. Their administrative structure operates at the National, Cercle and Arrondissement levels. As well, their mandate includes supplying animal health and animal production extension services to livestock producers, and monitoring herds, marketing, grazing resources, and water availability. To effectively perform this broad mandate requires DNE to collaborate and take integrated action with CVL, INRZFH and DST. Thus, DNE field agents are well placed to gather much of the baseline information to enable the Ministry's Cabinet to make informed decisions on livestock sector programs and policies.

The formulation of an action plan for implementing the MIS will be prepared, beginning in June 1988, by a specialist in management information systems. He will evaluate the Ministry's management structure and information needs and develop a plan which lays out specific quantifiable objectives and a time frame for completion. He will also recommend practical ways to organize data, develop reporting methodologies, and propose training needs. This plan will be presented to the 7th JMC in November 1988 for approval and financial authorization. Short-term technical assistance is envisioned during the project extension phase to monitor and assist in MIS implementation.

3.4. Inputs (refer to detailed input and budget tables in Annex 2):

3.4.1. Technical Assistance (MDST)

The Director of Operations will continue to be funded under the USDA/PASA until September 30, 1989. The Director of Finance, Mechanic and short-term MIS assistance will continue to be funded under the CHEMONICS contract until September 30, 1989. Annual financial audits in 1989, 1990 and 1991 will be performed by outside consultants. The contracting mode for the provision of other technical assistance from October 1, 1989 - September 30, 1991 is being negotiated with the Ministry. (Refer to Section VII, 2., Procurement of Technical Services.)

3.4.2. Management Support Program Inputs

INPUT	MEANS OF FINANCING PIPELINE	NEW OBLIGATIONS
TECHNICAL ASSISTANCE (MDST)		
DIRECTOR OF OPERATIONS (36 PM)		$648,000
DIRECTOR OF FINANCE (12 PM)	$216,000	
FINANCIAL REVIEWS (4 PM)		$40,000
FINANCIAL AUDIT (6 PM)		$90,000
MECHANIC (4 PM)	$72,000	
MIS ASSISTANCE (13 PM)	$118,913	$115,087
SUBTOTAL	$406,913	$893,087
CONSTRUCTION		
GARAGE RENOVATION (KAYES)	$10,000	
DOCUMENTATION CENTER RENOVATION	$5,000	
SUBTOTAL	$15,000	$0
TRAINING		
LONG-TERM (CRRENT PARTICIPANTS)	$114,854	
SHORT-TERM OVERSEAS (MDST)		
- MANAGEMENT PLANNING (3 PM)	$15,000	
- FINANCIAL MANAGEMENT (3 PM)	$15,000	
IN-COUNTRY TRAINING (MDST)		$53,000
- DOCUMENTATION NETWORK		
- VEHICLE MAINTENANCE		
- COMPUTER TRAINING		
- MIS TRAINING		
- PROGRAM MONITORING & EVALUATION		
SUBTOTAL	$144,854	$53,000
COMMODITIES (MDST)		
- REPLACEMENT VEHICLES (1 4X4)		$25,000
- VEHICLE SPARE PARTS		$30,000
- REPRODUCTION/AUDIO-VISUAL		$16,500
- COMPUTERS		$10,000
- GARAGE EQUIPMENT		$18,500
- COMMUNICATIONS EQUIPMENT		$5,000
SUBTOTAL	$0	$105,000
EVALUATION	$81,336	$118,664
OPERATING COSTS (MDST)	$0	$415,000
AID PROJECT SUPPORT (36 PM)	$0	$250,000
CONTINGENCY	$0	$296,144
TOTAL	$648,103	$2,130,895

V. Special Concerns

1. Gender Issues

The following section references the Mali Gender Issues report and recommendations, prepared in February 1988, by a consulting team financed through the PPC/WID office.

1.1. Status

By addressing livestock production as a complex, multi-faceted traditional activity, the project is building and improving on existing production systems. The fundamental beneficiary group of project activities is the family, and it is on this asis that the project has focused and prioritized its activities at the beneficiary level. However, implicit in this program development effort has been the recognition of the important role that women play in the traditional livestock production system: feeding and managing livestock, especially small ruminants, at the household level; the storage, transformation, and sale of milk and milk products; and the raising of poultry and sale of eggs. The recognition of the importance of these production activities is not based on a gender role issue, but rather on the need to address the multiple production aspects of livestock to meet both short and long-term family needs.

1.2. Background

In the livestock project zone considerable differences exist among ethnic groups in agro-pastoral systems. Women often figure prominently in livestock ownership, especially ownership of small ruminants. Although women's ownership of cattle appears to be limited, one study suggests that approximately 30% of small ruminants are owned by women.

Women bring livestock to a marriage and continue to own those animal they bring. Men typically have responsibility for managing a family's livestock. Women do, however, milk both large and small ruminants, and

have control over the usage and income from the milk. Animals of sedintary mixed farmers, not sent on transhumance, range freely near the villages in the dry season, and are looked after by herders during the growing season. The herders are, in most instances, paid by the husbands. In return for this, and other feed and veterinary expenses incurred, the husbands receive the male progeny from their wives' animals. Women generally retain female progeny.

Women have decision making power over much of what happens to their animals, varying from whether or not they can be vaccinated to decisions over selling them. Women control the income received from the sale of their small ruminants and from their milking activities. For many Malians, cattle represent long-term savings and cash reserves, while small ruminants provide the family a means of cash flow. When cash is needed, small ruminants are sold.

1.3. Project actions

a. Working within the cultural reality of Mali, where women are often less accessible to outsiders, will require a greater effort by project extension agents and researchers to make sure they are accurately assessing women's activities and targeting project interventions to meet their needs. Within the project zone working for DNE there are currently 57 women veterinary nurses assiting with the delivery of animal health and production services and extension activities. As well, there are several women veterinarians working at CVL and at the national level within DNE. One way the project feels it could strengthen its assessment of womens activities and targeting of project interventions is to more actively train and use women extension agents and veterinarians to assist in information data collection for the MIS, and in working with women producers directly in designated villages on improved animal health and production practices.

b. As part of the data collection effort for the management information system, the project intends to undertake periodic beneficiary assessments during the extension phase which will be directed at all family members. In undertaking these assessments, the project will make a concerted effort to elicit clear and honest appraisals of the impact of project activities on all family members, and will attempt to disaggregate data by gender and ethnic group.

c. Strengthening animal health and production extension activities will be key to increased animal production and increased benefits to all producers. Training of agents in improved extension practices and techniques will be important to this effort. Because of the important role women have in traditional livestock production activities, the project's extension program will not limit itself to animal health and management issues, but will work to improve on-farm capacity to increase household income through more efficient transformation and marketing of milk, butter, meat and eggs.

2. Privatization

The Government of Mali considers livestock a national asset since livestock exports account for around 40% of Mali's foreign exchange earnings. Therefore, the GRM is taking a pragmatic position to move cautiously towards privatization of veterinary services, and privatizing the distribution and sales of veterinary pharmaceuticals within Mali, without endangering "national herd" health during the transition. On July 26, and October 2, 1986 Presidential Decrees were signed authorizing and establishing regulations for private veterinary practice. However, until further policy changes are enacted on the provision of veterinary services, and the sales and distribution of vaccines and pharmaceuticals, there is little incentive for private veterinary practice. (Refer to the economic analysis section on privatization in Annex 8.)

The project financed three study tours in 1985 and 1986 for GRM officials charged with designing a veterinary privatization plan. The tours consisted of visits to the U.S., Canada, Senegal, Morocco, Kenya, Zimbabwe, and Ivory Coast. The purpose of the tours was to observe and study various state and private systems of veterinary practice, as well as vaccine and pharmaceutical sales and distribution schemes, towards designing a system adapted for Mali.

The project also financed in 1986/1987 two studies: one on the privatization of veterinary services, and the other an audit of the Malian Veterinary Pharmacy. The recommendations and conclusions of these studies have laid the ground work for further analyses to define a privatization implementation plan, and propose policy recommendations for the GRM to consider before privatization can effectively take place.

Recurrent cost issues in the delivery of animal health services are inseparably linked with increased private sector involvement. Project studies proposed during the extension phase on recurrent costs and privatization will be designed to build upon previous studies and analyses, and propose concrete recommendations for GRM consideration. The Mission considers GRM action on the recurrent cost issues and on privatization of the delivery of animal health services as prerequisites for any possible follow-on project funding.

3. Salary Supplements

The Government of Mali's policy on salary supplements is stated in Ordinance No. 151/PG-RM, dated August 26, 1975. However, this policy has never been put fully into effect because of the GRM's financial difficulties. In 1980, the Ministry of Rural Development formulated a salary supplement policy on the basis of a joint study performed by the Ministry and USAID. As a result of this study, PIL No. 18 of the Mali Livestock Sector Project, 688-0203, dated May 13, 1980, was authorized. Subsequently, other projects followed suit.

Under the current Livestock Sector II Project, PIL No. 8 authorized salary supplements, establishing a scale and the conditions for payment. Salary supplements, or primes, were to be paid only on the condition that a civil servant was directly involved in the activities of the project, and actually carried out his duties in an effective manner.

During the 6th Joint Management Committee meeting, held on November 16, 1987, the issue of primes was again discussed. It was decided that the USAID Director and the Minister would subsequently meet to discuss and develop a clear and firm policy which would be implemented by the Project.

Prior to this meeting, the Mission reviewed project salary supplements in relation to the AID/Washington guidance cable (1988 State 119780) concerning primes and indemnities. The decision was made to continue the payment of salary supplements until September 30, 1989, when a revised system would be implemented reflecting a Mission-wide policy. During the review, in relation to the AID/W guidance, it was ascertained that:

a. payments are permitted under host country law and regulations;

b. Mali has demonstrated that it cannot make these payments from its own resources for valid reasons such as its inability to provide the financing within the time required to meet the needs of the activity;

c. the supplements are essential to the achievement of project and program objectives;

d. rates and fees are paid in accordance with local standards and are limited to amounts reasonable in relation to an employee's pay, and in amounts which the host country can be expected to meet from its own resources within a reasonable time;

e. the Project personnel will be carrying out tech relation to the AID/Washington guidance cable (1988 State 119780) concerning VI. Financial Summary

f. a mechanism is in place for providing the supplement which prevents potential abuse in the determination of recipients and amounts to be provided; ensures financial integrity in the payment system; and, establishes adequate monitoring and reporting.

The meeting between the Minister and USAID/Mali Director took place on April 28, 1988, where it was decided that supplements will continue to be paid through September 30, 1989. From October 1, 1989 through September 30, 1991, project primes and indemnities will be paid only for "responsabilite," to National level project personnel at a rate consistent with Ministry guidelines for donor assisted projects. Per diem would continue to be paid to all GRM personnel on project related travel. A PIL will be prepared establishing specific conditions for primes and per diem payments, to take effect October 1, 1989.

VI. Financial Summary

1. Revised Financial Plan

Project Element	Current Proj. Budget ($)	Amount this Supplement ($)	Project Revised Budget ($)
(1) Technical Assistance	7,304,000	1,244,087	8,548,087
(2) Construction	3,267,557	0	3,267,557
(3) Training	1,869,000	220,673	2,089,673
(4) Commodities	2,347,659	877,987	3,225,646
(5) Studies	400,000	115,000	515,000
(6) Credit	429,707	0	429,707
(7) Evaluation	300,000	118,664	418,664
(8) Operating Costs	2,264,970	1,451,285	3,716,255
(9) AID Project Support	0	250,000	250,000
(10) Contingency (15%)*	37,107	722,304	759,411
TOTAL	18,220,000	5,000,000	23,220,000

Operating costs financing will be approved by the JMC and authorized by Project Implementation Letters. The Mission Director makes an annual required 121(d) certification of the accounting systems used by the Government of Mali, and Annex 4 contains the Authorization for Local Cost Financing as required in Handbook 1B, Chapter 18. The 121(d) certification will also serve as a means to monitor payment of salary supplements.

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* The Contingency line item, to date, has been decreased and reallocated to other line items as necessary over the course of the project.

2. METHODS OF IMPLEMENTATION AND FINANCING

PROJECT ELEMENT	IMPLEMENTATION	FINANCING	CURRENT PROJECT BUDGET ($)	AMOUNT THIS SUPPLEMENT ($)	PROJECT REVISED BUDGET ($)
TECHNICAL ASSISTANCE	AID DIRECT	DIRECT PAYMENT	$7,304,000	$1,244,087	$8,548,087
CONSTRUCTION	HOST COUNTRY CONTRACTS	DIRECT REIMBURSEMENT	$3,267,557	$0	$3,267,557
TRAINING	AID DIRECT	DIRECT PAYMENT	$1,869,000	$220,673	$2,089,673
COMMODITIES	AID DIRECT	DIRECT PAYMENT	$2,347,659	$877,987	$3,225,646
STUDIES	HOST COUNTRY CONTRACTS	DIRECT REIMBUSEMENT	$400,000	$115,000	$515,000
CREDIT	HOST COUNTRY IMPLEMENTATION	DIRECT PAYMENT	$429,707	$0	$429,707
EVALUATION	AID DIRECT	DIRECT PAYMENT	$300,000	$118,664	$418,664
OPERATING COSTS	HOST COUNTRY IMPLEMENTATION	DIRECT REIMBURSEMENT	$2,264,970	$1,451,285	$3,716,255
AID PROJECT SUPPORT	AID DIRECT	DIRECT PAYMENT	$0	$250,000	$250,000
CONTINGENCY	AID DIRECT	DIRECT PAYMENT	$37,107	$722,304	$759,411
TOTAL			$18,220,000	$5,000,000	$23,220,000

2. Summary of Inputs for Project Extension Phase

INPUT	MEANS OF FINANCING PIPELINE	NEW OBLIGATIONS
TECHNICAL ASSISTANCE		
ANIMAL HEALTH PROGRAM	$0	$351,000
ANIMAL PRODUCTION PROGRAM	$0	$0
MANAGEMENT SUPPORT PROGRAM	$406,913	$893,087
SUBTOTAL	$406,913	$1,244,087
CONSTRUCTION		
ANIMAL HEALTH PROGRAM	$17,507	$0
ANIMAL PRODUCTION PROGRAM	$45,000	$0
MANAGEMENT SUPPORT PROGRAM	$15,000	$0
SUBTOTAL	$77,507	$0
TRAINING		
ANIMAL HEALTH PROGRAM	$14,327	$108,673
ANIMAL PRODUCTION PROGRAM	$0	$59,000
MANAGEMENT SUPPORT PROGRAM	$144,854	$53,000
SUBTOTAL	$159,181	$220,673
COMMODITIES		
ANIMAL HEALTH PROGRAM	$7,013	$677,987
ANIMAL PRODUCTION PROGRAM	$0	$95,000
MANAGEMENT SUPPORT PROGRAM	$0	$105,000
SUBTOTAL	$7,013	$877,987
STUDIES		
ANIMAL HEALTH PROGRAM	$25,000	$75,000
ANIMAL PRODUCTION PROGRAM	$0	$40,000
MANAGEMENT SUPPORT PROGRAM	$0	$0
SUBTOTAL	$25,000	$115,000
EVALUATION	$81,336	$118,664
OPERATING COSTS		
ANIMAL HEALTH PROGRAM	$159,415	$691,785
ANIMAL PRODUCTION PROGRAM	$0	$344,500
MANAGEMENT SUPPORT PROGRAM	$0	$415,000
SUBTOTAL	$159,415	$1,451,285
AID PROJECT SUPPORT	$0	$250,000
CONTINGENCY		
ANIMAL HEALTH PROGRAM	$29,951	$332,260
ANIMAL PRODUCTION PROGRAM	$0	$93,900
MANAGEMENT SUPPORT PROGRAM	$0	$296,144
SUBTOTAL	$29,951	$722,304
TOTAL	$946,316	$5,000,000

3. Government of Mali Contribution

The Government of Mali contribution for the extension phase is estimated to be $ 3,818,000. This is primarily salary payments for civil servants working with the project and utilities payments for Ministerial buildings. Refer to Annex 2 which provides a detailed breakdown of GRM contributions.

VII. Procurement Plan

1. Responsible agencies

Significant levels of both technical services and commodities will be procured during the project extension phase. The Mission will retain the authority to contract for all technical and professional services to be procured under this project. However, final selections and negotiations will be done in close consultation with the GRM.

Concerning commodity procurement, USAID/Mali will retain ultimate responsibility for insuring that AID procurement regulations and procedures are adhered to. At the same time, day-to-day management of in-country and international commodity procurement will rest with the Management Development and Support Team. International procurement may either be carried out under AID direct contracts or using MDST as the authorized agent acting on behalf of the GRM and Procurement Services Agents. Local procurement will be carried by MDST. Annual commodity procurment plans will be presented and approved by the JMC.

1.1 Source and Origin of Commodities, Nationality of Services

Except as AID may agree otherwise in writing:

a. Commodities financed by AID under the project shall have their source and origin in the United States, or in countries included in Geographic Code 935;

b. The suppliers of commodities and services financed by AID under the project shall have the United States, or countries included in Geographic Code 935 as their place of nationality;

c. The procurement policies established by AA/AFR for the Development Fund for Africa shall be applied to the procurement of goods and services financed by AID under the project.

2. Procurement of Technical Services

In order to correspond with the project's major emphasis of long-term institutional building activities, USAID proposes to use the Title XII Collaborative Assistance Mode of contracting to procure technical assistance during the extension phase. During discussions with Ministry, they expressed reservations about competing exclusively with universities. Their experience has been that universities are too theoretical and research oriented in their approach. The Ministry wants technical assistance which will take an applied, field oriented approach to the implementation of project programs and activities. They do agree, however, that within the project's animal health and production research components and training activities, that universitites would have a comparative advantage in providing technical assistance and institutional linkages. The final decision on the contracting mode for technical assistance under the project's extension phase will be made after review of alternatives and further discussions with the Ministry of Environment and Livestock.

The Mission's proposal on Title XII Collaborative Assistance Mode follows.

2.1 Title XII Collaborative Assistance Mode.

In April 1988 AID/W was advised of the Mission's desire to use the Title XII Collaborative Assistance Mode to implement project activities during the two-year project extension, and to design and implement the possible follow-on project that was presented in the 1989 Annual Budget Submission.

The Mission realizes this is a modification to the Title XII Collaborative Assistance Mode, but following an examination of the options, and discussions with BIFAD, SER/OP, the RCO, and the RLA, the Project Committee decided that this combination of implementation/design/implementation is appropriate.

The Regional Contracting Officer advised the Mission it could go ahead with the proposed contracting modality if it was prepared to follow Title XII contracting procedures certifying that the activity is authorized and appropriate under the Title XII Program.

The Mission decision for wanting to use the modified collaborative assistance mode proposed above is based on the following:

a. In view of changes within the livestock sector from specific interventions to long-term institution building activities, the Mission believes a university contract is the most appropriate contracting method at this time. We see establishing a long-term relationship with a U.S university as being very beneficial. Involving a U.S university at this stage of project implementation would be a positive step to build upon our long term involvement in Mali's livestock sector.

b. The project has potential to provide the Ministry of Environment and Livestock with institutional linkages where U.S institutions have a comparative advantage in the areas of veterinary medicine, tropical forage and animal nutrition research, natural resource management, and training. Continuity of institutional relationships between the Ministry, and a U.S. university, using the project as a vehicle, will help to sustain project momentum and the initiatives of project p ograms and activities from the extension phase through the design and implementation of a follow-on livestock project.

c. Increased institutional linkage would enhance continuity of effort in the provision of appropriate short and long-term technical assistance and training to the project. Over the course of the project, Malian staff development and training has made significant progress. There is now a more important and suitable role for short-term technical assistance which could be programmed for the same advisors over a series of intensive short assignments to help direct and focus Malian staff implementation of project programs and activities in animal health, animal production and management support. We believe an appropriate Title XII institution could best provide this continuity of effort in the areas of technical assistance required by the project.

d. The subject project is currently being implemented by three different contractors: a USDA/PASA, an AID direct contract with a private firm (CHEMONICS), and a cooperative agreement with the International Livestock Center For Africa (ILCA). The ILCA cooperative agreement will be ended on 5/31/88, and the PASA and CHEMONICS contracts will end on 9/30/89. The previous 6 years of project management experience have shown that management of three separate contracts is difficult, too management intensive, and time

consuming. Given the progress towards achieving objectives, the stage of implementation, and future Mission-management workload due to possible personnel cutbacks, we feel that this is the time to make these contracting and implementation adjustments.

Once the Project Paper Supplement is authorized the Mission intends to:

a. Certify that Title XII is appropriate.

b. Issue the PIO/T for a modified collaborative assistance mode contract with a Title XII institution.

c. Complete the selection of a Title XII university to implement the project extension phase.

d. During the project extension phase, the Mission would write the PID for the follow-on project.

e. Based on AID/W approval of the PID, and a positive evaluation of the performance of the university implementing the extension phase, the university would then design the follow-on project and perform subsequent implementation.

Based on agreement with the MEE on the above strategy, the Mission would follow Title XII Collaborative Assistance Mode procedures certifying that the activity is authorized and appropriate under the Title XII program (AIDAR 715,613, AIDAR Appendix F and its attachment, and contracting information bulletin 87-31). Then the Mission, in collaboration with the MEE, would prepare a PIO/T with a detailed scope of work to be used by the REDSO/WCA/Regional Contracting Officer to prepare the Request for Technical Proposals (RFTP) and Request for Expressions of Interest (REI) and follow required procedures for Title XII contracting.

The RFTP and REI will present specific institutional evaluation criteria to judge and rank university proposals and will lay out detailed scopes of work and required qualifications for each technical assistance position.

USAID/Mali will obtain from AID/Washington, BIFAD, and other available sources, information to be used in evaluating university proposals and proposed personnel.

The project budget does not have sufficient funds to permit sending a joint USAID/GRM team to the U.S. to visit short-listed universities, and interview proposed personnel. This is considered an essential part of the selection process, and therefore the Mission will program and budget funding for this purpose in FY 89.

2.2. Alternative Contracting Procedures

In the eventuality that agreement is not reached with the Ministry on using the Title XII Collaborative Assitance Mode, the Mission will pursue the following contracting options:

a. Open competition for the one long-term position for the Director of Operations, and use the Title XII Technical Support to Missions (TSM) contracting mode for short-term technical assistance;
b. Open competition;
c. Extend the USDA/PASA for the Director of Operations position until September 30, 1991, and use the TSM contacting mode for short-term technical assistance.

2.3. Technical Assistance

The following technical assistance is proposed for the project's extension phase:

Required Position	Person Months	Time frame	Contract
a.Long-term			
Director of Operations	36 PM	10/1/88 - 9/30/91	PASA, Tittle XII
Director of Finance	12 PM	10/1/88 - 9/30/89	CHEMONICS
Pathologist	12 PM	10/1/88 - 9/30/89	PASA
Mechanic	4 PM	10/1/88 - 1/31/89	CHEMONICS
b.Short-term			
Financial Audit	6 PM	9/89, 9/90, 9/91	Outside consultant
Financial Review	4 PM	1/90, 7/90, 1/91, 7/91	Title XII
MIS Assistance	13 PM	(refer to implementation plan)	CHEMONICS/Title XII
Virologist	3 PM	"	" "
Immunologist	2 PM	"	" "
Epidemiologist	1 PM	"	" "
Clinical Pathologist	1 PM	"	" "

The Director of Operations and Pathologist positions will continue to be funded under the USDA/PASA until September 30, 1989. The Director of Finance, Mechanic and up to 10 Person months of short-term assistance for the CVL and MIS, will continue to be funded under the CHEMONICS contract until September 30, 1989. Beyond that date all technical assistance will be funded under the agreed upon contacting mode, except for annual financial audits in 1989, 1990 and 199 , which will be performed by outside consultants.

2.3.1 Technical Assistance Strategy

This strategy is based upon the proposed use of a Title XII university to provide at least the required short-term technical assitance during the extension phase and would require alteration if agreement is not reached on this matter with the MEE. During the extension phase of the project, the short term technical assistance and overseas training program have been designed so as to provide an integrated human resource development program. The identification of both technical assistance and training needs has been done based on the technical needs of project activities with a view towards establishing long-term institutional linkages between project supported Malian service divisions within the Ministry of Environment and Livestock and a cooperating U.S university.

Accordingly, where technical assistance needs have been identified, the project has also attempted, within priority budgetary limitations, to program short term overseas training for Malian technical staff to capitalize on the scheduled, repeated visits of short term technical assistance. Where possible, programming has attempted to provide an initial in-country visit of a technical assistant team member to work with Malian staff to assess on-the-ground technical needs, followed by a short term training program for the principal Malian technical staff member. Following the return of the Malian staff member, the same technical assistant will make a second visit to Mali. This second visit will provide both the Malian technical staff and their institution, and technical assistants and their U.S university an opportunity to critically assess program achievements, resolve unforseen technical problems, and refine technical programs to better meet the needs of the Malian institution.

Such a technical assistance/training program will; (1) make more efficient use of technical assistant's time; (2) better focus training on specific, well defined technical areas directly related to project programs; (3) strengthen the technical capacity of Malian institution; (4) strengthen the U.S university's capability to better respond to

Malian, and in general, LDC needs in the area of animal health and production; (5) provide an opportunity for Malian technical staff to undertake training, meet faculty, and discuss technical needs with the cooperating U.S university; and (6) serve as a basis on which Malian institution and the cooperating U.S university can continue to identify and to build long-term technical linkages. It is unlikely, however, that a single U.S university will be able to effectively address all project needs. In such cases the project will look to the cooperating U.S university to identify other U.S institutions than can best respond to project needs. (Refer to section X, 2. Revised Implementation Plan.)

2.3.2. Position descriptions

Technical assistance position descriptions for personnel under the USDA/PASA and CHEMONICS contracts remain the same as described in the Project Paper. This section describes technical assistance positions proposed under the approved contracting mode from October 1, 1989 through September 30,1991.

a. Director of Operations

In collaboration with project volets, the Director of Operations will ensure: the effective coordination, monitoring, and evaluation of project supported programs; the continued improvement in project program planning procedures; the coordination of the project's training program; the coordination of the project's reporting program, and the timely distribution of quarterly project reports; the coordination and supervision of document preparation for annual JMC meetings; effective liaison between MEE and USAID/Mali; and effective project liaison and coordination with ILCA, other donor projects and NGOs, who are undertaking complementary livestock development activities in Mali.

The Director of Operations will also provide input as requested to MEE and AID on livestock sector issues; and coordinate the design and implementation of project-supported studies. In close collaboration

with the MIS technical assistant, he will ensure effective implementation of a Management Information System for projet volets and the Ministry. He will manage and ensure effective operation of the Management Development Support Team (MDST) for all project supported activities.

As Chief-of-Party, the Director of Operations will manage all technical assistance input, and coordinate in-country support for technical assistants. He will also liaise with his Title XII university to ensure the efficient procurement of services of short-term technical assistance, coordinate design efforts for the follow-on project, and other institutional development activities between the cooperating university and project service divisions.

Qualifications:

D.V.M., and a graduate degree in animal health or animal production discipline, and developing country experience in management/institutional development. An ability to effectively communicate on a professional level in French, (at least FSI S-3+, R-3+) and to effectively collaborate and work with developing country institutions is required. At least 10 years of professional involvement in developing countries, preferably in Africa. Experience in Francophone Africa is highly desirable. Overseas professional experience should include senior administrative responsibility for the development and implementation of animal health field programs, the management and coordination of animal health and animal production research programs, and the management of USAID development projects. A familiarity with USAID developments projects. A familiarity with USAID regulations and procedures is also desirable.

b. Virologist (3 person months)

Primary responsibilities will include two visits to Mali during FY 90 and 91 to assist the Central Veterinary Laboratory in establishing a functional diagnostic virology unit. The short term consultant will

work with Malian scientists to strengthen their technical capacity in standard cell culture and viral isolation techniques and provide guidance on the feasibility of adopting new/improved diagnostic procedures appropriate to Malian conditions and needs. Establishing long-term relations with appropriate U.S. veterinary diagnostic and research institutions will be an ancillary aspect of the consultant's long-term program planning efforts with the Central Veterinary Laboratory. In addition, the consultant will be expected to provide input on general management aspects of a diagnostic virology unit, specifically regarding the cost efficient use of reagents, maintenance of equipment, organization of analytic procedures, and effective interpretation and reporting of results.

Qualifications:

D.V.M., graduate degree in virology or formal post-graduate training in virology and extensive experience in diagnostic virology. Practical experience in the management of a diagnostic laboratory and overseas experience, specifically in veterinary diagnostics and a knowledge of exotic animal diseases is desirable. Since a basic aspect of the consultant's job will be to train Malian technical staff, university teaching experience is also desirable. Ability to communicate in French is desirable but not required.

c. Immunologist (2 person months):

Primary responsibilities will include two visits to Mali in FY 90 and 91 to assist the Central Veterinary Laboratory in developing improved diagnostic techniques for economically important diseases in Mali. The short-term consultant will work with Malian scientists to assess the diagnostic needs of the CVL and develop cost-effective techniques for the production of diagnostic reagents and for diagnostic protocols.

Establishing long-term relations with appropriate U.S. veterinary diagnostic and research institutions will be an ancillary aspect of the consultant's long-term program planning efforts with the Central Veterinary Laboratory.

Qualifications:

D.V.M., graduate degree in immunology or immuno-pathology, and extensive experience in immunological techniques for the production of diagnostic reagents and the design of new diagnostic protocols. Developing country exper ence and familiarity with exotic animal diseases desirable. Ability to assess efficient and practical diagnostic methodologies for developing country situations is highly desirable. Since training will be an integral and important aspect of the consultant's duties, and developing long term institutional linkages between the Central Veterinary Laboratory and U.S. veterinary institutions, a university affiliation and teaching experience is highly desirable. Ability to communicate in French is desirable but not required.

d. Epidemiologist (1 person month):

Primary responsibility will be to assist both the Central Veterinary Laboratory and the National Direction of Livestock (DNE) to develop effective protocols for assessing the impact of animal health service programs in the project zone, and establishing more cost effective animal health program objectives. Additional responsibilities include: developing sound and relevant protocols for assessing the field data resulting from diagnostic network activities; in analyzing and interpreting such data for use in establishing research program objectives; and an accurate evaluation of field animal health conditions. Such activities will be closely integrated with the development of the management information system and provide a sound statistical basis on which data will be developed, analyzed, and reported.

Qualifications:

Graduate degree in epidemiology (M.S. or Ph.D.) with extensive practical experience in developing statistical protocols for animal health research programs and for assessing animal health field programs Experience in developing information systems for monitoring and evaluating disease incidence, assessing the economic importance of disease, and in developing cost effective animal health control programs would be desirable. Establishing linkages with U.S. veterinary institutions and developing an animal health disease reporting network is a long term objective of the consultants efforts. Accordingly, the consultant should have permanent institutional affiliations and experience in networking. Ability to communicate in French is required at the FSI S-3, R-3 level.

e. Clinical Pathology (1 person month):

Primary responsibility will be to assist the Central Veterinary Laboratory to develop the necessary technical capacity in clinical pathology to support its diagnostic program. The specialist will be expected to design and implement diagnostic procedures which will respond to basic analytic needs as identified by the Central Veterinary Laboratory, specifically in the areas of hematology, clinical chemistry, cellular morphology, and anayses for the diagnosis of nutritional deficiencies. The specialist will also be expected to provide input for the continued development of the diagnostic network and provide advice on new/improved methods for specimen preservation and transport. Ability to communicate in French is desirable but not required.

Qualifications:

D.V.M. or degree in clinical pathology discipline; extensive experience in working in a diagnostic laboratory, establishing protocols and diagnostic procedures. Overseas experience is not mandatory, though a knowledge of exotic animal diseases is desirable. Experience in developing and implementing field diagnostic programs and establishing effective networks between field clinicians/producers and a diagnostic

laboratory are viewed as necessary for this position. Establishing long term institutional linkages with U.S. veterinary diagnostic institutions (veterinary faculties) will be one of the long term program planning objectives for the consultant. Ability to communicate in French is desirable but not required.

f. Management Information Systems Specialist (7 person months):

The primary responsibility for the MIS specialist will be to provide periodic input to th project during FY 90-91 for the continued development and implementation of a Management Information System. The consultant, according to the objectives of each project service division, will assist the project to refine a management information system which will permit each project supported service division in the Ministry of Environment and Livestock to more effectively manage its resources and assess the impact and cost effectiveness of their programs. MIS program development has emphasized the need to integrate financial management concepts with technical program implementation. To date, the project has focused on animal health, both field service development and diagnostic technical support, as well as on applied animal health and animal nutrition research. At the technical level the objective of these efforts is to improve the capacity of service divisions to assess the effectiveness of their programs; at the political, decision-making level the objective is to provide information to enable a clearer assessment by the Ministry of its investments in the livestock sector and to identify alternative, more cost-effective investment opportunities.

Accordingly the specialist must be able to work at a practical level with field staff, technical administrators, and senior level managers. The specialist will also provide input, as requested by the Ministry, in the areas of strategic planning, resource evaluation, and general program coordination and monitoring.

The specialist will be required to continue MIS development activities which have already begun and to further refine initial design plans to better meet the needs of the Ministry. Accordingly, the specialist must be prepared to work in close collaboration with project and Ministerial staff to strengthen the existing program.

Qualifications:

M.A., M.B.A. or formal graduate training in management/institutional development. At least 5 years experience in workin with public and private sector institutions to design and implement management information systems is required. Overseas experience, particularly in Francophone Africa, is highly desirable. Though experience with the development of institutional computerized information systems is one element in the project's MIS program, the specialist should be an institutional systems analyst with experience in evaluating, conceptualizing and designing administrative-management infrastructures to meet specific institutional (ministerial) objectives. The specialist must be able to effectively communicate in French with senior level managers, administrators, and technicians (FSI S-3+, R-3+ French capability required).

g. Financial Analyst (4 person months):

The short term financial analyst will have two primary responsibilities; (1) to conduct a complete internal financial audit of the project every six months during FY 90-91; and (2) assist the project's financial division to improve its financial management system as an integral aspect of the Management Information System program.

The purpose of the internal audits will be to ensure that the project is fully complying with USAID financial regulations and to assess and strengthen the project's internal control procedures. These internal audits will be supplemented by annual external audits. Improving the project's financial management system will involve training activities for project staff which will be developed in close collaboration with the Director of Operations and the MIS specialist. The purpose of this

training will be to strengthen the capacity of project staff to fully integrate all financial planning and monitoring activities with project program implementation and evaluation.

Qualifications:

B.A. (accounting, business administration) and extensive experience in accounting, auditing, and familiarity with USAID accounting policies and regulations is required. Previous overseas experience with USAID development projects in the areas of accounting, internal ontrol, and procurement and experience with computerized, cost accounting and financial management software systems is desirable. Ability to communicate on a professional level in French is required to an FSI S-3, R-3 level.

3. Project Support Unit

In the past, USAID/Mali covered the costs of administrative support to project implementation from the Operating Expense budget. These costs included such things as Foreign Service National Assistant Project Officers, secretarial support, reproduction services, transportation, translation, commodity procurement, and financial management. Due to the budget cuts experienced by the Mission, this necessary and required project implementation support can no longer be financed under Operating Expenses. This Project Paper Supplement, therefore, includes funding which will cover these implementation support costs.

Direct support to project implementation provided by USAID/Mali will be financed from the budget line item "AID Project Support" in the amount of $250,000 during the project's extension phase. These funds will cover costs associated with, but not limited to, salary and benefits for an Assistant Project Officer to be housed at USAID/Mali, his office space, secretarial support, transportation and per diem for official project business, and other necessary administrative support costs.

4. Commodity Procurement

MDST has the continuing responsibility to prepare annual procurement plans to be reviewed and approved by the JMC. For major international procurement, MDST will contract for the services of a qualified Procurement Services Agent (PSA). All local procurements will be carried out by MDST in accordance with AID commodity eligibility and commodity procurement requirements. The MDST will also monitor procurement by the PSA to ensure timely delivery of commodities. (Refer to procurement implementation schedule in Section X, 2.)

4.1 Waiver status

The Project Authorization included the following three waivers for commodity procurement.

- A source/origin waiver from Geographic Code 000 to Geographic Code 935 for procurement of motor vehicles in a approximate amount of $900,000;

- A source/origin waiver from Geographic Code 941 to Geographic Code 935 for the procurement of commodities in an approximate amount of $710,000;

- A source/origin waiver to permit the $250,000 ceiling in shelf-item procurement set forth in Handbook 1, Supplement B, para. 18A4b, to be increased to approximately $350,000;

4.1.1. Vehicle waiver

To date, $565,000 has been expended under the authorized waiver amount of $900,000. During the project extension phase it is planned to procure 7 new 4 wheel drive vehicles at an approximate cost of $175,000, and vehicle spare parts at an approximate value of $108,600. Total expected expenditures under this waiver by the end of the extension phase are projected at $848,600.

4.1.2. Geographic Code 935 waiver

To date, $317,000 has been expended under the authorized waiver amount of $710,000. During the project extension phase it is planned to procure research equipment, veterinary supplies, cold chain equipment and diagnostic equipment at an approximately cost of $108,000. Total expected expenditures under this waiver by the end of the extension phase are projected at $425,000.

4.1.3 Shelf Item Waiver

To date, $180,000 has been expended under the waiver amount of 350,000. During the projected extension phase it is planned to procure garage equipment, communications equipment, diagnostic equipment and veterinary supplies, at an approximate cost of $78,500. Total expected expenditures under this waiver by the end of the extension phase are projected at $258,500.

4.2. Payments

All payments under this project during the extension phase will continue to be made in accordance with USAID/Mali payment procedures.

4.3. Delivery

All project commodities imported into Mali will be shipped CIF Bamako. Suppliers will provide all-risk marine insurance in the amount of 120% of the CIF cost of the commodities and similar insurance for inland freight. AID's marking requirements for overseas shipments will be observed by suppliers of commodities.

4.4. Receipt, Utilization and Disposal

The GRM is responsible for the proper reception and clearances of incoming project commodities. Inspections of incoming shipments must be made, and receiving documents shall be annotated with comments on evident damages/losses. The GRM will file claims when necessary.

The GRM project agencies are required to put into project use all commodities procured for the project within one year of receipt. USAID/Mali will inspect the GRM's utilization reports as a matter of course, and will periodically conduct end-use surveys and inventories of project commodities. Disposal of project commodities will follow local practices wherever practical, but USAID/Mali's prior approval is required.

VIII. Training Plan

1. Long-term Participant Training

The project's U.S. long-term participant program has trained 16 participants to date. Five more U.S. long-term participant are continuing their training and there are two other long-term participants being trained in France. All long-term participant training is expected to be completed by September 30, 1989, and no further long-term training is programmed for the extension phase.

2. Short Term Training Program Description

To date the project has provided short-term training in the U.S. and Third Countries to 39 persons. During the project extension phase the following short-term training is planned:

a. Diagnostic Immunology (1 person month, CVL):

The purpose of this one month training program will be to provide a Malian technical staff member from the Central Veterinary Laboratory with a opportunity to perfect specific immunologic diagnostic techniques and resolve technical problems relating to technical activities which began during the visit of the short-term immunology technical assistant. In addition, the Malian technical staff member will have an opportunity to learn how a U.S. university diagnostic laboratory effectively uses these techniques in order to develop a cost-effective management protocol for the Central Veterinary Laboratory.

b. Clinical Pathology (3 person months, CVL):

The purpose of this three month training program will be to train a Malian technical staff member from the Central Veterinary Laboratory in various aspects of basic clinical pathology to support the CVL's diagnostic program, specifically in the areas of hematology, basic clinical chemistry, and cell morphology. Training in clinical chemistry will emphasize blood analyses for the common major minerals. Following completion of this training program, the Malian technical staff member will return to Mali with a U.S. clinical pathology technical assistant to setup and perfect the clinical pathology unit at the Central Veterinary Laboratory.

c. Epidemiology (2 person months each DNE & CVL) and Animal Health Program Planning (3 person months, DNE):

The purpose of this two month training program in epidemiology will be to train a Malian technical staff member from both the Central Veterinary Laboratory and the National Direction of Livestock (DNE) in the basic principles of epidemiology with the objective of providing a solid statistical basis on which to assess animal health field data and to design animal health research proposals. It is anticipated the 3 month Animal Health Program Planning program will train one senior field staff member at DNE. This program will include the same basic training in epidemiology, followed by training in management techniques specifically related to the organization, analysis, and reporting of field animal health data. Following the return of these three project staff members to Mali, a short term technical assistant in epidemiology will make a visit to Mali to assess program development and work with project staff to resolve technical problems.

d. Animal Nutrition/Forage Production (2 person months, INRZFH):

The purpose of this training is to provide a senior researcher in the project's applied research program with a solid basis on which to design forage production/animal nutrition trials. Training will involve basic concepts in experimental design, preparation of research methodologies, implementation of research protocols, and analysis of research results. Design emphasis will be placed on animal nutrition trials under controlled and non-controlled conditions and interpretation of results.

e. Animal Production Extension (2 person months, DNE)

The purpose of this training is to provide a senior field staff member of DNE working in project regions with practical concepts and experience in developing an extension program for extensive livestock production systems. Conceptual focus should be placed on developing an extension program which integrates both animal health and husbandry aspects of livestock producion, and on emphasizing the importance of new/improved animal management practices (especially nutrition) in maintaining good animal health.

f. Administration/Management

The objective of this training program is to provide the Director of Administration of MDST with an intensive training program in the following areas: English language training; management training in program planning, monitoring, and evaluation; integrated financial and program management systems; and basic training in USAID procurement and financial procedures. The purpose of this training program is to increase the technical capacity of the Malian Director of Administrator to assume a greater role in the management of Livestock Sector Project activities. A U.S institution with experience in management training for African francophone countries and in USAID project administrative regulations and procedures will be selected to implement this training program.

g. Financial Management

The objective of this training program is to provide the project's accountant and counterpart to the Director of Finance, with intensive training in the following areas; cost accounting systems, financial forecasting, planning, and analysis; institutional financial management and program planning; and the use of current computer software packages. Training will be oriented to both the public and private sectors and will be undertaken in France. The objective of this training program will be to increase the capacity of the project's accountant to assume greater responsibility for the duties and responsibilities of the Director of Finance.

3. In-country Training Program Description

The objective of the project's in-country training program is to reinforce the capacity of Ministerial staff at all levels to more effectively address the technical and managerial needs of project programs. Emphasis will be placed on those practical field needs for implementing and sustaining project activities. Specifically, training will be continued in the areas of: (1) maintenance - vehicles, communication equipment, cold chain equipment, and computer equipment; (2) field extension programs focusing on animal health and production; (3) field animal health diagnostic procedures and networking; (4) research management and extension; (5) documentation networking; (6) computer techniques; (7) management information systems concepts, design, and implementation; and (8) program design, monitoring, and evaluation.

3.1. Proposed Seminars:

a. Documentation Networking: Continuing activities begun in 1987, several seminars are planned for FY 89 - FY 91. The objective of these seminars is to increase the technical capacity of Ministerial staff in coding and cataloging documents and to ensure the establishment of a Ministerial-wide documentation system which is compatible with the CILSS RESADOX documentation system.

b. Continuing Training in Animal Health: Seminars and workshops will continue for DNE and CVL staff in field diagnostic techniques, preparation and transport of field samples, and in new and/or improved therapeutic techniques for important animal diseases. Workshops will also address extension issues relating to the effective and economical use of animal medications.

c. Management Training: The elaboration of an MIS program for the Ministry will require a continuous training effort. Training will be done in formal and in-formal seminars and by daily on-the-job experience. Emphasis will be placed on assessing program priorities, design, implementation, monitoring, evaluation, and resource allocation. Effective monitoring, evaluation, and analysis procedures are viewed as the basis for effective and efficient program reporting, and therefore the basis of a management information system. Information networking within the Ministry and among other national services will be addressed.

d. Computer Training: The program will begin with instruction in basic care and maintenance of equipment, as well as an introduction to operating systems, word processing, use of data bases, and spreadsheets. Following this introduction, course content will be determined by the individual needs of project service divisions and on needs determined by the implementation of the management information system.

e. Research/Extension: The objective of these seminars focusing on animal health and production research, and extension programs being undertaken by CVL and INRZFH, will be to improve the communication and provide a forum for discussion among researchers and field staff.

f. Vehicle, Communication and Cold Chain Maintenance: These maintenance programs will be a continuation of present training activities. The objective is to provide a field capability for maintaining and undertakin simple repairs for vehicle, radios, and cold chain equipment. This program is considered a key element in the project's development activities to improve infrastructures for the effective delivery of animal health and production field services.

IX. Economic Analysis

The following economic analysis, performed by the USAID Program Economist, updates and amends the economic analysis done for the original Project Paper. In February and March 1988, USAID funded an economic analysis of Mali's livestock sector which provided useful information, data and analyses for the preparation of the project economic analysis. (Refer to Annex 8 for supplementary documentation to the economic analysis.)

1. Economic Analysis - Summary of Findings

In order to test the economic viability of the entire investment in the Mali Livestock Sector II Project, the economic analysis from the Project Paper has been updated using (1) actual cost on USAID inputs from 1982 to 1987, (2) project staff cost estimates for 1988, and (3) projections of new investment by USAID for 1989 - 1991. The implied government contribution (this may also be viewed as the sum of the government contribution and herd owner and farmer cost outlays) component by component has been derived by subtracting the Project Paper's projections of USAID outlays (in constant price terms) from the total cost streams in the Project Paper's economic analysis tables. In absence of information to the contrary, it is assumed in the current analysis that the government's contribution in actuality has been and will continue to be as projected in constant dollar terms. As was done in the original Project Paper, benefit and cost streams in constant price dollars were discounted at 12 percent and benefit/ cost ratios were calculated. However, the current analysis includes a wider range of benefits for some components than did the original Project Paper, and includes a test for sensitivity to drought conditions of benefits from health research. The results are as follows:

For the project as a whole (all components combined) benefit/ cost ratios under various assumptions about the value of benefits range from .46 to 1.48, assuming a major drought in the 1990s, and from .49 to 1.59 without a drought.

If mortality reductions are valued only in terms of the average sales value of animals when sold for slaughter, the benefit/cost ratio using a 12 percent discount rate is in every case less than one, indicating that the project is economically unviable. When the methodology recommended by a consultant, Edgar Ariza Nino, earlier this year, is used, which values milk and calf production by females in addition to meat offtake, the benefit/cost ratios are well above one. Since the Ariza Nino method explicitly incorporates important benefits which the original Project Paper methodology effectively ignores, the results from the former method should be preferred to those using the Project Paper methodology.

These findings are sensitive, of course, to expectations regarding the magnitude of the mortality rate reductions which can realistically be expected to result from project activities. Project management should consider how likely it considers the projected mortality rate reductions (3% nationally and 5% in Regions I and II phased in over a number of years) to be. Actually, as a combined result of animal health service component interventions and animal health research component, the mortality rate in Region II and the part of Region I affected by the project's health service component is expected to decline by 8%, i.e., from about 16% to 8% over a fairly long period of time.

Component by component, the findings are as follows:

1.1 Embouche Paysanne

The embouche paysanne component is definitely economically unviable if the best throughput that could be expected, in absence of further USAID investments, was 3500 head a year. The benefit cost ratio at 12% is 0.75, and the rate of return on the total investment is only 2%.

1.2 Animal Health services

The health services component is economically viable if mortality reductions are valued using the Ariza Nino methodology (B/C ratio of 3.02) or if abattoir sale value only is considered and this net of costs is estimated to be $152 in 1982 dollars (B/C ratio is 1.21). For the lower valuation of animals used in the Project Paper, the B/C ratio is 0.69. It was conservatively assumed that mortality rate reductions begin only in 1990 and gradually rise to 5 percent over the 5 year period 1990 - 1995. By 1992 the numbers of disease-caused animal deaths averted in Regions I and II are projected to be: 4500 cattle and 10,000 small ruminants per year.

1.3 Animal Health Research

The health research component is economically viable if mortality rate reductions are valued using the Ariza Nino methodology (B/C ratio ranges from 2.16 to 2.54) but not according to the valuation methodology of the Project Paper (B/C ratio ranges under various assumptions from 0.38 to 0.83). Here it is assumed that nation wide mortality rate reductions begin only in 1991, and grow very gradually beyond the end of the project horizon in the year 2002. The results are not very sensitive to whether or not there is assumed to be a severe drought in the 1990s. By 1991, the numbers of animals saved nation-wide from disease-caused death by the output of this project component are projected to be: 1380 cattle and 4130 small ruminants. This analysis does not take into account cost reductions for owners from the development, by the health research component activity, of more cost-effective treatment protocols for cattle and small ruminants.

1.4 Animal Production Research

The production research component is economically viable using a 12% discount rate. The benefit/cost ratio is 1.14.

2. Assumptions

2.1 Benefit streams have been adjusted to take account of actual data on returns for the embouche paysanne component, and for delays in project implementation for other components (i.e., slow start in production research as measured by timing of USAID input outlays and delay in putting a diagnostics network into operation).

2.2 For the animal health services and research components, and for the animal production research component, evidence on benefits to date in terms of mortality reductions and increases in on-farm high protein forage production is inconclusive. There is no solid evidence of many benefits having materialized. For this reason, and because of delays in project implementation, it was assumed while the benefits may be of the magnitudes originally projected, they will come onstream later than foreseen - starting three to five years later than originally projected. The year 2002 has been retained as the cutoff year for purposes of the analysis. Thus, the benefit streams, in general, are presented as being delayed in time and shortened as well. Herd numbers are projected on the assumption that mortality reductions are reflected entirely in increased offtake rather than accelerated herd growth; strictly speaking this is somewhat at variance with the Ariza Nino approach under which it seems there would be both a growth in herd numbers relative to a no-interventions path and increased offtake (larger number of animals marketed).

2.3 The analysis could be adjusted to take account of benefits which have been neglected in the current presentation. For example, conversations which project personnel indicate that substantial reductions in small ruminant mortality have presumably begun to be achieved already, since a largescale systematic campaign of vaccination against pasteurellosis began for the first time in 1986, as part of the project's activity. In that year approximatlely 160,000 animals were vaccinated in Regions I and II, presumably mostly in the younger age groups with the highest mortality (about 20%). With pasteurellosis

"implicated" in about half the small ruminant deaths, the vaccination of 160,000 animals would have averted about 16,000 disease caused deaths (about 2600 "bovine cattle equivalents") in Regions I and II in 1986, (0.50 x 0.20 x 160,000), and possibly more, if vaccinating large numbers of animals provides some protection for non-vaccinated animals by lessening the likelihood of outbreaks occurring and spreading.

2.4 Project staff explain that whereas projected reductions in cattle mortality are expected to be critically dependent on the functioning of the diagnostic network which has yet to be put into place and which should be implemented in 1989, this is not the case for small ruminants. The project's strategy for reducing small ruminant mortality is to expand vaccination coverage against such diseases as pasteurellosis, since vaccination coverage for small ruminants has been low relative to coverage for cattle, according to project staff. The diagnostic system once put into operation is expected to be utilized mainly by the owners of the cattle.

2.5 Project staff expect that a major output of the health research component will be identification and extension of a range of more cost-effective "treatment protocols" - e.g., identification of the most cost effective products for control of parasites, etc. - which would lower owners' treatment costs and enable more owners to be able to afford to treat their animals against economically important diseases which do not necessarily contribute to mortality directly, but do reduce herd productivity. The original economic analysis of the Project Paper did not incorporate this explicitly as a benefit, and indeed did not identify explicitly costs borne by owners for providing medical treatments to their animals, but focused only on anticipated nationwide mortality reductions from development of new vaccines and medicines for economically important diseases.

2.6 Ideally the economic analysis would have tried to estimate owners' costs of treatments and the scope for potential cost reductions through cost-effective treatment protocol research, but there was not sufficient time or data available.

3. Economic Analysis Tables and Annex

The following tables and annex are attached:

Table I. Benefit/Costs Summary

Table II. Animal Health Services Component

Table III. Animal Helath Research Component

Table IV. Animal Production Research Component

Table V. Total Expenditures, Component by Component

Annex Valuation of Benefits for Animal Health Services and Research Components

TABLE I

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- ALL COMPONENTS, INCLUDING MANAGEMENT DEVELOPMENT SUPPORT -- BENEFITS/COSTS SUMMARY

Best Available Document

1e2lilk

Actual costs, 1983 - 1988, new costs projections, 1989 onwards, revised benefits projections

Discount rate:

12.0%

Benefits and costs in 1000 $ of constant purchasing power (1982 dollars)

Year	1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
Costs (actual through 1991)																				
Health Services component	213	552	1009	672	525	556	492	324	295	270	347	573	320	100	100	100	100	100	101	100
Health & growth component	210	745	1575	1453	1222	1741	502	452	546	105	105	105	105	105	105	105	105	105	105	105
Production Research component	153	499	445	344	499	513	354	299	245	125	125	125	125	125	125	125	125	125	125	125
Management support	225	947	1024	947	1031	1179	997	474	514	---	---	---	---	---	---	---	---	---	---	---
Total costs	902	2304	3157	2517	3323	2999	2445	1553	1401	500	577	573	550	330	335	337	336	336	339	330
Farmer participation																				
Male farmers	245	512	442	119	124	165	238	238	237	237	237	237	237	237	237	237	237	237	237	237
actual, 3570 head/yr '87-	245	512	442	119	134	155	151	161	151	151	161	151	151	151	151	151	151	151	151	151
actual, 0 head/yr '87-	245	512	442	119	124	6	0	6	0	0	0		0	0	0	0	0	0	0	0
Total benefits																				
as in PP	1049	3316	4029	3475	3517	4155	2472	1339	1329	937	814	797	797	567	567	567	567	567	567	567
revised	1049	3316	4029	3475	3517	4155	2596	1724	1762	751	738	721	721	491	491	491	491	491	491	491
revised II	1049	3216	4039	3475	3617	3969	2435	1561	1501	650	577	573	550	330	335	337	336	336	339	330
Returns																				
Health services component																				
low estimate	0	0	0	0	0	0	0	169	342	543	745	945	1001	1037	1073	1119	1149	1189	1231	1274
medium estimate	0	0	0	0	0	0	0	225	451	945	1309	1653	1753	1819	1877	1949	2012	2082	2154	2230
high estimate (912% orig)	not available year by year.																			
Health & growth component																				
In "without development" case																				
low estimate	0	0	0	0	0	0	0	0	189	195	259	475	710	954	1239	1519	1857	2219	2577	2980
medium estimate	0	0	0	0	0	0	0	0	315	324	453	831	1242	1587	2169	2698	3350	3956	4510	5215
high estimate (912% only	not available year by year.																			
In "with development" case																				
low estimate	0	0	0	0	0	0	0	0	189	195	259	475	710	867	915	1130	1365	1621	1895	2193
medium estimate	0	0	0	0	0	0	0	0	315	324	453	831	1242	1545	1601	1977	2391	2834	3318	3837
high estimate (912% orig)	not available year by year.																			
Production Research component	----	----	----	----	9	18	36	72	144	288	432	720	1080	1440	1800	1800	1800	1800	1800	1800
Returns Subtotal (1000$)																				
In "without development" case																				
low estimate	0	0	0	0	0	18	36	241	675	1014	1433	2163	3391	3449	4113	4445	4907	5193	5606	6054
medium estimate	0	0	0	0	0	18	36	367	1170	1563	2194	3245	4075	4941	5545	6427	7101	7928	8454	9244
high estimate (912% orig	not available year by year.																			
In "with development" case																				
low estimate	0	0	0	0	0	18	36	241	513	1015	1435	2110	2791	3360	3787	4440	4315	4614	4927	5267
medium estimate	0	0	0	0	0	18	36	367	1070	1565	2194	3245	4075	4795	5275	5920	6201	6716	7273	7855
high estimate (912% orig)	not available year by year																			
NPV:																				
Net with Research returns																				

TABLE I

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- ALL COMPONENTS, INCLUDING MANAGEMENT DEVELOPMENT SUPPORT -- BENEFITS/COSTS SUMMARY

Best Available Document

1e2b11b

Actual costs, 1983 - 1988, new costs projections, 1989 onwards, revised benefits projections

Discount rate:

12.0%

Benefits and costs in 1000 $ of constant purchasing power (1982 dollars)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1982	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
[illegible]	174	202	274	249	419	419	419	419	419	419	419	419	419	419	419	419	419	419	419	419
[illegible]	119	134	219	261	249	244	244	244	244	244	244	244	244	244	244	244	244	244	244	244
[illegible]	119	134	219	261	249	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
[illegible]																				
[illegible]																				
TOTAL :	174	203	274	249	427	427	454	653	1031	1455	1757	2541	[illegible]	3359	4029	4944	5224	5411	[illegible]	[illegible]
TOTAL :	174	203	274	249	427	435	454	735	1499	1937	2412	3153	4162	5359	6259	6443	7,473	8,105	8,845	9,651
TOTAL ...	not available year by year.																			
TOTAL :	174	203	274	249	427	435	454	735	1031	1455	1757	2541	[illegible]	3374	4105	4459	4732	[illegible]	[illegible]	[illegible]
TOTAL :	174	203	274	249	427	435	454	735	1499	1983	2512	3153	4197	5227	5954	6144	6,[illegible]	[illegible]	[illegible]	[illegible]
TOTAL ...	not available year by year.																			
[illegible]																				
TOTAL :	119	134	219	261	258	252	250	455	917	1262	1531	2117	2525	3524	4354	4643	5050	5457	5861	6233
TOTAL :	119	134	219	261	258	252	250	511	1314	1903	2439	3193	4113	5135	6059	6475	7,245	7,[illegible]	8,259	8,[illegible]
TOTAL ...	not available year by year.																			
TOTAL :	119	134	219	261	258	252	250	455	917	1262	1531	2107	2855	3614	4021	4234	4593	4597	[illegible]	[illegible]
TOTAL :	119	134	219	261	258	252	250	511	1314	1903	2439	3193	4313	5047	5522	5464	6445	[illegible]	[illegible]	[illegible]
TOTAL ...	not available year by year.																			
[illegible]																				
TOTAL :	119	134	219	261	259	19	0	241	572	1019	1433	2163	2721	3523	4332	4445	[illegible]	[illegible]	[illegible]	[illegible]
TOTAL :	[illegible]	134	219	261	259	19	[illegible]	367	1070	1565	2194	3245	4075	4763	5329	5,[illegible]	7,[illegible]	7,[illegible]	8,[illegible]	8,[illegible]
TOTAL ...	not available year by year.																			
TOTAL :	119	134	219	261	259	19	36	241	572	1019	1433	2163	2721	3563	4327	4040	[illegible]	[illegible]	[illegible]	[illegible]
TOTAL :	119	134	219	261	259	19	36	367	1070	1565	2194	3245	4075	4763	5329	5,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TOTAL ...	not available year by year.																			

Costs and Returns Discounted at ...

12.0% 6.0% Stream of discounted costs:

TOTAL COSTS

actual :	19,202	21,174	395	1643	2375	2208	2052	2165	1359	734	652	259	234	205	[illegible]	116	104	91	73	74	59	73
actual :	19,242	21,114	395	1643	2375	2209	2052	2195	1174	595	635	245	212	185	165	109	95	63	73	72	57	73
actual :	19,202	21,174	395	1643	2375	2208	2052	2321	11[illegible]	511	577	137	166	144	125	73	63	54	49	6	[illegible]	14

* correct that costs for extension payments are as it if from 1989 onwards

TOTAL RETURNS

with extension payments costs and returns

[illegible]

Total Returns Discounted at

12.0% 6.0% Stream of discounted returns:

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	221	247	221	205	259	393	442	[illegible]	442	[illegible]	799	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE I

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- ALL COMPONENTS, INCLUDING
MANAGEMENT DEVELOPMENT SUPPORT -- BENEFITS/COSTS SUMMARY

le2k11k

Actual costs, 1983 - 1988, new costs projections, 1989 onwards, revised benefits projections

Discount rate:

12.0%

Benefits and costs in 1990 I.D. constant purchasing power (1992 dollars)

Year			1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
[illegible]	[illegible]	[illegible]	155	167	189	222	242	221	205	217	537	639	751	940	1030	1095	1144	1117	1024	1061	1024	1102
[illegible]	[illegible]		not available																			
[illegible]	[illegible]	[illegible]	155	167	189	222	242	221	205	259	222	452	534	662	735	773	799	827	754	454	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	155	167	189	222	242	221	205	217	537	639	751	940	1029	1063	1024	1061	944	522	551	476
[illegible]			not available																			

[illegible] ...

[illegible]

[illegible] discounted at: Stream of discounted returns

[illegible]	[illegible]																					
[illegible]	[illegible]	[illegible]	154	167	154	166	146	133	117	136	331	393	494	616	621	754	746	718	704	707	674	652
[illegible]	[illegible]	[illegible]	154	167	154	166	146	133	127	147	474	572	731	935	935	1051	1112	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			not available																			
[illegible]	[illegible]	[illegible]	155	167	155	166	145	133	117	136	331	475	574	615	635	737	737	636	654	[illegible]	594	[illegible]
[illegible]	[illegible]	[illegible]	155	167	154	166	145	133	127	147	474	572	731	935	930	1035	[illegible]	977	[illegible]	[illegible]	977	[illegible]
[illegible]			not available																			

[illegible] ...

[illegible]

[illegible] discounted at: Stream of discounted returns

[illegible]	[illegible]																					
[illegible]	[illegible]	[illegible]	154	167	155	166	146	9	15	47	149	323	454	555	620	704	751	723	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	154	167	154	166	146	9	16	147	326	564	631	833	934	1015	1059	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			not available																			
[illegible]	[illegible]	[illegible]	155	167	154	166	146	9	16	47	149	323	454	555	620	737	752	636	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	154	167	154	166	146	9	16	147	326	564	631	833	934	1035	1059	977	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			not available																			

[illegible]

[illegible] ...

[illegible]

	[illegible] rate
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible] ...

[illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

TABLE I

[illegible] EXTENSION ECONOMIC ANALYSIS -- ALL COMPONENTS, INCLUDING
MANAGEMENT DEVELOPMENT SUPPORT -- BENEFITS/COSTS SUMMARY

[illegible]

[illegible] 1987 - 1995, [illegible] 1989 awards, revised benefits projections

[illegible] rate

[illegible]	Benefits and costs in (00) 1 of constant purchasing power (1982 dollars)																				
[illegible]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	[illegible]
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	[illegible]
[illegible]	[illegible]	[illegible]																			
[illegible]	[illegible]	[illegible]																			
[illegible]	[illegible]	[illegible]																			
[illegible] benefits and costs																					
[illegible]																					
[illegible]	[illegible]	[illegible]																			
[illegible]	[illegible]	[illegible]																			
[illegible]	[illegible]	[illegible]																			
[illegible]	[illegible]	[illegible]																			
[illegible]	[illegible]	[illegible]																			
[illegible]	[illegible]	[illegible]																			

[illegible] 1987/1989

TABLE II

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH SERVICES COMPONENT
ASSUMING COMPONENT ACHIEVES 5.0% REDUCTION IN MORTALITY IN REGIONS I AND II

HEALTH -- cost actuals and new projections of costs and benefits
Discount rate
12.0%

Benefits and costs in 1000 $ of constant purchasing power (1982 dollars)

Year	1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
Costs																				
Stand alone (from PP)	450	905	625	450	400	100	100	20	80	270	247	220	230	--	--	--	--	--	--	--
Incremental costs (from PP)	90	120	125	125	150	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sum of costs (PP)	559	1026	812	575	530	200	200	180	180	370	347	320	330	100	100	100	100	100	100	100
Total costs, actuals thru 1986	113	552	1005	672	535	556	492	364	225	370	347	320	330	100	100	100	100	100	100	100
Project 2.1 incremental costs	1	310	551	449	275	434	370	264	156	---	---	---	---	---	---	---	---	---	---	---
Project 2.1B incremental costs indirect	1	229	723	395	234	255	292	293	115	---	---	---	---	---	---	---	---	---	---	---
Deflator factor	1.000	1.077	1.114	1.157	1.173	1.219	1.269	1.319	1.372											
Costs discounted at 12.00%	101	440	719	427	384	282	223	155	105	113	100	85	76	20	18	16	15	13	12	10
PRESENT VALUE																				
0% COSTS, discounted:	3223					1250														
Total costs, undiscounted:	6655																			
Benefits																				
Herd Growth:																				
Border cattle mortality																				
Number of border cattle in Regions I and II areas remaining project/PMF herdsize (1000 head)	814	879	914	937	969	939	972	1005	1042	1078	1116	1155	1195	1237	1280	1325	1372	1420	1469	1521
Mortality of [illegible] according to [illegible]	[illegible]																			
Baseline Number of border cattle [illegible] Diseases per year in Regions I and II	122	192	214	122	123	132	136	141	145	151	156	162	167	173	179	185	192	199	207	213
Health benefit improvements brought about by health services project management [illegible]	[illegible]																			

Note: Project paper assumed a 30 % mortality rate for the 0 - 2 yrs group and 2% for the older cattle. 30 % is too high and 2 % is too low in normal years.

TABLE II

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH SERVICES COMPONENT
ASSUMING COMPONENT ACHIEVES 5.0% REDUCTION IN MORTALITY IN REGIONS I AND II

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HEALTH -- cost outlays and new projections of costs and benefits

Discount rate
12.0%

Benefits and costs in 1000 $ of constant purchasing power (1982 dollars)

Year	1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
Number of disease-caused death avert'd in [illegible]			0	0	0	0	0	1.4	2.3	4.5	5.2	5.1	5.4	5.7	5.9	5.9	5.6	5.4	[illegible]	[illegible]
% mortality reduction	0	0	0	0	0	0	0	1.0%	1.0%	1.0%	1.0%	1.0%								
Base of [illegible]	914	939	814	877	905	935	972	1005	1042	1078	1116	1155								
Base investment (small ruminant [illegible] costs) [illegible]																				
Number of small ruminants in Regions I and II areas [illegible] project/ENE [illegible] (1000 head)	1351	1475	1531	1305	1973	2042	2113	2187	2264	2343	2425	2510	2599	2693	2723	2820	2951	3055	3195	[illegible]
Feed [illegible]	35	36	38	35																
Services	51	45	51	71																
Costs	41	60	50	150																
Total [illegible]	45	650	155	556																
[illegible]	175	176	191	206	217	325	333	351	353	372	339	492	417	432	443	552	[illegible]	495	[illegible]	[illegible]
Benefit II	1172	1301	1446	1600	1656	1714	1774	1836	1900	1967	2035	2107	2181	2257	2335	2415	2542	2530	2655	2774
Small ruminant [illegible] [illegible] cattle equivalents [illegible] Regions I and II area	202	221	245	253	262	271	281	291	301	311	322	333	345	357	370	382	395	410	424	439
Mortality of [illegible] [illegible] [illegible] group	15.6%																			
[illegible] [illegible]																				

Note: Project paper assumed a 30 % mortality rate for the 0 - 2 yrs group and 2% for the older cattle. 30 % is too high and 2 % is too low in total years.

Benefits water
[illegible]
Number [illegible]
Equivalents [illegible]
[illegible] per year in
Regions I and II 32 35 38 41 42 43 45 46 48 50 52 53 55 57 59 61 62 64 68 70

Health [illegible]
[illegible]

TABLE II

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH SSEVICES COMPONENT
ASSUMING COMPONENT ACHIEVES 5.0% REDUCTION IN MORTALITY IN REGIONS I AND II

[illegible] -- [illegible] actuals and [illegible] projections of costs and benefits

Discount rate
12.0%

Benefits and costs in 1000 $ of constant purchasing power (1982 dollars)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
[illegible] rate [illegible]	5.0%																			
[illegible] cattle equivalent [illegible] [illegible] (000 head)	[illegible]	0.0	[illegible]	0.0	[illegible]	0.0	0.0	0.5	1.0	1.5	2.1	2.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.4	[illegible]
[illegible]																				
Number of [illegible] caused [illegible] of bovine cattle	125	109	114	122	127	131	136	141	146	151	156	162	167	173	178	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] small ruminants	[illegible]	235	251	[illegible]	[illegible]	327	338	350	352	375	[illegible]	402	415	[illegible]	[illegible]	[illegible]	[illegible]	494	[illegible]	[illegible]
[illegible] of bovine cattle and bovine cattle equivalents of small ruminants	[illegible]	144	152	163	[illegible]	175	181	187	194	201	208	215	[illegible]	230	[illegible]	247	255	[illegible]	[illegible]	[illegible]
[illegible] deaths [illegible] [illegible] [illegible] small ruminants (000 head)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	3.3	6.0	8.1	10.3	11.1	11.5	11.9	[illegible]	[illegible]	[illegible]	[illegible]	14.[illegible]
Value of benefits (000 $)																				
1) [illegible] unit value [illegible] $[illegible]	0	0	0	0	0	0	0	153	343	542	743	955	1001	1037	1072	[illegible]	1149	[illegible]	[illegible]	[illegible]
discounted at [illegible] 12.0%	0	0	0	0	0	0	0	68	125	175	215	24[illegible]	[illegible]	212	195	[illegible]	[illegible]	[illegible]	143	[illegible]
2249			2249																	
undiscounted [illegible]			11[illegible]																	
2) [illegible] unit value of $157.[illegible]	0	0	0	0	0	0	0	235	611	948	1209	[illegible]	1753	1814	1977	[illegible]	2011	[illegible]	[illegible]	[illegible]
discounted at [illegible] 12.0%	0	0	0	0	0	0	0	119	220	305	375	[illegible]	[illegible]	371	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]																	
undiscounted: 20721			20721																	

[illegible] 394,000 head [illegible] 1982.

[illegible]

TABLE 11

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH SERVICES COMPONENT
ASSUMING COMPONENT ACHIEVES 5.0% REDUCTION IN MORTALITY IN REGIONS I AND II

[illegible] -- cost actuals and new projections of costs and benefits
Discount rate

12.0% Benefits and costs in 1000 $ of constant purchasing power (1972 dollars)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1972	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	2000	2001	2002
For the [illegible] million [illegible]																				
[illegible]																				
[illegible]																				
[illegible]																				
[illegible] June 29, 1974	[illegible]					[illegible]														
[illegible] ...	0	0	0	0	0	0	0	2,075	2,103	1,945	1,756	1,550								
[illegible]	[illegible]	552	1042	672	[illegible]	594	192	154	355	170	137	35	31	14	50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] 12.0%	[illegible]	492	716	[illegible]	[illegible]	292	221	155	245	112	106	17	14	20	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																				
[illegible]	[illegible]					[illegible]														
	[illegible]					1250														

Benefit/cost ratio estimates:
1) 10% 0.69 at 12.0% rate of discount.
2) Medium 1.11 at 12.0% rate of discount.
3) High -- at least ... 2.02

for 12 % discount rate, program is marginale at [illegible] interest rates is currently not available.

[illegible] 5.0% reduction in livestock mortality rates as result of the component activities.

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TABLE III

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH RESEARCH COMPONENT
ASSUMING COMPONENT ACHIEVES 3.0% REDUCTION IN MORTALITY

Benefits and costs in 1000 $ of constant purchasing power

Year	1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
disease per year in all of Mali (1000 head)																				
a) assuming no drought	795	782	809	827	844	862	884	710	725	761	797	815	843	873	903	935	959	1002	1017	1073
b) assuming drought in mid-1990s	795	[illegible]	[illegible]	827	844	[illegible]	[illegible]	710	[illegible]	[illegible]	[illegible]	[illegible]	843	827	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	756
c) according to 1981 FP																				
(1) [illegible] cattle only	425																			
(2) [illegible] within [illegible] stock of small ruminants	499																			
TOTAL according to FP	924																			

Health research
[illegible] drought
[illegible] health research
project component assumed
to reduce death rate
by [illegible] (1985?) 3.0% ... by end of twenty years

Number of disease-caused deaths prevented of bovine cattle																				
a) assuming no drought	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
b) assuming drought in mid-1990s	0	[illegible]	0	0	[illegible]	[illegible]	[illegible]	0	[illegible]	1.45	1.45	[illegible]	[illegible]	[illegible]	6.34	[illegible]	9.06	[illegible]	12.49	14.58
c) according to 1981 FP table B	0	0	[illegible]	0	[illegible]	[illegible]	4.00	5.00	8.00	10.00	10.50	[illegible]	10.00	10.00	11.0	10.00	10.00	10.00	10.00	[illegible]
d) from lowering small ruminant cattle mortality																				
Number of small ruminant cattle in national herd (1000 head) according to OSTS data & to PROGRESS projections																				
a) assuming no drought	11,244	10,[illegible]	9,447	10,340	11,[illegible]	11,605	12,302	13,041	13,923	14,552	15,531	16,493	17,181	18,035	19,[illegible]	20,325	22,072	23,754	24,755	26,240
b) assuming drought in mid-1990s	11,244	10,[illegible]	9,447	10,340	11,[illegible]	11,605	12,[illegible]	13,041	13,923	14,552	15,531	[illegible]	[illegible]	16,055	15,[illegible]	16,[illegible]	17,476	[illegible]	19,774	20,219
Health research "Bovine cattle equivalents" all regions																				
a) assuming no drought	1557	1557	1477	1551	1655	1741	1845	1955	2073	2185	2330	2456	[illegible]	2705	2941	[illegible]	[illegible]	[illegible]	[illegible]	3935
b) assuming drought in mid-1990s	1557	1557	1477	1551	[illegible]	1741	1845	1955	[illegible]	2196	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2695	[illegible]	3033
Benefits of [illegible]																				

TABLE III

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH RESEARCH COMPONENT
ASSUMING COMPONENT ACHIEVES 3.0% REDUCTION IN MORTALITY

Benefits and costs in 1000 $ of constant purchasing power

Year		1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992
0 - 5 yrs old group according to FF, [(0.[illegible]*0.[illegible])+(0.15*0.1)+(0.15*0.03)] x 100)		15.0%									
Baseline number of small ruminants [illegible] per year [illegible] a) assuming no drought		270	249	236	243	254	273	295	312	[illegible]	351
b) assuming drought in mid-1990s		270	249	235	242	254	273	[illegible]	312	[illegible]	351
Health research [illegible] brought about by health research [illegible] component are assumed to reduce death rate by ... (INPUT)		3.0%									
Cattle equivalent number of small ruminant disease-caused deaths averted a) assuming no drought		0	[illegible]	0	0	0	[illegible]	[illegible]	0	[illegible]	[illegible]
b) assuming drought in mid-1990s		0	0	[illegible]	[illegible]	[illegible]	0	0	0	0.5[illegible]	[illegible].55
Value of benefits (1000 $): 1) with no drought and with unit value of ...	$90.00	0	0	0	[illegible]	[illegible]	0	0	0	131	1[illegible]
discounted at ...	12.0%	0	[illegible]	0	[illegible]	0	0	0	0	[illegible]	60
1.32[illegible]											
undiscounted:	15,187										
2) with no drought and with unit value of ...	$157.50	0	0	[illegible]	0	0	[illegible]	0	0	315	329
discounted at ...	12.0%	0	0	[illegible]	0	0	0	0	0	116	106
5.0[illegible]											
undiscounted:	26,542										
3) with no drought and according to Ariza Nino method of valuation (result is for a	3.0%										
reduction in mortality)											

Year	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
Baseline number ... a) assuming no drought	373	395	419	444	47[illegible]	[illegible]	[illegible]	[illegible]	59[illegible]	[illegible]
b) assuming drought in mid-1990s	372	395	419	[illegible]45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	495
Deaths averted a) assuming no drought	[illegible]	2.22	3.14	4.15	5.[illegible]	[illegible]	[illegible]	[illegible]	11.[illegible]	[illegible]
b) assuming drought in mid-1990s	1.40	2.22	3.14	3.51	4.12	[illegible]	5.11	[illegible]	[illegible]	10.[illegible]
1) $90.00	259	475	710	95[illegible]	1039	152[illegible]	1[illegible]57	[illegible]	[illegible]	[illegible]
discounted at 12.0%	74	122	163	197	225	25[illegible]	27[illegible]	[illegible]	299	[illegible]
2) $157.50	453	931	1242	1697	21[illegible]	25[illegible]	[illegible]	[illegible]	4510	[illegible]
discounted at 12.0%	130	213	2[illegible]5	345	[illegible]	43[illegible]	47[illegible]	50[illegible]	524	54[illegible]

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TABLE III

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH RESEARCH COMPONENT
ASSUMING COMPONENT ACHIEVES 3.0% REDUCTION IN MORTALITY

Benefits and costs in 1980 $ of constant purchasing power

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
For the 1.3 million	Cumulative reduction in mortality rate																			
bovine cattle only				0.00%	0.00%	0.00%	0.00%	0.00%	0.13%	0.19%	0.13%	0.38%	0.56%	0.75%	0.94%	1.13%	1.31%	1.50%	1.69%	1.88%
and does not include	Incremental reduction in mortality rate																			
small ruminants)				0.00%	0.00%	0.00%	0.00%	0.00%	0.13%	0.06%	0.06%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%
Herd Size, Mgmt. II-4a	... applied to base	4475	4500	4525	4550	4575	4600	5014	5024	5034	5044	5054	5064	5074	5084	5094	5104	5114	5124	5134
	10,555 (sum of elements in the column)																			
										1348	0	0	1352	1357	1361	1366	1370	1375	1379	1384

Net benefit: $7,225 . benefit of a 3.0% reduction in mortality phased in fully as of year 1.

1. Net benefit in 1,000s
with net value
of ... $80.65 0 0 0 0 0 0 0 0 152 304 456 608 760 912 1064 1216 1368 1520 1672 1824
discounted at ... 12.0% 0 0 0 0 0 0 0 0 77 136 174 192 192 174 144 108 72 36 0 -36
1,000's
undiscounted: 11,814

2. Net benefit in mid-80s
with net value
of ... $157.50 0 0 0 0 0 0 0 0 315 630 945 1260 1575 1890 2205 2520 2835 3150 3465 3780
discounted at ... 12.0% 0 0 0 0 0 0 0 0 159 319 478 637 796 955 1114 1273 1432 1591 1750 1909
1,000's
undiscounted: 20,574

3. Net benefit in mid-90s and
beyond: Area Nico
annual valuation
benefit for a 3.0%
reduction in mortality
For the 1.3 million Cumulative reduction in mortality rate
bovine cattle only 0.00% 0.00% 0.00% 0.00% 0.13% 0.19% 0.13% 0.38% 0.56% 0.75% 0.94% 1.13% 1.31% 1.50% 1.69% 1.88%
and does not include Incremental reduction in mortality rate
small ruminants) 0.00% 0.00% 0.00% 0.00% 0.13% 0.06% 0.06% 0.19% 0.19% 0.19% 0.19% 0.19% 0.19% 0.19% 0.19% 0.19%
Herd Size, Mgmt. II-4a ... applied to base 4475 4500 4525 4550 4575 4600 5014 5024 5034 5044 5054 5064 5074 5084 5094 5104 5114 5124 5134
10,555 (sum of elements in the column)
0 0 0 0 0 0 0 1348 0 0 1352 1350 1326 1281 1215 1128 1020 888 732 552

Net benefit: $7,125 . benefit of a 3.0% reduction in mortality phased in fully as of year 1.

Benefit-cost ratios for health research component

No discount rate

1 to ...	0.47	with no discount and with net value of $23,7[illegible] ... at 10.0% rate of discount
1 to 10	[illegible]	with no discount and with net value of $[illegible] ... at 10.0% rate of discount

TABLE III

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- HEALTH RESEARCH COMPONENT
ASSUMING COMPONENT ACHIEVES 3.0% REDUCTION IN MORTALITY

Benefits and costs in 1980 $ of constant purchasing power

Year		1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
A. [illegible]	2.54	with no drought and using farm time [illegible] at 10 % rate of discount																			
[illegible] in 1.1-90% case																					
[illegible]	0.39	with unit value of $[illegible] at 10.0%																			
[illegible]	1.57	with no drought and with unit value of $157.[illegible] at 10.0%																			
[illegible]	2.10	using farm time [illegible] at 10 % rate of discount																			

[illegible]

TABLE IV

LIVESTOCK II EXTENSION ECONOMIC ANALYSIS -- PRODUCTION RESEARCH COMPONENT
ONLY OUTPUT CONSIDERED: EVENTUALLY INCREASED FORAGE PRODUCTION
TO FEED TRACTION ANIMALS DURING CRITICAL THREE MONTHS OF YEAR IN SUBHUMID
ZONES AS A RESULT OF IMPROVED FORAGE PRODUCTION TECHNOLOGIES DEVELOPED
BY PRODUCTION RESEARCH COMPONENT --- Le2HLTH -- costs -- actuals through 1988 and new projections of costs and benefits

Benefits and costs in 1990 $ of constant purchasing power

Year	1 1983	2 1984	3 1985	4 1986	5 1987	6 1988	7 1989	8 1990	9 1991	10 1992	11 1993	12 1994	13 1995	14 1996	15 1997	16 1998	17 1999	18 2000	19 2001	20 2002
1244 : undiscounted, 4710																				
Total Returns ($1000) discounted at 12.0%	0	0	0	0	5	3	15	29	51	91	124	155	242	295	326	264	252	214	209	187
2570 : undiscounted, 15,033																				
Benefit/cost ratio 1.14																				

Is there any evidence to date that improved forage technologies have been produced, are costless to use and costless to extend, and are beginning to be adopted by subhumid zone farmers?

Did Shapiro base his estimate of value on cost of cotton seed for feeding out traction animals?

It is not clear what comprise costs beyond the fifth year. It is also not clear why AID year 1 outlays given in PP Budget Summary, p. 20 exceed year 1 production research activity costs in PP Table 4 (PP, p. 113a).

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TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

	FY 1983	1984	1985	1986	1987	sub, 1983 - 1987	1988	1989	1990	1991	sub, 1983 - 1991
1) AID input costs -- PP in current price dollars ($1000)											
Embouche Paysanne total	310	560	570	300	343	2583	0	0	0	0	2583
Embouche Paysanne w/o credit	410	460	370	100	43	1383	0	0	0	0	1383
Credit fund	400	100	200	200	300	1200	0	0	0	0	1200
Animal Health											
Health Services	705	905	773	412	352	3147	0	0	0	0	3147
DNE											
other Ministry											
Diagnostic unit											
Health Research	1315	1573	447	811	245	4391	0	0	0	0	4391
Animal Production											
Research	536	702	479	515	452	2684	0	0	0	0	2684
Management Development											
Support	1070	355	515	590	543	3077	0	0	0	0	3077
Eval. & project support	40	10	170	10	0	230	0	0	0	0	
TOTAL AID INPUT COSTS	4573	4705	3577	2643	2045	17542	0	0	0	0	17542
Inflation factors from PP - yr	1	2	3	4	5	6					
Management TA, p. 82	1.000	1.104	1.034	1.059	1.137						
Forage TA, p. 72	1.000	1.104	1.034	1.059	1.137						
Health TA, p. 50	1.000	1.104	1.034	1.059							
Embouche paysanne TA, p. 51	1.000	1.104	1.034								
Inflation was expected to proceed at about [illegible] per year on average.											
Cumulative inflation factor deflator was therefore	1.000	1.173	1.241	1.482	1.593	[illegible]					
2) AID input costs -- PP in constant price 1982 dollars ($1000) -- as implied by PP											
Embouche Paysanne total	743	471	449	213	213	1589	0	0	0	0	1589
Embouche Paysanne w/o credit	378	387	299	71	27	1149	0	0	0	0	1149
Credit fund	267	84	154	142	186	840	0	0	0	0	840
Animal Health											
Health Services	547	762	593	292	222	2517	0		0	0	2517
DNE											
other Ministry											
Diagnostic unit											
Animal Health Research (CVL)	1204	1324	747	549	159	4022	0		0	0	4022
Animal Production											
Research (INRZTM)	583	591	371	255	312	2226	0	0	0	0	2226
Management Development											
Support	992	805	476	412	419	3106	0	0	0	0	3106
Eval. & project support	37	8	131	7	0	183	0	0	0	0	183
TOTAL AID INPUT COSTS (at constant prices ($1000))	4135	3953	2761	[illegible]	1342	[illegible]	0				[illegible]

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TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

	FY 1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1983 - 1991
3) Total costs from PP economic analysis ($1000, 1982 dollars)											
Baboucke Paysanne total											
Baboucke Paysanne w/o credit	500	553	493	292	220	2057	230	237	237	237	2993
Credit fund											
Animal Health											
Health Services	753	1025	912	535	520	3745	200	230	150	1[illegible]	4150
DNE											
other MinElv											
Diagnostic unit											
Animal Health Research (CVL)	1[illegible]	1421	937	861	275	[illegible]	105	105	105	105	5[illegible]
Animal Production											
Research (IRZIM)	586	372	[illegible]	563	592	2[illegible]	125	125	125	125	3[illegible]
Management Development											
Support	1041	347	520	560	631	2[illegible]	1	1	0	0	3[illegible]
Eval. & project support											
TOTAL COSTS, AID and GRM (at constant prices ($1990))	4128	4335	3413	2552	2193	17[illegible]	650	667	647	647	23[illegible]
vs. total on p. 91 of PP presumably in current prices	4891	5105	4114	2273	2781	20174	---	---	---	---	-----
Ratio	1.185	1.055	1.205	1.147	1.269	1.152	---	---	---	---	-----
Implied inflation rate (2) from dividing management support figures, p. 92 by management support costs p. 20 of PP	1.025	1.012	1.062	1.017	1.017						
4) Implied GOM contributions in constant price 1982 dollars, ($1000)											
Baboucke Paysanne total											
Baboucke Paysanne w/o credit	124	172	213	196	202	[illegible]	230	237	237	237	1[illegible]
Credit fund											
Animal Health											
Health Services	112	254	215	282	291	1154	200	150	180	180	1[illegible]
DNE											
other MinElv											
Diagnostic unit											
Health Research	105	107	250	272	115	851	105	105	105	105	3[illegible]
Animal Production											
Research	3	291	153	291	219	[illegible]	125	125	125	125	
Management Development											
Support	52	141	104	142	[illegible]	[illegible]					

TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

FY	1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1983 - 1991
Eval. & project support	0	0	0	0	0	0					
TOTAL projected GRM contributions, in 1982 constant price dollars -- implied	406	365	943	1116	1052	4483					
see, PP, p. 91. Estimated Project Budget", (in current price dollars) GRM contributions line ...	318	397	539	610	725	2589					
GRM contributions after adjusting for price level changes --	292	334	415	432	472	1945					
Discrepancy between GRM contributions and implied needs	115	631	528	684	580	2537					
Projected GRM contributions/ implied requirements	0.718	0.346	0.440	0.387	0.449	0.434					
5) Cumulative AID input costs -- actual ($1000)											
Embouche Payanne total	379	979	1406	1354	1302	1202	1202	1327	1227	1227	1227
Embouche Payanne w/o credit	129	637	977	924	872	872	836	835	808	798	808
Credit fund	250	341	430	430	430	430	436	429	429	429	429
Animal Health											
Animal Health Services	1	211	1134	1697	1912	1912	2345	2716	2984	3143	3143
INZ											
other MinEly											
Diagnostic unit											
Animal Health Research (CRZV)	102	795	1713	3050	4364	4364	5359	6383	7416	8051	8053
Animal Production Research (INSZTE)	193	326	704	969	1187	1187	1550	1950	2172	2337	2337
Management Development Support	235	1104	2183	2351	4144	4144	5582	6534	7407	8111	8111
Eval. & project support	?	?	?	?	?	?	?	93	167	250	250
TOTAL AID INPUT COSTS (cumul.	517	2575	7151	9871	12929	12929	17273	19649	21502	23220	23220

TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

FY	1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1983 - 1991
5) FY Year by FY Year AID input costs -- actual ($1000) current price dollars											Total, 83 - 91
Fabouche Paysanne total	379	599	428	-52	-32	1322	5	0	0	0	1327
Fabouche Paysanne w/o credit	129	508	339	53	-32	898	5	0	0	0	898
Credit fund	250	91	89	0	0	430	0	0	0	0	429
Animal Health											
Animal Health Services	1	310	353	444	175	1212	434	330	268	153	2143
DVE											
other MinElv											
Diagnostic unit											
Animal Health Research (CVL)	194	657	522	1342	1204	4154	1934	93	457	505	[illegible]
Animal Production											
Research (INRZFP)	137	193	312	165	137	1147	473	290	222	155	2337
Management Development											
Support	235	359	1024	327	1133	4144	1439	1551	573	745	8111
Eval. & project support											
TOTAL AID INPUT COSTS	917	2658	3577	2729	3057	12928	4345	2541	1520	1635	22972
prospective costs of buying into small ruminants CRSP ----											

Translating into dollars of 1982 purchasing power

This depends, ex post facto, on the split, measured by component between outlays in dollars and outlays in local currency. For local currency outlays on housing, etc. in excess of amounts budgeted because of exchange rate shifts, presumably contractors absorbed the additional cost out of overhead. If contracting was year by year, however, this would have translated into additional dollar outlay requirements. The PP, p. 91, gave a FX/LC breakdown, by categories. Given that Mali is a francophone Sahelian country, much of the FX expenditure would be in foreign currencies other than the US dollar (i.e., in French francs).

According to 1982 PP Cost share in ... ...of	Fabouche Paysanne	Health Services	Health Research	Producta Research	Management Support	FX/TC 1	FX/TC 2
TA	0.197	0.051	0.352	0.624	0.779	0.560	0.560
Construction	0.003	0.185	0.225	0.090	0.000	0.002	0.050
Commodities	0.141	0.411	0.101	0.065	0.062	0.224	0.412
Training	0.247	0.149	0.037	0.072	0.059	0.415	0.524
Studies						0.000	0.000
Recurrent Costs	0.125	0.037	0.152	0.122	0.020	0.000	0.500
Contingency	0.092	0.067	0.073	0.091	0.000	[illegible]	[illegible]

TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

	FY 1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1983 - 1991
Total	1.000	1.000	1.000	1.000	1.000	0.553 20174	0.553 20174				
FX intensitivity (1)	0.742	0.554	0.532	0.767	0.848						
FX intensitivity (2)	0.624	0.334	0.490	0.732	0.822						

According to FX input Cost share in ... Extension Health Payanne Services | Health Research | Products Research | Management Support | FX/TC 1 | FX/TC 2

... of

[illegible]	na	0.355	0.100	0.090	0.505	1.330	0.330
Construction	na	0.095	0.050	0.100	0.040	0.000	0.000
Commodities	na	0.477	0.050	0.150	0.060	0.403	
Training	na	0.062	0.009	0.092	0.030	0.343	0.412
Studies		0.057	0.023	0.063	0.060	0.000	0.000
Recurrent Costs	na	0.099	0.617	0.546	0.235	0.000	0.000
Contingency	na	0.020	0.324	0.149	0.165	0.479	0.433
Total	na	0.922	1.023	1.002	1.000	0.482 5000	0.553 20174

In the 1983 - 87 period, the following observations can be made: health being construction, commodities AND recurrent costs - intensive, is the most local currency - intensive component. Management, since it involves mainly expatriate technical assistance, is the least local currency intensive. The FX intensivity (2) measure adjusts for procurement denominated in currencies other than the dollar or DM to measure sensitivity to changes in the dollar - FF exchange rate.

To correct for purchasing power changes, 1983-87, it is approximately correct to deflate the outlays in the above table by the US CPI to base 1982. Since this does not take account of changes in the dollar CFAF exchange rate this misstates constant price outlays somewhat from year to year. For the 1988 - 91 period, outlays are somewhat, but not much, more local currency intensive.

	1982	1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991
US CPI as measure of inflation (1982)	1.000	1.032	1.077	1.114	1.133	1.133		1.213	1.269	1.319	1.372
Yrly av. CFAF/$ rate	283	351	437	449	346	287		288	299	300	300

TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

	FY 1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1988 - 1991
7) Constant prices actual AID input costs ($1000)											Total, '83 - 91
Fabouche Payanne total	367	557	224	-45	-27	1274	4	4	4	4	1295
Fabouche Payanne w/o credit	125	472	235	-45	-27	759	4	4	4	4	835
Credit fund	242	85	74	0	0	401	0	0	0	0	401
Animal Health											
Animal Health Services	1	283	731	349	224	1578	352	232	164	115	2442
ENS											
other Mobile											
Diagnostic unit											
Animal Health Research	105	324	919	919	1112	3424	1236	547	41	441	5713
Animal Production											
Research	137	173	296	145	270	1023	334	224	58	121	1760
Management Development											
Support	283	287	313	724	1217	2824	1173	447	474	514	[illegible]
Eval. & project support											
TOTAL AID INPUT COSTS	933	2463	3209	2333	2597	11556	3523	2004	1152	1121	19477
							approx. 15123 through 1988				
8) Recurrent Costs & Government Contribution											
GOM contribution to project ($[illegible]), current prices, 275 CFAF per dollar, 1983 - 1991, 300 CFAF per dollar, 1983 - 1987											

	FY 1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1988 - 1991
Fabouche Payanne total											
Fabouche Payanne w/o credit											
Credit fund											
Animal Health											
Health Services											
ENS							755	752	315	[illegible]	
other Mobile							[illegible]	[illegible]	[illegible]	[illegible]	
Diagnostic unit											
Health Research -- CVL							139	139	450	[illegible]	
Animal Production							[illegible]	[illegible]	[illegible]	[illegible]	
Research (INRZFH)							33	36	33	35	
Management Development							[illegible]	[illegible]	[illegible]	[illegible]	
Support							51	52	55	[illegible]	
Eval. & project support							[illegible]	[illegible]	[illegible]	[illegible]	
TOTAL GOM CONTRIBUTION	313	337	[illegible]	[illegible]	765	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Fabouche Payanne total	
Fabouche Payanne w/o credit	[illegible]
Credit fund	
Animal Health	
Health Services	
ENS	[illegible]
other Mobile	[illegible]
Diagnostic unit	[illegible]
Health Research -- CVL	
Animal Production	
Research (INRZFH)	[illegible]
Management Development	
Support	[illegible]
Eval. & project support	
TOTAL GOM CONTRIBUTION	[illegible]

[illegible] operations costs

TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

	FY 1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1983 - 1991	
items (projected)	(255)	(260)	(385)	(355)	(265)	(1550)	?	(477)	(498)	(476)	(3101+)	(Total AID-financed operating costs)
AID operating costs items (actual)												
GRM contribution to project 1000 CFAF, current prices. 275 CFAF per dollar, 1983 - 91, 300 CFAF per dollar, 1992 - 1997												
Fabouche Paysanne total												Fabouche Paysanne total
Fabouche Paysanne w/o credit												Fabouche Paysanne w/o credit
Credit fund												Credit fund
Animal Health												Animal Health
Health Services												Health Services
BNE								225,500	245,430	274,340	750,770	BNE
other MinElev												other MinElev
Diagnostic unit												Diagnostic unit
Health Research -- CVL								95,310	95,590	105,120	257,010	Health Research -- CVL
Animal Production												Animal Production
Research (INRZFH)								5,130	3,970	3,210	15,570	Research (INRZFH)
Management Development												Management Development
Support								24,210	26,640	29,310	80,160	Support
Eval. & project support								(185)	(125)	(115)	(415)	Eval. & project support
GRM CONTRIBUTION (1000CFAF)	95,400	119,100	161,400	192,000	217,200	776,700	?	345,055	380,670	418,520	1,922,100	TOTAL GRM Contribution
Total GRM budget outlays in 1000 CFAF for relevant services												Total GRM budget outlays in 1000 CFAF for relevant services
Fabouche Paysanne total												Fabouche Paysanne total
Fabouche Paysanne w/o credit												Fabouche Paysanne w/o credit
Credit fund												Credit fund
Animal Health												Animal Health
Health Services												Health Services
BNE proper					128,007	?	126,577					BNE proper
Services Elevage *					352,135		374,215					Services Elevage *
Diagnostic unit												Diagnostic unit
Health Research -- CVL					111,260		105,525					Health Research -- CVL
Animal Production					204,955		145,397					Animal Production
Research (INRZFH and stations)												Research (INRZFH)
Management Development												Management Development
Support					---		---					Support
Eval. & project support												Eval. & project support
TOTAL GRM OUTLAYS (1000CFAF)					692,357		752,714					GRM OUTLAYS [illegible]

TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

	FY 1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1983 - 1991
1 from Budget Regional outlays for Kayes, Koulikoro and District of Bamako (mostly wages)											
GEM contribution to project in constant price dollars											
Embouche Paysanne total											
Embouche Paysanne w/o credit											
Credit fund											
Animal Health											
Health Services											
DNE							595	631	567		
other MinElev											
Diagnostic unit											
Health Research -- CVL							229	242	255		
Animal Production											
Research (INRZFM)							21	23	24		
Management Development											
Support							54	67	71		

The conclusion that can be drawn from this analysis is that between one fourth and and one half of the government's total outlays for the Direction d'Elevage, and its services in the relevant areas, for health research and vaccine production, and for production research, have been counted as the GEM contribution to the project.

AID project outlays on operating or recurrent costs are about equal to one third of the relevant related recurrent costs of livestock research and health services activities.

Additional information useful for analyzing the recurrent costs question would be complete budgets for CVL and for INRZFM which would include outlays financed by other donors, and all receipts of CVL such as any receipts from the sale and distribution of vaccines.

It would also be useful to know to what extent, if at all, the regional livestock services' outlays (almost 100 % are on wages of personnel) are complemented by supplies and services covered by the regional budgets' "charges communes" section, and/or by Direction d'Elevage provided supplies and services, and/or donor provided supplies and services and payments from beneficiaries.

Also, how does the "pharmacie veterinaire" fit into the picture, and how it can operate with the government budget providing only for salaries (about 1 43,000 worth of salaries)? Is this only a government contribution of seconded personnel, and the real bulk of the revenue comes from exercising its local monopoly on the import and distribution of veterinary pharmaceuticals?

GEM contribution to project in constant price dollars											
Embouche Paysanne total											
Embouche Paysanne w/o credit											
Credit fund											
Animal Health											
Health Services											
DNE											
other MinElev											
Diagnostic unit											
Health Research -- CVL											
Animal Production											
Research (INRZFM)											
Management Development											
Support											

TABLE V

Mali Livestock Sector II Extension Total Expenditures, Component by Component

FY	1983	1984	1985	1986	1987	sum, 1983 - 1987	1988	1989	1990	1991	sum, 1983 - 1991
Eval. & project support											Eval. & project support
GRM CONTRIBUTION (1000CFA)	[illegible]	589	483	537	519	2115	627	916	952	1017	5631 GRM CONTRIBUTION (1000CFA)
Total cost outlays in constant dollars (1000CFA) AID actuals and implied GRM contributions											
Extension Paysanne total	167	557	324	45	-27	1066	4	0	0	0	1066
Extension Paysanne w/o credit	243	643	519	152	175	1732	0	0	0	0	1732
Credit fund	242	85	195	0	0	482	0	0	0	0	482
Animal Health											
Health Services	[illegible]	[illegible]	[illegible]	672	[illegible]	[illegible]	556	[illegible]	334	265	4532
TSE											
Other Mobile											
Diagnostic unit											
Health Research	[illegible]	745	[illegible]	1452	1215	4714	1741	602	452	546	8055
Animal Production											
Research	[illegible]	[illegible]	445	356	499	1931	513	354	293	245	3336
Management Development											
Support	290	347	1024	686	1231	4379	1179	933	434	514	7433
Eval. & project support	0	0	0	0	0	0	0	0	0	0	0
TOTAL combined outlays in 1982 constant CFA dollars -- implied actuals	[illegible]	2432	4163	3519	3559	[illegible]	3933	2434	1583	1692	25936

Note: This total was computed by using the 1982 IR Economic Analysis cost flows from 1983 onward as corresponding to the ongoing fixed and recurrent costs that would have to be supplied by the GRM as the actual GRM contribution to the project. The projections of GRM contributions to the project for the period 1984 - 1991 are lowest for the production research component. Considering large-scale [illegible] which is not clear on what rationale the project uses the figure.

[illegible]

Valuation of Benefits

1) According to PP methodology

The PP valued a "bovine-equivalent unit" saved from disease-induced death in terms of the value of the animal when sold for slaughter, less costs of maintenance and upkeep to the point of sale for slaughter. Thus the PP did not distinguish between the benefits of reducing male animal and those of reducing female animal mortality.

The PP's valuation of a full-grown animal sold for slaughter was $225 assuming market value of meat retail to be about $2 a kilo (p. 115). The PP assumed that the price of meat and the price of animals would both remain constant over the next twenty years, adjusting for inflation. In other words, the PP projected that on average the price of red meat and the price of animals would keep pace with inflation.

The PP assumes that, on average, costs from point of rescue to point of sale would be 60% of the sales price (discounting both at 12 percent). So on average, the value of an animal saved from disease-induced death is 40 percent of the value of the animal when when sold for slaughter, or $90, (which seems a bit on the low side).

Footnote:

Example	sales price	annual cost of maintenance				
1 yr	225	10				
2 yrs	225	30	30			
3 yrs	225	30	30	30		
4 yrs	225	30	30	30	30	
2 yrs	225	30	30	30	30	30

End of Footnote:

Thus assuming health service interventions would be saving 10,000 bovine cattle and bovine cattle-equivalents per year in Regions I and II from disease-induced death by the fifth year of the project, by year 5 the annual benefits will be $900,000 = 225x0.4x10000. Thus in the original PP analysis (PP, p. 116) benefits from health service interventions improvements level off at $900,000 per year in year 5 of the project (1988).

Footnote: It is interesting that the PP never gave any estimate of what the then-current level of benefits from unimproved DNB services were thought to be -- since, after all, improvements would have to raise benefits from that initial level. Knowing the 1982 budget of DNB, however, and applying the rule that benefits should at least exceed costs, it is possible to calculate a minimally acceptable level of benefits for DNB outlays to have been justified at their then current levels.

Outlays for DNB, in 1980s

	million CFA	million $
1982		
1985	128.01	457

End of Footnote: This would imply baseline savings of animals from disease-induced deaths of at least approximately 5000 animals a year.

The animal held for three more years, if already a full grown male, would be held as a savings vehicle and because of herder risk-aversion or as a plough or traction animal. One could argue that the additional feeding and health care costs are AT LEAST offset by the value of the implicit o plicit services provided. It is difficult to quantify the costs for animals held in traditional transhumance herds. Therefore, the costs would probably be much less than 60 % of the sale price. But the sales could be spread out over time and discounted accordingly.

Discount rate 12.0% Year of sale	% of animals saved in year zero	Sales price in constant dollars	Sales price discounted at 12.0%	Wt'd Value	Average present value of sales	Ratio
1	20.0%	225	201	40	159	0.71
2	30.0%	225	179	54		
3	10.0%	225	160	16		
4	10.0%	225	143	14		
5	10.0%	225	128	13		
6	10.0%	225	114	11		
7	10.0%	225	102	10		
8	0.0%	225	91	0		
9	0.0%	225	81	0		
10	0.0%	225	72	0		

2) According to Ariza Nino's methodology, which distinguishes between male and female cattle mortality, and takes account of the value of milk and calf production by females, the gain in present value from a permanent 1 percent reduction in overall mortality (i.e., reduction of 1st year mortality from 30.0 % to 29.7 %, 1 to 2 years old mortality rate from 10.0 percent to 9.9 percent and so on) would be much larger than predicted using the PP method of valuation of benefits.

According to Ariza Nino's model, MAVERIC -- Mali Veterinary and Range Economics, a decrease in mortality tends to translate into larger herd size over time, later culling ages for both male and female animals,

and a slightly reduced offtake rate although, since offtake is from a a larger base, offtake itself should increase, providing more cattle for export and meat for domestic consumption. With larger herd size, production of milk for human consumption increases also. The increases in meat and milk production, of course depend on the assumption that range limitations do not result in a serious trade off between numbers of animals and average weight per animal.

Footnote -- bovine cattle numbers by region -- OSCE.

Region II (OSCE)	724	606	628	649					
Region I	732	565	525	662					
Bafoulabe (2)	94	88	50	79					
Kenieba (4)	39	36	48	49					
Kita (5)	57	49	88	100					
Nioro (6)	300	180	150	150					
Subtotal, 2,4,5	190	173	186	228					
Region III (Sikasso)	1053	1040	1101	1170					
Region IV (Segou)	720	595	555	581					
Baroueli (23)	108	88	32	96					
Segou (22)	151	142	82	82					
Bla (24)	99	93	98	98					
San (27)	38	35	37	45					
Tominian (28)	91	73	74	78					
Subtotal	487	431	383	309					
Estimated Size of National Herd of Large Cattle	5676	5589	4344	4475	4600	4735			
Herd in Sudano area	2454	2250	2298	2446					
Herd in Sudano area/ Total herd	43.2%	40.3%	52.9%	54.7%					
Estimated Size of National Herd of Large Cattle									
1) according to PP	4600	4761	4928	5100	5279	5463			
2) according to OSCE ests & to PROG/ECON projections									
a) assuming no drought	5676	5589	4344	4475	4600	4735	4901	5072	5250
b) assuming drought in mid-1990s	5676	5589	4344	4475	4600	4735	4901	5072	5250

Alternatives: Suppose that it could be shown that DNE, with its present level of coverage, is averting disease-caused deaths of some 5000 - 10,000 animals per year, primarily in the project areas of Regions I and II ... i.e., that mortality rates instead of being about 14 % overall would be 15.4 % without DNE activity. Suppose that simply by increasing DNE's budget for personnel and nonpersonnel operating costs, further reductions in

mortality could be achieved. Would this be more effective than conventional TA and commodities project activity to strengthen DNE. Note that ongoing operating costs are estimated at about 100 thousand dollars a year, after a second wave of fixed cost increases in the 1990s. Do these operating costs refer to costs additional to those already incurred by DNE in carrying out its current operations?

PROG/ECON/JElliott/01/02/88:rev07/03/88

X. Evaluation and Implementation Plan

1. Evaluation Plan

Evaluation actvities during the two year extension phase will consist of:

1.1. On-going monitoring activities under the Management Support Program:

a. Project Quarterly Reports
- Monitor program activities;
- Monitor activity budget disbursements;
- Quantify progress towards outputs and purpose indicators.

b. Biannual Project Committee Reviews
- Review program activities;
- Review activity budget disbursements;
- Recommend mid-course actions;
- Develop future program strategies orientations;
- Prepare annual work plans and financial plans.

c. JMC meetings

- Policy and program guidance and coordination;
- Review and approve annual work plans and financial plans;
- Assign implementation actions to service division;
- Review and approve recommended mid-course changes in project objectives, activities, output targets and EOPS, and implementation schedules.

1.2 Semi-annual Project Implementation Reports will be prepared and reviewed by the Mission and reviewed by AID/W. The Covenants will be reviewed and a progress report made their achievement.

1.3. Several studies have been scheduled by which progress will be evaluatued:

Study	Timing Qtr.	Timing FY
Recurrent Costs	2	89
Recurrent Costs 2nd Phase	2	90
2nd Phase Veterinary Pharmacy and Privatization II	3	90
Marketing Study	4	90
Audits - annualy	4	89, 90, 91

1.4. An in-depth evaluation will take place in approximately June-July 1990. The evaluation will assess progress made towards goal and purpose achievement as measured by the following:

a. progress of project program activities;
b. progress toward attainment of program objectives, and logframe EOPS and outputs;
c. implementation status of the MIS and its effectiveness;
d. impact assessment of studies carried out;
e. strengthening of institutional infrastructures;
f. adoption of the improved management systems by the Ministry;
g. the coordination and integration of project resources across service divisions;
h. progress made on recurrent costs issues;
i. recommendations for future sector activities.

The final evaulation will assist the Mission in measuring project progress and impact, and provide quidance for the design of the follow-on livestock project. The project has allocated $200,000 for the evaluation.

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2. Revised Implementation Plan

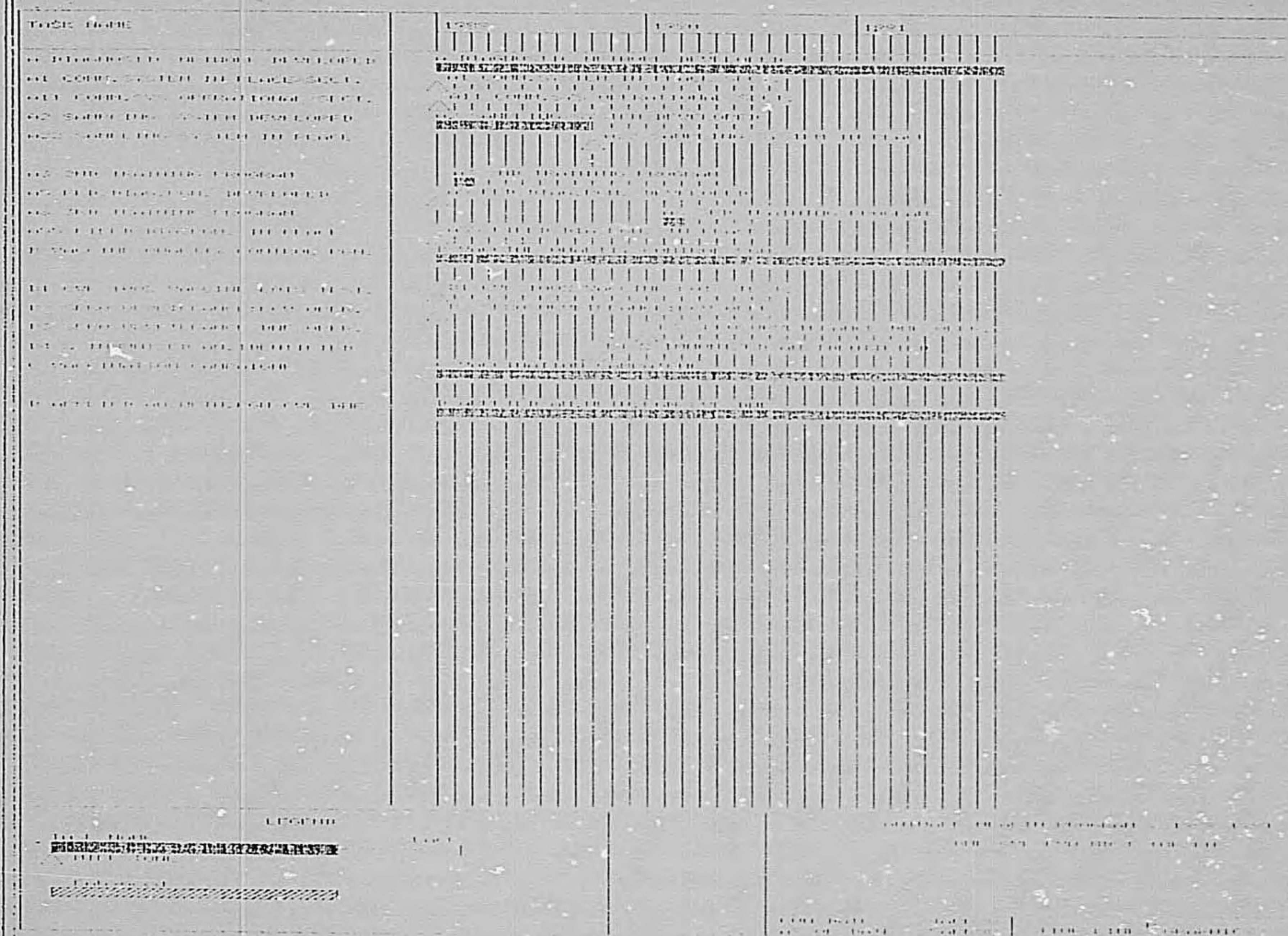
The following spread sheets present the implementation plan for administration, program activities, training, studies, and procurement during the project's extension phase.

During the project extension phase, the three program committees will meet to elaborate annual work plans with corresponding program and activity budgets. These will be submitted in combination with the project's annual report to the JMC for review and approval. Following JMC meetings a PIL will be issued authorizing annual work plans and financial plans and formalizing other JMC decisions.

Quarterly the project committees will meet with national and regional personnel and field staff to monitor activity implementation and budget disbursements, evaluate progress and make necessary work plan adjustments. Quarterly reports will then be prepared and distributed. Every six months the three program committees will meet to review the entire project program and flag problems or issues that may require the intervention of the Minister or AID Director. If need be, special sessions of the JMC will be called.

ADMINISTRATIVE IMPLEMENTATION PLAN
MALI LIVESTOCK SECTOR II PROJECT EXTENSION PHASE

ACTION	ACTION AGENT	FY 88				FY 89				FY 90				FY 91			
		JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ	JAS
1. PROAG AMENDED/FUNDS OBLIGATED	USAID, MEE	X																
2. PIO/T:TECHNICAL ASSISTANCE PREP	USAID, MEE	XX																
3. TECHNICAL ASSISTANCE CONTRACTING	USAID, MEE			XXX	XXX	XXX	XXX											
3. ANNUAL WORKPLANS/BUDGETS PREP	PROJECT	XX	X				XX	X				XX	X					
4. ANNUAL IMPLEMENTATION REPORTS	PROJECT	XX	X				XX	X				XX	X					XX
5. JMC MEETINGS	USAID, MEE			X		X			X			X			X		X	
6. BI-ANNUAL PROM/FINANCIAL REVIEW	PROJECT	X			X		X			X		X			X		X	
7. QUARTERLY REPORTS	PROJECT	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	
8. ANNUAL FINANCIAL AUDITS	CONSULTANT					X						X						X
9. EVALUATION	USAID, MEE									XX	XX							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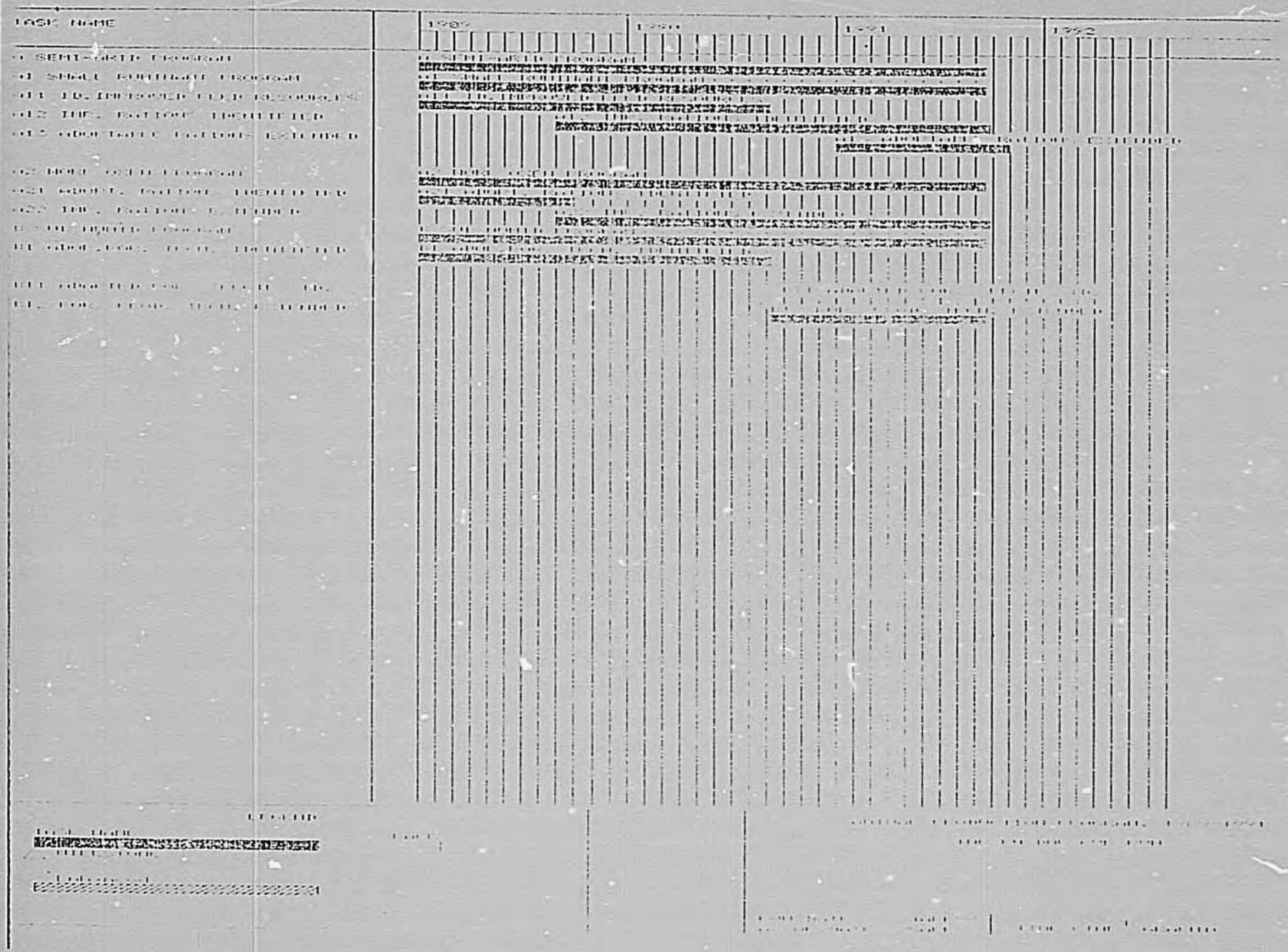
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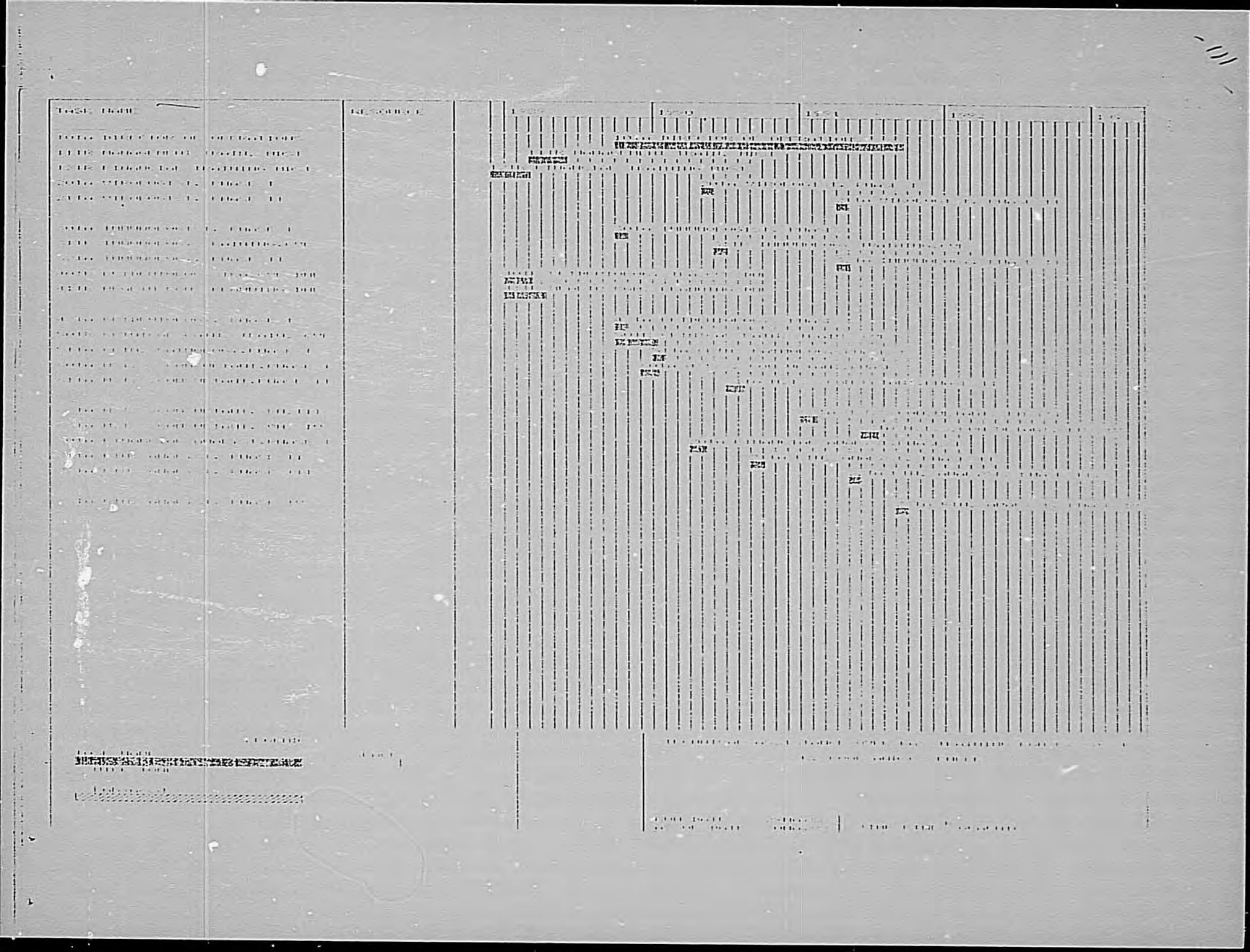
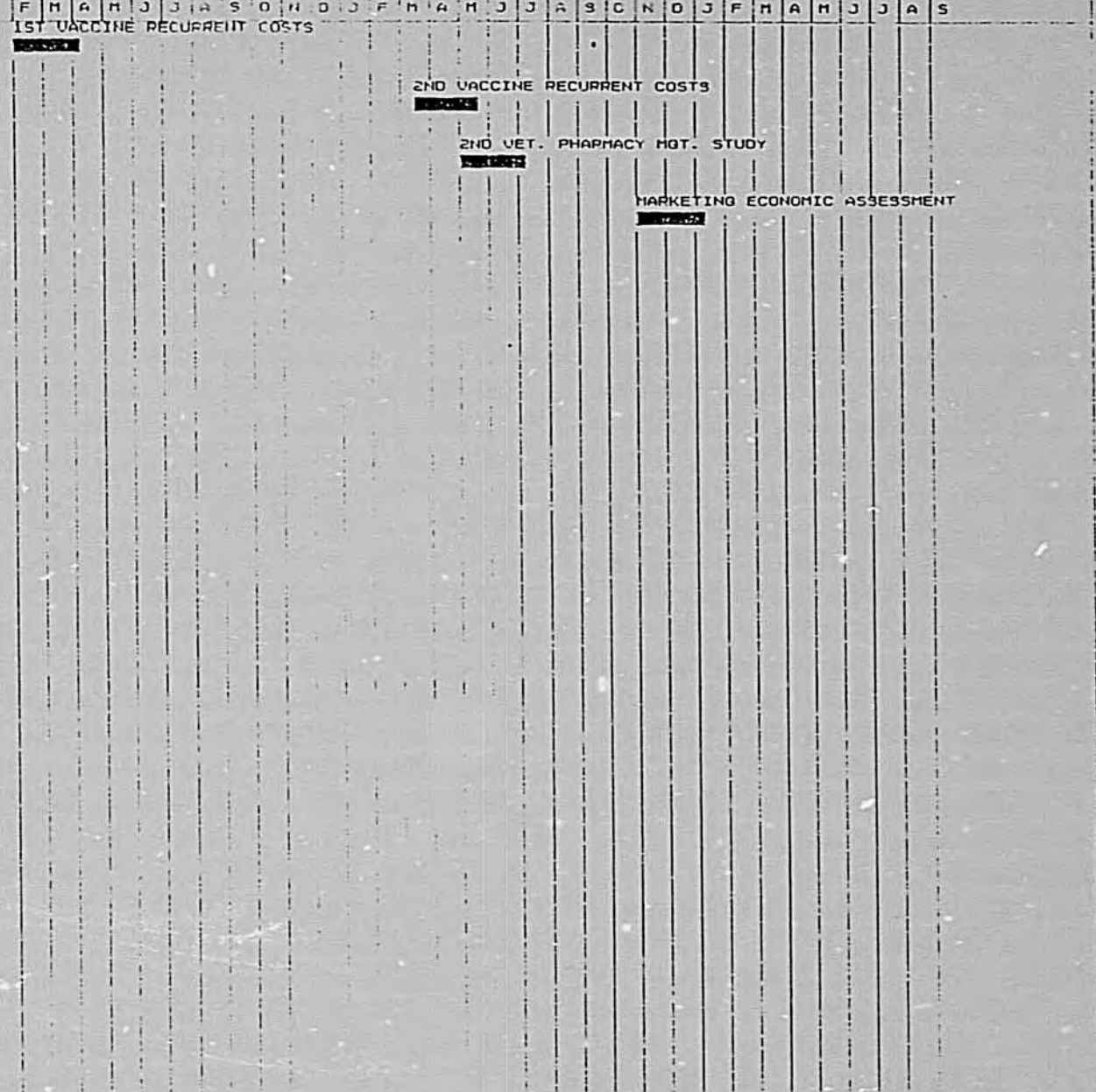
1990
1991
1992



TASK NAME	RESOURCE	
1ST VACCINE RECURRENT COSTS		
2ND VACCINE RECURRENT COSTS		
2ND VET. PHARMACY MGT. STUDY		
MARKETING ECONOMIC ASSESSMENT		



LEGEND

TASK NAME — SLACK

MILESTONE

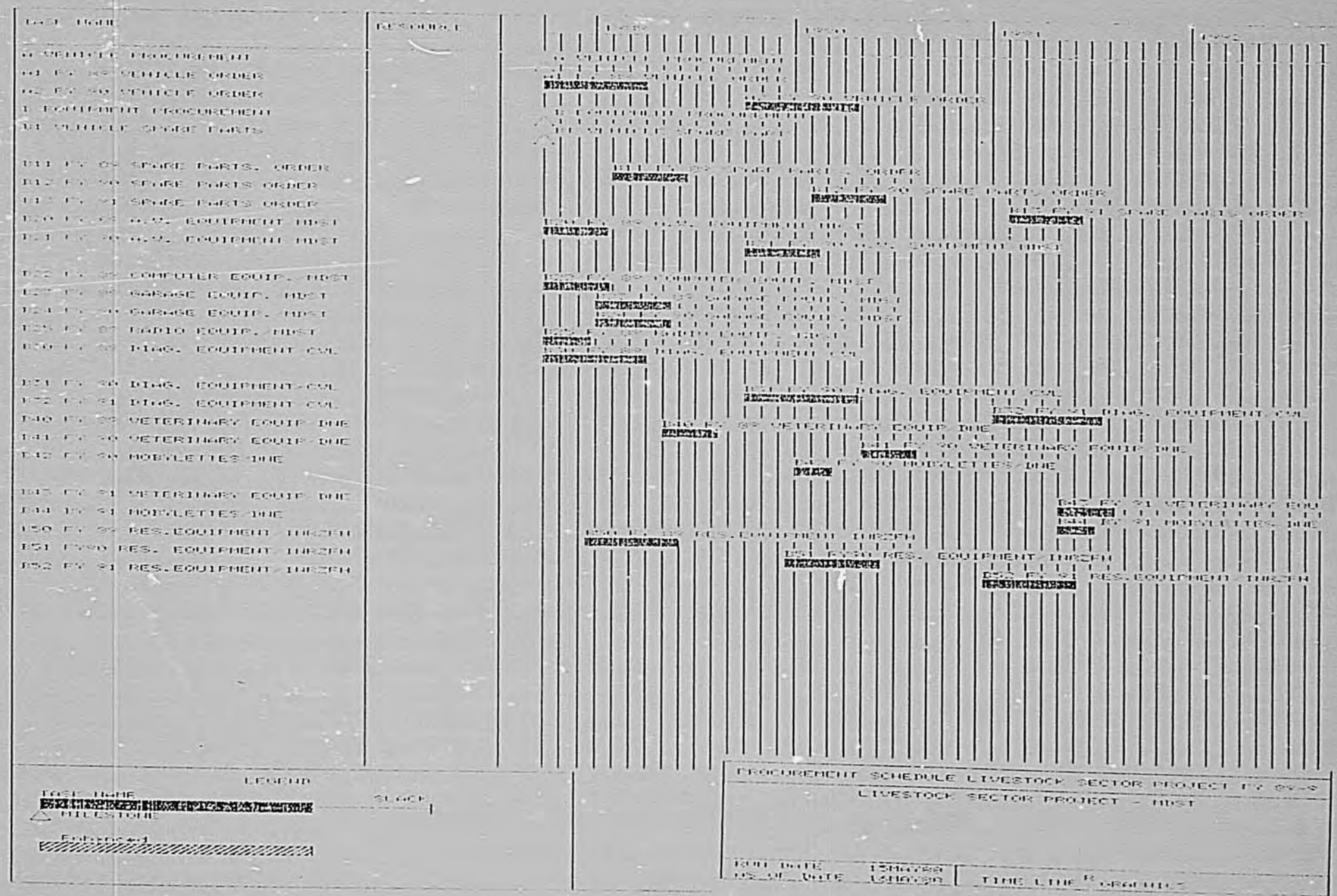
Summary task

PROJECTED STUDIES FOR THE INTERIM PHASE FY 89- FY 91

MANAGEMENT DEVELOPMENT SUPPORT UNIT/LIVESTOCK PROJECT

RUN DATE 05AUG88
AS OF DATE 05AUG88

TIME LINE GRAPHICS


VEHICLE PROCUREMENT
VEHICLE ORDER
EQUIPMENT PROCUREMENT
VEHICLE SPARE PARTS
SPARE PARTS ORDER
M.V. EQUIPMENT MDST
COMPUTER EQUIP. MDST
SURVEY EQUIP. MDST
RADIO EQUIP. MDST
DIAG. EQUIPMENT CVL
VETERINARY EQUIP DNE
MOBYLETTES DNE
RES.EQUIPMENT IMRZFH
LEGEND
SLACK
MILESTONE
Enhanced
PROCUREMENT SCHEDULE LIVESTOCK SECTOR PROJECT FY 89-9
LIVESTOCK SECTOR PROJECT - MDST
TIME LINE

Annex I

Revised Logframe

Mali Livestock Sector II Project. 688-0216
Revised Logframe for Project Extension Phase. 10/1/89 - 9/30/91

Drafted:CPhelps:4/21/90

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Project Goal: To improve the income and well-being of Mali's livestock producers and others wholly or partially dependent on the livestock sector.	Measures of Goal Achievement: Increased producer incomes; improved livestock health; sustainable resource utilization; and increased livestock production.	Periodic sector reports, studies and analysies of GRM, donors, and consultants for: - monitoring herds; - monitoring domestic & export marketing; - monitoring consumption; - monitoring natural resources; - sector financial monitoring.	Assumptions for achieving goal: - Economic conditions remain favorable for livestock development. - MRNE & AID remain committed to common objectives. - No droughts which exceed the norms for the Sahelian zone. - No epidemics of major proportions.
Project Purpose: To expand the activities that have brought about increased livestock production, to test those activities that show potential; to identify by systematic research, improved technical packages through on-farm testing; to develop the institutional capacity of Mali's public and private sectors to plan, implement and evaluate viable livestock sector investments.	End of Project Status (Conditions which will indicate purpose has been achieved.) I. ANIMAL HEALTH PROGRAM A. Diagnostic Network - Economically important diseases identified and monitored by timely reporting procedures. B. Vaccine Quality Control - 70% of all vaccines produced are of acceptable quality. C. Vaccination Campaigns/ Serosurveillance - 50% reduction in outbreaks of major contagious diseases compared to non project zones. D. Extension - 20% reduction in outbreaks of major contagious small ruminant diseases compared to 1985; - 50% reduction in major contagious diseases in project zone compared to pre-project levels. E. Policy - Practical options identified for increasing the role of the private sector in supply of animal health services; - Practical options identified for the GRM to provide for recurrent costs of specific animal health service activities. II. ANIMAL PRODUCTION PROGRAM A. Semi-Arid Zone 1. Small Ruminants - 50 Producers adopt improved nutritional packages. 2. Traction Animals - 100 producers adopt improved nutritional packages. 3. Forage Production - 100 producers adopt forage production packages. B. Sub-Humid Zone 1. Forage Production - 50 Producers adopt forage production packages. C. Natural Resources - 50 Producers in project zone adopt improved natural resource management practices.	- MRNE programs, plans, budgets, reports, and studies; - donor/consultant reports, studies and analyses; - project quarterly reports; - site visits; - client interviews; - training records, reports.	Assumptions for achieving purpose: MRNE & producers perceive benefit from and can implement improved practices. Adaptive technical and institutional programs will result in improved & sustainable livestock sector production and profit. GRM can increasingly assume recurrent costs and sustain support of animal health, animal production & management support interventions. MRNE & AID effectively use project resources.

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
	III. MANAGEMENT DEVELOPMENT PROGRAM		
	A. Management Development Program - Integrated program/financial planning, monitoring, evaluation process established at each project level.		
	B. Management Information System - Improved capacity of the ministry and project levels to assess their investments in the livestock sector.		
Outputs:			Assumptions for achieving outputs:
I. ANIMAL HEALTH PROGRAM		- project quarterly report; - project activity work plans and financial plans; - JMC documents; - USAID, GRM & project reports on finances, construction, commodity procurement, and training; - site visits; - client interviews.	Technical assistance is effective and capable GRM counterparts are assigned. Appropriate, cost effective systems can be developed, demonstrated, and extended to producers.
A. Diagnostic Network	- 75% of disease outbreaks in the project zone are confirmed by CVL; - 50% of all treatments made result from a confirmed diagnosis; - 60% of all samples sent to CVL are diagnosed.		
B. Vaccine Quality	- 100% of vaccine lots tested by CVL.		
C. Vaccination Campaign/ Serosurveillance	- 50% of all cattle in Project Zone are immunized.		
D. Extension	- 50% increase over 1985 levels in vaccination of small ruminants; - 50% increase in sales over 1987 levels of preventive medicines.		
E. Policy	- Second phase privatization study completed, and recommendations being implemented; - Series of studies completed to assess recurrent costs for the provision of animal health services, and recommendations being implemented.		
II. ANIMAL PRODUCTION PROGRAM:			
A. Semi-Arid Zone			
1. Small Ruminants	- 5 improved rations identified; - 3 nutrional packages extended.		
2. Traction Animals	- 3 improved rations identified; - 2 nutritional packages extended.		
3. Forage Production	- 5 new/improved forage species identified; - 2 forage production technical packages extended.		
B. Sub-Humid Zone			
1. Forage Production	- 5 new/improved forage species identified; - 2 forage production technical packages extended.		
C. Natural Resources	- 100 DNE agents trained to implement appropriate natural resources management techniques.		

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Annex 2

Detailed Input and Budget Tables

MALI LIVESTOCK SECTOR II PROJECT
SUMMARY BUDGET PLAN

LINE ITEM CATEGORY	OBLIGATIONS TO DATE	ESTIMATED EXPENDITURES THRU FY 88	PIPELINE FY88	OBLIGATIONS THRU FY 88 ‡‡	PROPOSED EXPENDITURES THRU FY 89	PIPELINE THRU FY 89	OBLIGATIONS THRU FY 89	PROPOSED EXPENDITURES THRU FY 90	PIPELINE FY 90	PROPOSED EXPENDITURES THRU FY 91
‡ TECHNICAL ASSISTANCE	$7,304,000	$6,897,087	$406,913	$8,544,000	$7,836,087	$707,913	$8,798,087	$8,337,087	$461,000	$8,798,087
				$1,240,000	$939,000		$254,087	$501,000		$461,000
CONSTRUCTION	$3,267,557	$3,190,050	$77,507	$3,267,557	$3,267,557	$0	$3,267,557	$3,267,557	$0	$3,267,557
				$0	$77,507		$0			$0
TRAINING	$1,869,000	$1,709,819	$159,181	$2,029,000	$1,949,673	$79,327	$2,089,673	$2,029,673	$60,000	$2,089,673
				$160,000	$239,854		$60,673	$80,000		$60,000
COMMODITIES	$2,347,659	$2,340,646	$7,013	$3,067,659	$2,652,246	$415,413	$3,225,646	$2,864,746	$360,900	$3,225,646
				$720,000	$311,600		$157,987	$212,500		$360,900
STUDIES	$400,000	$375,000	$25,000	$480,000	$415,000	$65,000	$515,000	$515,000	$0	$515,000
				$80,000	$40,000		$35,000	$100,000		$0
CREDIT FUND	$429,707	$429,707	$0	$429,707	$429,707	$0	$429,707	$429,707	$0	$429,707
				$0	$0		$0			$0
EVALUATION	$300,000	$218,664	$81,336	$380,000	$218,664	$161,336	$418,664	$218,664	$200,000	$418,664
				$80,000	$0		$38,664			$200,000
OPERATING COSTS	$2,264,970	$2,105,555	$159,415	$3,424,970	$2,742,055	$682,915	$3,716,255	$3,239,955	$476,300	$3,716,255
				$1,160,000	$636,500		$291,285	$497,900		$476,300
‡‡‡CONTINGENCY (15%)	$37,107	$7,156	$29,951	$597,107	$316,971	$280,136	$759,411	$525,681	$233,730	$759,411
				$560,000	$309,815		$162,304	$208,710		$233,730
TOTAL	$18,220,000	$17,273,684	$946,316	$22,220,000	$19,827,960	$2,392,040	$23,220,000	$21,428,070	$1,791,930	$23,220,000
				$4,000,000	$2,554,276		$1,000,000	$1,600,110		$1,791,930

‡ The technical assistance line item includes AID project support costs totaling $250,000.

‡‡ Throughout this table, the upper figure represents cumulative obligations or expenditures, and the lower figure represents annual obligations or expenditures.

‡‡‡ Contingency obligations to date have been decreased and reallocated to other line items over the course of the project.
The Contingency line item includes remaining unexpended General Fund obligations of $824.

PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
BUDGET SUMMARY

$ 1.00 = 275 CFA

CATEGORY	ESTIMATED EXPENDITURES THRU FY 88	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	PROPOSED EXPENDITURES FY 91	TOTAL	PERCENTAGE
TECHNCIAL ASSISTANCE	$6,397,087	$939,000	$501,000	$461,000	$8,798,087	38%
CONSTRUCTION	$3,190,050	$77,507	$0	$0	$3,267,557	14%
COMMODITIES	$2,340,646	$311,600	$212,500	$360,900	$3,225,646	14%
TRAINING	$1,709,319	$239,354	$30,000	$60,000	$2,039,673	9%
STUDIES	$375,000	$40,000	$100,000	$0	$515,000	2%
CREDIT FUND	$429,707	$0	$0	$0	$429,707	2%
EVALUATION	$218,664	$0	$0	$200,000	$418,664	2%
OPERATING COSTS	$2,105,555	$836,500	$497,300	$476,300	$3,715,255	16%
CONTINGENCY(15%)	$7,156	$309,315	$208,710	$233,730	$759,411	3%
SUMMARY GRAND TOTAL	$17,273,694	$2,554,276	$1,600,110	$1,791,930	$23,220,000	100%

* The technical assistance line item includes AID project support cost totaling $250,000.

PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
TECHNICAL ASSISTANCE FORECAST

$ 1.00 = 275 FCFA

DESCRIPTION	ESTIMATED EXPENDITURES THRU FY 88	PERSON MONTHS	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	PROPOSED EXPENDITURES FY 91	TOTAL
LONG-TERM						
HOST						
DIR. OPERATIONS		36	$216,000	$216,000	$216,000	$648,000
DIR. FINANCE		12	$216,000	$0	$0	$216,000
MECHANIC		4	$72,000	$0	$0	$72,000
OVL						
PATHOLOGIST		12	$216,000	$0	$0	$216,000
SHORT-TERM						
MIS SHORT-TERM *		12	$90,000	$72,000	$72,000	$234,000
FIN. REVIEWS (INTERNAL)		4	$0	$20,000	$20,000	$40,000
FIN. AUDITS (EXTERNAL)		6	$30,000	$30,000	$30,000	$90,000
OVL						
VIROLOGIST		3	$15,000	$20,000	$20,000	$55,000
IMMUNOLOGIST		3	$0	$20,000	$20,000	$40,000
EPIDEMIOLOGIST		1	$0	$20,000	$0	$20,000
CLINICAL PATHOLOGIST		1	$0	$20,000	$0	$20,000
AID PROJECT SUPPORT		36	$84,000	$83,000	$83,000	$250,000
TOTAL PROJECT EXTENSION		130	$939,000	$501,000	$461,000	$1,901,000
TOTAL	$6,897,087		$7,836,087	$8,337,087	$8,798,087	$8,798,087

* = MIS ASSISTANT WILL WORK WITH ALL PROJECT VOLETS

PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
CONSTRUCTION FORECAST

$ 1.00 = 275 FCFA

DESCRIPTION	ESTIMATED EXPENDITURE THRU FY 88	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	TOTAL
RENOVATIONS					
CVL					
MISC. COSTS LAB/WATER SYS.		$17,507	$0	$0	$17,507
MDST					
GARAGE/KAYES		$10,000	$0	$0	$10,000
REPRODUCTION		$5,000	$0	$0	$5,000
INRZFH					
CATTLE STANTION (FOR FEEDING TRIALS)		$45,000	$0	$0	$45,000
TOTAL PROJECT EXTENSION		$77,507	$0	$0	$77,507
TOTAL	$3,190,050	$3,267,557	$3,267,557	$3,267,557	$3,267,557

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PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
TRAINING PROGRAM FORECAST

$ 1.00 = 275 FCFA

DESCRIPTION	EST'MATED EXPENDITURES THRU FY88	PERSON/ MONTHS	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	PROPOSED EXPENDITURES FY 91	TOTAL
OVERSEAS:						
LONG-TERM(CURRENT PART.)			$114,854	$0	$0	$114,854
SHORT-TERM						
MDST						
MANAGEMENT PLANNING		3	$15,000	$0	$0	$15,000
FINANCIAL MANAGEMENT		3	$15,000	$0	$0	$15,000
CVL						
CLINICAL PATHOLOGY		3	$10,000	$0	$5,000	$15,000
DIAGNOSTIC IMMUNOLOGY		1	$0	$5,000	$0	$5,000
EPIDEMIOLOGY		2	$5,000	$5,000	$0	$10,000
DNE						
EPIDEMIOLOGY		2	$5,000	$5,000	$0	$10,000
ANIMAL HEALTH PLANNING		3	$5,000	$5,000	$5,000	$15,000
INRZFH(VOLET RECHERCHE)						
ANIMAL NUTRITION/FORAGE		2	$5,000	$5,000	$0	$10,000
PRODUCTION/EXTENSION		2	$5,000	$5,000	$0	$10,000
SUB-TOTAL: OVERSEAS TRAINING		21	$179,854	$30,000	$10,000	$219,854
IN-COUNTRY TRAINING:			$60,000	$50,000	$50,000	$160,000
DOCUMENTATION NETWORK						
ANIMAL HEALTH/DIAGNOSIS						
ANIMAL PRODUCTION/EXTENSION						
RESEARCH/EXTENSION						
VEHICLE MAINTENANCE						
COLD CHAIN MAINTENANCE						
RADIO MAINTENANCE						
COMPUTER TRAINING						
M.I.S. TRAINING						
PROGRAM MONITORING/EVALUATION						
SUB-TOTAL: IN-COUNTRY TRAINING			$60,000	$50,000	$50,000	$160,000
TOTAL PROJECT EXTENSION			$239,854	$80,000	$60,000	$379,854
TOTAL	$1,709,819		$1,949,673	$2,029,673	$2,089,673	$2,089,673

PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
COMMODITIES FORECAST

$ 1.00 : 225 FCFA

DESCRIPTION	ESTIMATED EXPENDITURES THRU FY 88	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	PROPOSED EXPENDITURES FY 91	TOTAL
MDST					
VEHICLES 1 - 4X4		$25,000	$0	$0	$25,000
SPARE-PARTS		$10,000	$10,000	$10,000	$30,000
REPRODUCTION/ AUDIO-VISUAL					
COMPUTERS		$10,000	$6,500	$0	$16,500
GARAGE EQUIPMENT		$10,000	$0	$0	$10,000
COMMUNICATION EQUIP.		$8,500	$10,000	$0	$18,500
		$5,000	$0	$0	$5,000
CVL					
VEHICLES 2 - 4X4		$25,000	$25,000	$0	$50,000
SPARE-PARTS(VEHICLES)		$4,100	$10,000	$7,500	$21,600
DIAGNOSTIC EQUIP.		$40,000	$30,000	$18,400	$88,400
VACCINE PRODUCTION EQUIP.		$0	$0	$250,000	$250,000
DNE					
VEHICLES 3 - 4X4		$50,000	$25,000	$0	$75,000
SPARE-PARTS(VEHICLES)		$15,000	$10,000	$15,000	$40,000
MOBYLETTES		$0	$25,000	$25,000	$50,000
EQUIPMENT DIAGNOSTIC/ VACCINATION/COLD CHAIN		$50,000	$40,000	$20,000	$110,000
INRZFH (RESEARCH VOLET)					
VEHICLES 1 - 4X4		$25,000	$0	$0	$25,000
SPARE-PARTS(VEHICLE)		$4,000	$6,000	$7,000	$17,000
RESEARCH EQUIPMENT		$30,000	$15,000	$8,000	$53,000
TOTAL PROJECT EXTENSION		$311,600	$212,500	$360,900	$885,000
TOTAL	$2,340,646	$2,652,246	$2,864,746	$3,225,646	$3,225,646

PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
STUDIES FORECAST

$ 1.00 = 275 FCFA

DESCRIPTION	ESTIMATED EXPENDITURES THRU FY 88	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	PROPOSED EXPENDITURES FY 91	TOTAL
2ND PHASE VETERINARY PRIVATIZATION		$0	$30,000	$0	$30,000
ECONOMIC ASSESSMENT ANIMAL HEALTH SERVICES		$40,000	$30,000	$0	$70,000
LIVESTOCK MARKETING		$0	$40,000	$0	$40,000
TOTAL PROJECT EXTENSION		$40,000	$100,000	$0	$140,000
TOTAL	$375,000	$415,000	$515,000	$515,000	$515,000

PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
EVALUATION FORECAST

$ 1.00 = 275 FCFA

DESCRIPTION	ESTIMATED EXPENDITURES THRU FY 88	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	PROPOSED EXPENDITURES FY 91	TOTAL
EVALUATION					
		$0	$0	$200,000	$200,000
TOTAL PROJECT EXTENSION		$0	$0	$200,000	$200,000
TOTAL	$218,664	$218,664	$218,664	$418,664	$418,664

PP SUPPLEMENT MALI LIVESTOCK SECTOR II PROJECT
OPERATING COSTS FORECAST

$ 1.00 = 275 FCFA

DESCRIPTION	ESTIMATED EXPENDITURES THRU FY 88	PROPOSED EXPENDITURES FY 89	PROPOSED EXPENDITURES FY 90	PROPOSED EXPENDITURES FY 91	TOTAL
VOLETS:					
MDST		$166,000	$124,500	$124,500	$415,000
DNE		$182,200	$149,500	$127,900	$459,600
CNL		$171,800	$131,400	$131,400	$434,600
INPTFH		$116,500	$92,500	$92,500	$301,500
TOTAL PROJECT EXTENSION		$636,500	$497,900	$476,300	$1,610,700
TOTAL	$2,105,555	$2,742,055	$3,239,955	$3,716,255	$3,716,255

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Summary of Inputs for Project Extension Phase (U.S. Dollars

INPUT	FY89	FY90	FY91	TOTAL
TECHNICAL ASSISTANCE				
ANIMAL HEALTH PROGRAM	$231,000	$80,000	$40,000	$35,000
ANIMAL PRODUCTION PROGRAM	$0	$0	$0	$0
MANAGEMENT SUPPORT PROGRAM	$246,000	$309,087	$335,000	$893,087
SUBTOTAL	$477,000	$389,087	$378,000	$1,244,087
CONSTRUCTION				
ANIMAL HELATH PROGRAM				
ANIMAL PRODUCTION PROGRAM				
MANAGEMENT SUPPORT PROGRAM				
SUBTOTAL	$0	$0	$0	$0
TRAINING				
ANIMAL HEALTH PROGRAM	$33,673	$43,000	$32,000	$108,673
ANIMAL PRODUCTION PROGRAM	$23,000	$23,000	$13,000	$59,000
MANAGEMENT SUPPORT PROGRAM	$24,000	$14,000	$15,000	$53,000
SUBTOTAL	$80,673	$80,000	$60,000	$220,673
COMMODITIES				
ANIMAL HEALTH PROGRAM	$177,087	$165,000	$335,900	$677,987
ANIMAL PRODUCTION PROGRAM	$59,000	$21,000	$15,000	$95,000
MANAGEMENT SUPPORT PROGRAM	$68,500	$26,500	$10,000	$105,000
SUBTOTAL	$304,597	$212,500	$360,900	$877,987
STUDIES				
ANIMAL HEALTH PROGRAM	$15,000	$60,000	$0	$75,000
ANIMAL PRODUCTION PROGRAM	$0	$40,000	$0	$40,000
MANAGEMENT SUPPORT PROGRAM	$0	$0	$0	$0
SUBTOTAL	$15,000	$100,000	$0	$115,000
EVALUATON	$0	$0	$118,664	$118,664
OPERATING COSTS				
ANIMAL HEALTH PROGRAM	$179,585	$266,900	$245,300	$691,785
ANIMAL PRODUCTION PROGRAM	$131,500	$106,500	$106,500	$344,500
MANAGEMENT SUPPORT PROGRAM	$166,000	$124,500	$125,500	$415,000
SUBTOTAL	$477,085	$497,900	$476,300	$1,451,285
AID PROJECT SUPPORT	$84,000	$83,000	$83,000	$250,000
CONTINGENCY				
ANIMAL HEALTH PROGRAM	$110,754	$110,753	$110,753	$332,260
ANIMAL PRODUCTION PROGRAM	$3,300	$31,300	$31,300	$93,900
MANAGEMENT SUPPORT PROGRAM	$98,715	$98,715	$98,714	$290,144
SUBTOTAL	$240,769	$240,768	$240,767	$722,304
TOTAL	$1,679,144	$1,603,255	$1,717,631	$5,000,000

BUDGET PROPOSITION FOR ANIMAL HEALTH PROGRAM 1989-1991

$1.00 = 275 FCFA

ACTIVITY	TECHNICAL ASSISTANCE	TRAINING	EQUIPMENT	INFRASTRUCTURES	OPERATING CSTS	SUB TOTAL	CONTINGEN./ INFLATION	GRAND TOTAL	% BY ACTIVITY
DNE									
DIAGNOSTIC NETWORK	$0	$0	$50,000	$0	$227,300	$277,300	$41,595	$318,895	40.10
VACCINATION/EXTENSION	$0	$0	$225,000	$0	$167,300	$392,300	$58,845	$451,145	56.72
RESEARCH PROGRAM	$0	$0	$0	$0	$0	$0	$0	$0	.00
SERSURVEILLANCE	$0	$0	$0	$0	$22,000	$22,000	$3,300	$25,300	3.18
TOTAL FOR DNE BY LINE ITEM	$0	$0	$275,000	$0	$416,600	$691,600	$103,740	$795,340	100.00
% BY LINE ITEM	.00	.00	34.58	.00	52.38	86.96	13.04	100.00	
DVL									
DIAGNOSTIC NETWORK	$351,000	$0	$70,000	$0	$171,300	$592,300	$88,920	$681,720	49.58
VACCINE QUAL. CONTROL	$0	$0	$295,000	$0	$131,400	$426,400	$63,960	$490,360	35.66
APPLIED RESEARCH	$0	$0	$45,000	$0	$131,400	$176,400	$26,460	$202,860	14.75
TOTAL DVL BY LINE ITEM	$351,000	$0	$410,000	$0	$434,600	$1,195,600	$179,340	$1,374,940	100.00
% BY LINE ITEM	25.53	.00	29.82	.00	31.61	86.96	13.04	100.00	
TOTAL:ANIMAL HEALTH BY LINE ITEM	$351,000	$0	$685,000	$0	$851,200	$1,887,200	$283,080	$2,170,280	
% BY LINE ITEM	16.17	.00	31.56	.00	39.22	86.96	13.04	100.00	

BUDGET PROPOSITION FOR ANIMAL PRODUCTION PROGRAM 1989-1991

$1.00 = 275 FCFA

ACTIVITY	TECHNICAL ASSISTANCE	TRAINING	EQUIPMENT	INFRASTRUCTURES	OPERATING COSTS	SUB TOTAL	CONTING./ INFLATION	GRAND TOTAL	% BY ACTIVIT
INRZFH									
. SEMI-ARID ZONE									
. . SMALL RUMINANTS	$0	$0	$50,000	$0	$71,400	$121,400	$18,210	$139,610	27.50
. . TRACTION ANIMALS	$0	$0	$10,000	$0	$36,400	$46,400	$6,960	$53,360	10.51
. . FORAGE PRODUCTION	$0	$0	$15,000	$0	$46,000	$61,000	$9,495	$70,495	13.88
. SUB-HUMID ZONE									
. . FORAGE PRODUCTION	$0	$0	$20,000	$0	$51,000	$71,000	$10,650	$81,650	16.08
. . ANIMAL NUTRITION	$0	$0	$0	$45,000	$36,400	$81,400	$12,210	$93,610	18.44
. . ANIMAL PRODUCTION	$0	$0	$0	$0	$60,000	$60,000	$9,000	$69,000	13.59
. . SOCIO-ECONOMIC STUDIES	$0	$0	$0	$0	$0	$0	$0	$0	.00
TOTAL INRZFH BY LINE ITEM	$0	$0	$95,000	$45,000	$301,600	$441,600	$66,225	$507,725	100.00
% BY LINE ITEM	.00	.00	18.71	8.86	59.38	86.96	13.04	100.00	
ONE: ANIMAL PRODUCTION EXTENSION (ONE)	$0	$0	$0	$0	$43,000	$43,000	$6,450	$49,450	100.00
TOTAL ONE/PVM BY LINE ITEM	$0	$0	$0	$0	$43,000	$43,000	$6,450	$49,450	100.00
% BY LINE ITEM	.00	.00	.00	.00	86.96	86.96	13.04	100.00	
TOTAL ANIMAL PRODUCTION BY LINE ITEM	$0	$0	$95,000	$45,000	$344,600	$484,600	$72,675	$557,175	
% BY LINE ITEM	.00	.00	17.05	8.08	61.82	86.96	13.04	100.00	

BUDGET PROPOSITION FOR MANAGEMENT DEVELOPMENT PROGRAM 1989-1991

$1.00 = 275 FCFA

ACTIVITY	TECHNICAL ASSISTANCE	TRAINING	EQUIPMENT	INFRASTRUCT	EVALUATION	OPERATING COSTS	SUB TOTAL	CONTING./ INFLATION	GRAND TOTAL	% BY ACTIVITY
MDST										
1. PROGRAM SUPPORT										
1.1 ADMINISTRATIVE SUPPORT	$291,000	$15,000	$21,500	$0	$0	$89,000	$417,300	$62,595	$479,895	22.57
1.2 LOGISTICAL SUPPORT	$72,000	$0	$83,500	$15,000	$0	$235,400	$405,900	$60,885	$466,785	21.95
1.3 FINANCIAL SUPPORT	$346,000	$15,000	$0	$0	$0	$89,800	$450,800	$67,620	$518,420	24.38
2. TRAINING PROGRAM										
2.1 OVERSEAS TRAINING	$0	$75,000	$0	$0	$0	$0	$75,000	$11,250	$86,250	4.06
2.2 LOCAL TRAINING	$0	$160,000	$0	$0	$0	$0	$160,000	$24,000	$184,000	8.65
3. STUDIES	$0	$0	$0	$0	$0	$0	$140,000	$21,000	$161,000	7.57
4. EVALUATION	$0	$0	$0	$0	$0	$0	$200,000	$30,000	$230,000	10.82
TOTAL MDST/LINE ITEM	$709,000	$265,000	$105,000	$15,000	$0	$415,000	$1,849,000	$277,350	$2,126,350	100.00
% BY LINE ITEM	33.34	12.46	4.94	.71	.00	19.52	86.96	13.04	100.00	

PROPOSITION DE BUDGET 1989 -1991 DU PROGRAMME EN S.I.G.

$1.00 = 275 FCFA

LOW, DNE, INRZFH, ESDG										
PROGRAMME EN S.I.G.	$591,000	$0	$0	$0	$0	$0	$591,000	$88,650	$679,650	100.00

Mali Livestock Sector II Project
GRM Contribution for the Extension Plans

$1.00 = 275 CFA

	1989	1990	1991	Total
DVL				
1. Salaries	148.400	165.200	179.500	491.100
2. Utilities	54.000	59.400	65.300	178.700
3. Fuel & Maint.	36.400	40.000	44.000	120.400
4. Equipment	51.900	56.000	61.600	168.500
Subtotal	287.700	316.600	350.400	958.700
DNE				
1. Salaries	723.900	796.200	875.900	2.396.000
2. Utilities	5.000	5.500	6.100	16.600
3. Infrastructure	19.500	21.500	23.400	64.400
4. Operating cost	7.600	8.400	9.200	25.200
Subtotal	756.000	831.600	914.600	2.502.200
DNSPA				
1. Salaries	14.600	16.300	17.900	49.000
2. Utilities	3.600	4.000	4.400	12.000
3. Infrastructure	8.700	9.600	10.600	28.900
Subtotal	27.100	29.900	32.900	89.900
MDSI				
1. Salaries	15.300	16.300	18.500	50.600
2. Utilities	32.700	36.000	39.600	108.300
3. Infrastructure	32.700	36.000	39.600	108.300
Subtotal	80.700	88.300	97.700	267.200
TOTAL	1,153,500	1,268,900	1,395,600	3,818,000

Annex 3

LOCAL COSTS FINANCING DETERMINATION
MALI LIVESTOCK SECTOR II PROJECT EXTENSION PHASE

$1.00 = 275 CFA

ACTIVITY	LC	FX	TOTAL
TECHNICAL ASSISTANCE	$0	$1,244,087	$1,244,087
CONSTRUCTION	$0	$0	$0
TRAINING	$160,000	$60,673	$220,673
COMMODITIES	$520,100	$357,887	$877,987
STUDIES	$75,000	$40,000	$115,000
EVALUATION	$0	$118,664	$118,664
OPERATING COSTS	$1,451,285	$0	$1,451,285
AID PROJECT SUPPORT	$0	$250,000	$250,000
CONTINGENCY	$382,821	$339,483	$722,304
TOTAL	$2,589,206	$2,410,794	$5,000,000

ACTION: AID 5 INFO: AMB DC DCCN CHRON

ANNEX 4

DEO

LOC: 322 107
27 OCT 87 0859
CN: 52876
CHRG: AID
DIST: AID

VZCZCIAA7582TAA7391SA927
PP RUTAEM
DE RUEHC #0374/01 2960454
ZNR UUUUU ZZH
P R 2314492Z OCT 87
FM SECSTATE WASHDC
TO RUTAEM/AMEMBASSY BAMAKO PRIORITY 9523
INFO RUEHAB/AMEMBASSY ABIDJAN 8441
RUTAID/AMCONSUL DOUALA 9053
BT
UNCLAS SECTION 01 OF 02 STATE 330374

AIDAC ABIDJAN FOR REDSO/WCA, DOUALA PASS TO R. SHOEMAKER

E.O. 12356: N/A

SUBJECT: MID-TERM EVALUATION AND PES REVIEW, MALI LIVESTOCK SECTOR II PROJECT (688-0218)

1. AID/W PROJECT COMMITTEE REVIEWED EXTERNAL EVALUATION AND PES ON SEPTEMBER 24. MEETING WAS CHAIRED BY AFR/PD/SWAP AND ATTENDED BY REPRESENTATIVES OF ST/AGR, AFR/TR/ARD, AFR/SWA, AND OICD.

2. COMMITTEE CONCURS WITH MISSION PLANS FOR A TWO-YEAR EXTENSION OF THIS ACTIVITY. WE BELIEVE IT IS SIGNIFICANT THAT THIS PROJECT HAS BEEN ABLE TO AVOID THE PITFALLS OF MANY PREVIOUS LIVESTOCK PROJECTS IN AFRICA, AND THAT IT IS DEALING APPROPRIATELY WITH COMPLEX TECHNICAL, ECONOMIC, SOCIAL, INSTITUTIONAL, AND MANAGEMENT ISSUES. THE EXTERNAL EVALUATION MAKES A STRONG POSITIVE ENDORSEMENT OF THE VALIDITY OF SUBJECT INVESTMENT, RECORDS THE GOOD PROGRESS BEING MADE, AND NOTES PROJECT IMPLEMENTATION EFFICIENCY AND EFFECTIVENESS OF GRM AND MISSION. AID/W WISHES TO ACKNOWLEDGE THESE ACHIEVEMENTS.

3. DETAILED COMMENTS: THE PROJECT COMMITTEE'S SUGGESTIONS FOR PP AMENDMENT PREPARATION ARE FOUND BELOW.

A. COMMITTEE ENDORSES TERMINATION OF THE SCIDEV ON-FARM FEEDING COMPONENT. PROBLEMS WITH THE CREDIT ASPECTS OF THIS COMPONENT NOT WITHSTANDING, HOWEVER, AFR/TR/ARD NOTED THE IMPORTANCE OF ON FARM FEEDING DURING THE DRY SEASON, AND RECOMMENDS THAT THE MISSION INVESTIGATE RESULTS OF RESEARCH UNDERTAKEN BY THE GAMBIA MIXED FARMING PROJECT (635-0203), WHICH DEVELOPED FEEDING STRATEGIES FOR LIVESTOCK, TO DETERMINE RELEVANCE TO MALI. IF FOUND RELEVANT, PERHAPS WAYS CAN BE FOUND OUTSIDE THIS PROJECT TO APPLY THE RESEARCH RESULTS TO MALI.

B. THE ENTIRE LOGFRAME SHOULD BE RE-ARTICULATED TO REFLECT THE VARIOUS DE FACTO CHANGES THAT HAVE OCCURRED IN THE PROJECT DESIGN; FOR EXAMPLE, THE ELIMINATION OF

TO	ACT	INFO
DIR		
D/DIR		✓
PROG		✓
DEO		✓
MGMT		✓
CONT		✓
ADO	✓	✓
GDO		
JAO/DIR		
JAO/GSO		
JAO/PER		
DRAG		
DISP		
		✓

[illegible] PROGRAM AND THE MAJOR DIMINUTION IN THE LOP [illegible] THAT TOOK PLACE IN THE INTERVAL BETWEEN [illegible] AND AUTHORIZATION. THE COMMITTEE BELIEVES THAT THIS RE-ARTICULATION WILL BE A PARTICULARLY USEFUL EXERCISE IN LIGHT OF EMPHASIS NOW PLACED ON PERFORMANCE EVALUATION AT PURPOSE ACHIEVEMENT LEVEL.

C. COMMITTEE RECOMMENDS THAT THE MISSION EXPLORE POSSIBILITIES FOR COOPERATION WITH AND UTILIZATION OF THE SMALL RUMINANT CRSP'S RESEARCH ON SHEEP AND GOATS. IN THIS CONTEXT, THE COMMITTEE NOTED THAT THE SMALL RUMINANT CRSP PROBABLY HAS THE BEST AVAILABLE EXPERTISE IN THE AREA OF SMALL RUMINANT RESEARCH WORLDWIDE. FURTHER, THE COMMITTEE RECOMMENDS THAT THE PP AMENDMENT ANALYZE THE BENEFITS THAT MAY ACCRUE TO WOMEN FROM AN INCREASED EMPHASIS ON SMALL RUMINANTS.

D. COMMITTEE RECOMMENDS THAT PP AMENDMENT CONSIDER IN DETAIL RHIZOBIA ISSUES AS THESE PERTAIN TO FORAGE PRODUCTION. SPECIFICALLY, WE BELIEVE IT WOULD BE HIGHLY DESIRABLE TO CONDUCT RESEARCH ON INTRODUCED CULTIVARS OF LEGUMES AS ALTERNATIVE CROPS. THIS WILL SUPPLEMENT RESEARCH ALREADY COMPLETED OR UNDERWAY ON TRADITIONAL LEGUMES. IN THIS EFFORT, THE USE OF PROPER RHIZOBIA INOCULANTS WILL BE ESSENTIAL TO THE CONDUCT OF MEANINGFUL TRIALS OF INTRODUCED LEGUMES. NIFTAL (UNIVERSITY OF HAWAII) CAN PROVIDE TECHNICAL ASSISTANCE IN DETERMINING PROPER RHIZOBIA INNOCULATION METHODS. NIFTAL CAN ALSO PROVIDE EXPERIMENTAL AMOUNTS OF RHIZOBIA INOCULANTS AND, SHOULD RESULTS WARRANT, COULD THEN AID IN TO OBTAIN THEM IN COMMERCIAL QUANTITIES.

FURTHER, AID/ANR RECOMMENDS THAT ADDITIONAL RESEARCH BE CONDUCTED ON THE USE OF BOTH NITROGEN AND PHOSPHATE FERTILIZERS. NITROGEN FERTILIZER, EVEN IF VERY EXPENSIVE, SHOULD BE USED IN PRODUCTION TRIALS TO ASSESS FULL ITS POTENTIAL. THE ECONOMIC FEASIBILITY OF USING COMMERCIAL NITROGEN FERTILIZER COULD THEN BE DETERMINED FROM THE DATA THEREBY GENERATED.

E. THE PP AMENDMENT SHOULD SPECIFY IN DETAIL THE TARGET POPULATION WHICH WILL BENEFIT FROM THE SHIFT OF FORAGE PRODUCTION RESEARCH FROM SEMI-ARID TO SUB-HUMID AREAS.

F. COMMITTEE RECOMMENDS THAT CONTINUED EMPHASIS BE PLACED ON ACTIVITIES THAT KEEP UP THE LIVESTOCK SECTOR POLICY DIALOGUE, PARTICULARLY THOSE THAT MAY LEAD TO PRIVATIZATION OF ACTIVITIES THAT THE BUSINESS COMMUNITY CAN HANDLE. AID/W HAS NOTED THE EXISTENCE OF NEW LEGISLATION THAT PERMITS PRIVATE VETERINARY PRACTICE AND THE [illegible] INITIAL EFFORTS TO PUT EFFECTIVE MEASURES OF IMPLEMENTATION INTO MORE WITH. IT WILL BE VERY [illegible]

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Best Available Document

[redacted] ABIDJAN FOR RFDSO/WC .. DOUALA PASS TO R. SHOEMA R

[redacted] IMPORTANT TO EXPLORE WHETHER SOME INITIAL PRIVATIZATION EXPERIMENTS COULD BE ACCOMPLISHED DURING THE LIFE OF THIS PROJECT, AND, IF SO, TO SCHEDULE ANY ASSOCIATED TRAINING ACTIVITIES.

G. THE COMMITTEE NOTES THAT IF FORAGE PRODUCTION RECOMMENDATIONS ARE TO EMERGE AND BE EXTENDED DURING THIS PROJECT, SHORT-TERM TRAINING FOR THE EXTENSION AGENTS SHOULD BE PROGRAMMED WELL IN ADVANCE.

H. THE COMMITTEE NOTED WITH CONCERN THE EVALUATION'S RECOMMENDATION THAT CONTINUED FUNDING BE MAINTAINED FOR THE OVC AND DNE QUOTE OVER AT LEAST ANOTHER DECADE UNQUOTE. THIS STRIKES US AS AN UNDULY PESSIMISTIC (AND PERHAPS SELF-FULFILLING) ASSESSMENT OF THE PROSPECTS FOR MAKING THE SERVICES PROVIDED BY THESE ENTITIES FINANCIALLY SELF-SUSTAINING. WE RECOMMEND THEREFORE THAT USAID EXPLORE IN THE PP AMENDMENT THE POSSIBILITY OF RAISING USER FEES, AND THEREBY REACHING FINANCIAL SUSTAINABILITY, MORE RAPIDLY.

I. THE COMMITTEE EXPRESSED CONCERN AS TO THE FEASIBILITY OF ESTABLISHING A NATIONAL RESEARCH INSTITUTE FOR LIVESTOCK AT THE PRESENT TIME. FOR EXAMPLE, IT MAY NOT BE POSSIBLE TO DO MORE THAN HOLD ANNUAL INTER-ORGANIZATIONAL WORKSHOPS AND REVIEWS. WE SUGGEST THEREFORE THAT THE PP AMENDMENT TEAM INVESTIGATE THIS PROPOSAL IN MORE DETAIL.

J. THE COMMITTEE RECOMMENDS THAT THE PP AMENDMENT INCLUDE A DETAILED ECONOMIC ANALYSIS OF THE PROJECT AT THE PROPOSED NEW LOP FUNDING LEVEL OF DOLS 22.0 MILLION. SUCH AN ANALYSIS WILL DETERMINE IF THE PROJECT REMAINS AN ECONOMICALLY VIABLE INVESTMENT AT THIS LEVEL.

K. WHILE COMMITTEE NOTES EVALUATION'S CRITICISM OF USDA'S PERFORMANCE, THERE MAY WELL BE A POSSIBLE ROLE FOR USDA DURING THE PROPOSED TWO-YEAR EXTENSION. NOTE THAT GIVEN THE PASA CONTRACTING PROCEDURE, A DECISION WILL HAVE TO BE MADE ON THIS POINT BY THE END OF FY 1988.

4. AGAIN, AID/W WISHES TO CONGRATULATE USAID AND THE EXTERNAL EVALUATION TEAM FOR HAVING CONDUCTED A THOROUGH AND THOUGHTFUL REVIEW OF THIS ACTIVITY. PLEASE FORWARD A COPY OF THE PP AMENDMENT TO AID/W UPON COMPLETION WHITEHEAD

[redacted]

[redacted]

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ANNEX 5

UNCLASSIFIED STATE 222307/01

ACTION: AID 5 INFO: ICM AMB ECON CHRON

VZCZCIAAS94ESA799
PP RUIAFM
DE RUEHC #2307/01 2011627
ZNR UUUUU ZZH
P 201622Z JUL 87
FM SECSTATE WASHDC
TO AMEMBASSY BAMAKO PRIORITY 2469
BT
UNCLAS SECTION 01 OF 03 STATE 222307

AIDAC

LOC: 459 551
21 JUL 87 0742
CN: 40754
CHRG: AID
DIST: AID

ACTION TAKEN:
DATE:
INITIALS:

E.O. 12356: N/A
TAGS:
SUBJECT: MALI PROGRAM WEEK -- MAY 26-28

REFERENCES: (A) BAMAKO 02999; (B) STATE 172027

1. SUMMARY -- MALI PROGRAM WEEK WAS HELD MAY 26-28, 1987. AFR/DAA/WCA RICHARDS CHAIRED THE MEETINGS WHICH WERE ATTENDED BY REPRESENTATIVES OF AFR/SWA, AFR/PD, AFR/DP, AFR/TR, AFR/EMS, FVA AND PPC. USAID/MALI WAS REPRESENTED BY MISSION DIRECTOR CHIAVAROLI, PROGRAM OFFICER SIMMONS AND PROGRAM ECONOMIST ELLIOT. THE MEETINGS WERE DIVIDED INTO THREE SESSIONS, PROGRAM STRATEGY, PORTFOLIO/ABS REVIEW, AND MANAGEMENT ISSUES/ROUNDUP. THE CONCLUSIONS OF EACH MEETING ARE DISCUSSED BELOW.

2. PROGRAM STRATEGY - THE PROGRAM STRATEGY WAS REVIEWED IN TERMS OF: 1) THE PROGRESS OF ECONOMIC REFORM IN MALI AND 2) ITS RESPONSIVENESS TO CONGRESSIONALLY MANDATED SPECIAL CONCERNS (E.G., CHILD SURVIVAL, NATURAL RESOURCES MANAGEMENT AND BIOLOGICAL DIVERSITY). THE REVIEW ARRIVED AT THE FOLLOWING DECISIONS: A) MISSION STRATEGY OBJECTIVES AND PRIORITIES AS SET FORTH IN THE ACTION PLAN ARE APPROPRIATE. CHILD SURVIVAL MAY BECOME

ONE OF THE MISSION'S TOP THREE PRIORITIES WHILE ACTIVITIES TO UPGRADE GRM MANAGEMENT CAPABILITIES MAY BECOME A LOWER PRIORITY. NATURAL RESOURCE ACTIVITIES CAN BE HANDLED WITHIN THE EXISTING PROJECTS AND FUNDING LEVELS ALTHOUGH THE MISSION HAS AN NRM PROJECT ON THE SHELF AND WOULD WELCOME ADDITIONAL FUNDING, IF AVAILABLE, TO WORK IN THIS AREA. THE UPCOMING CDSS WILL HAVE TO EXAMINE THE ROLE AND PRIORITY OF POLICY REFORM VIS-A-VIS THE MISSION'S TECHNICAL ASSISTANCE PROJECTS AND SECTION 206 PROGRAMS AS WELL AS HOW THE U.S. AND OTHER DONOR PROJECTS SUPPORT ACHIEVEMENT OF FOOD SECURITY. THE REVIEW NOTED THAT FOOD SECURITY POLICY REFORMS ARE A NECESSARY BUT NOT SUFFICIENT CONDITION FOR SUSTAINABLE FOOD SECURITY.

- B. POLICY REFORM -- GRM, IBRD/IMF AND U.S. ARE IN AGREEMENT ON OBJECTIVES; ANY DISPUTES WE HAVE CENTER ON

TO	ACT	INFO
DIR		✓
D/DIR		✓
PROG	✓	
DFO		✓
MGMT		
CONT		✓
ADO		✓
GDO/		✓
JAO/DIR		
JAO/GSO		
JAO/PER		
DRAG		✓
DISP		
GAO/		✓

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THE PACE OF REFORM (FYI: THIS WAS RECONFIRMED DURING MISSION AND AID/W REPRESENTATIVE VISIT WITH IMF/IMF REPRESENTATIVES, WHERE DISCUSSIONS FOCUSSED ON PROBLEMS OF PROPOSED IBRD AND PUBLIC ENTERPRISE LOAN AND IMF STANDBY LOAN AND POSSIBLE ALTERNATIVES. MEMORANDUM OF MEETING BEING HANDCARRIED TO MISSION BY PROGRAM ECONOMIST ELLIOT. END FYI). IN VIEW OF NEED, AID/W WILL SERIOUSLY CONSIDER A DOLLARS 2 MILLION ARDN AMENDMENT PROPOSAL; MISSION SHOULD PREPARE PAAD AMENDMENT ASAP. TOTAL OR PARTIAL FUNDING FOR THIS ACTIVITY MAY BECOME AVAILABLE THIS FISCAL YEAR OR NEXT. USAID SHOULD REEXAMINE ITS PROPOSAL FOR FUNDING ARDN II, HOWEVER, AS DSF IS NOT EXPECTED TO BE AVAILABLE IN OUT YEARS AND DEVELOPMENT ASSISTANCE FUNDS MAY NEED TO BE USED. USAID SHOULD COMMUNICATE RESULTS OF MSU AND TUFTS STUDIES, AND REPORT ON IMPACT OF POLICY REFORM PROGRAMS AND POTENTIAL FOR FUTURE POLICY REFORMS.

3. PORTFOLIO REVIEW --THE MEETING DISCUSSED PROJECT PRIORITIES ISSUES THAT HAD ARISEN FROM THE EARLIER PID REVIEW PLUS SPECIAL ISSUES. THE CONCLUSIONS WERE AS FOLLOWS:

- A) PROJECT PRIORITIES -- MISSION PRIORITIES ARE APPROPRIATE. POLICY REFORMS CONTINUE AS TOP PRIORITY, WITH OPERATION HAUTE VALLEY (OHV) AND LIVESTOCK THE MOST IMPORTANT DA PROJECTS:

- B) CEREALS MARKETING RESTRUCTURING -- MEETING FOCUSSED ON PROBLEMS IN INCREASING PRIVATE SECTOR ROLE, INCLUDING PRICE UNPREDICTABILITY AND HESITANCY OF ODRS (SUCH AS OFFICE DU NIGER) IN ENCOURAGING PRIVATE SECTOR

INVOLVEMENT. MISSION DIRECTOR CHIAVAROLI SAID PRIVATE SECTOR INVOLVEMENT IS IMPORTANT ELEMENT OF OUR POLICY DIALOGUE AGENDA AND IS ESPECIALLY EMPHASIZED IN THE RECENTLY APPROVED DOLLARS 1 MILLION CEREALS MARKETING CASH TRANSFER (PROJECT 2241). BOTH UPCOMING EVALUATION AND PHASE II PID OR OTHER PROGRAM DOCUMENT (FALL OF 86) WILL STRESS PRIVATE SECTOR ROLE. BY TIME OF DECISION ON PID FOR NEW PROJECT WE WILL HAVE INFORMATION ON IMPACT OF RECENT CASH TRANSFER ON STIMULATING PRIVATE SECTOR INVOLVEMENT. MISSION WILL SEND AID/W PIRS FOR PROJECTS 2232 AND 2241 PLUS COPY OF EVALUATION;

- C) OPERATION HAUTE VALLEE -- AID/W WANTS COPIES OF FINAL CHECCI STUDIES, ALONG WITH MISSION COMMENTS, PRIOR TO THEIR INCLUSION IN FOLLOW-UP PROJECT (PHV) PID, EXPECTED TO BE SUBMITTED FOR AID/W REVIEW IN JULY:

- D) MANANTALI RESETTLEMENT -- WE WILL BE ABLE TO TERMINATE AT PRESENT PACE. ONCE PROJECT ENDS, AID BE

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INVOLVEMENT WILL CEASE IN THE FIRST REGION. [illegible] RICHARDS SAID MISSION SHOULD EXPECT AID/W SCRUTINY [illegible] THIS AND LIVESTOCK SECTOR PROJECT (SEE BELOW). [illegible] FFC WILL DISCUSS AN EVALUATION, INCLUDING LESSONS LEARNED, THAT MAY BE OF MORE GENERAL INTEREST;

- E) LIVESTOCK - CURRENT PROJECT, INCLUDING RECENT FAVORABLE EVALUATION, DISCUSSED. MISSION IS REQUESTING AN AMENDMENT FOR DOLLARS 4 MILLION OVER 2 YEARS, TO BE APPROVED IN THE FIELD UNDER CURRENT DELEGATIONS OF AUTHORITY. AID/W WILL HAVE OPPORTUNITY TO REVIEW EVALUATION WHEN PES IS SUBMITTED (JUNE). SPECIAL ATTENTION WILL BE PAID TO PRIVATIZATION OF THE VETERINARY AND OTHER EXTENSION SERVICES (AN AREA USAID IS CURRENTLY STUDYING). CURRENT EXPECTATION IS THAT A LIVESTOCK SECTOR III PROJECT WILL BE PREPARED IN FY 1990 FOR FY 1991 OBLIGATION;

- F) FORESTRY - USAID IS PLANNING A DOLLARS 750,000, 3 YEAR AMENDMENT TO CURRENT VILLAGE REFORESTATION PROJECT, AND IS DISCUSSING THE ASSUMPTION OF PROJECT MANAGEMENT WITH 2 PVOS. AID/W HAD NO PROBLEMS RE THIS PROJECT, THE AMENDMENT WILL BE REVIEWED AND APPROVED IN THE FIELD;

- G) PVOS - THE PROBLEM OF KEEPING A PVO (ESPECIALLY CARE AND WVRO) PRESENCE IN THE SAHEL REGIONS IN NON-DROUGHT YEARS WAS DISCUSSED. THE MAIN PROBLEM IS FINDING ENOUGH MONETARY SUPPORT (A OUT DOLLARS [illegible],000 PER YEAR) TO PERMIT THEM TO CONTINUE THEIR OPERATIONS. THE COSS SHOULD EXAMINE THE ROLE PLAYED BY THE PVOS IN THE DROUGHT-PRONE AREAS AND HOW THIS RELATES TO THE MISSION PROGRAMS. IN THE SHORT-RUN, PERHAPS A [illegible], USAID CAN PROVIDE THE PVOS WITH COUNTERPART FUNDS FROM P.L. 480 SALES PROCEEDS. USAID WILL ALSO ENCOURAGE THE PVOS TO REDUCE THEIR BUDGETS, AND USE MORE PRIVATELY RAISED FUNDS AND/OR CONTRIBUTIONS FROM THEIR CANADIAN AND EUROPEAN AFFILIATES. ALTHOUGH IT IS DIFFICULT TO MAINTAIN PVA OUTREACH GRANTS WITHOUT P.L. 480 BEING PROVIDED, AID/W WILL INVESTIGATE THAT POSSIBILITY;

- H) RECURRENT COSTS - THE MISSION SHOULD STUDY THIS ISSUE IN THE CONTEXT OF THE MALIAN LONG-TERM STRUCTURAL READJUSTMENT EFFORT AS WELL AS CONTINUE TO EXAMINE THE RECURRENT COST ASPECTS OF NEW PROJECTS. THIS ISSUE CANNOT BE HANDLED ONLY BY A.I.D., BUT REQUIRES THE ATTENTION OF ALL THE DONORS.

4. ABS REVIEW - CONCERN WAS EXPRESSED ABOUT MISSION PLANS FOR FY 1988 AND 89 NEW STARTS BECAUSE OF THE CURRENT SIZE OF THE PROGRAM MORTGAGE (DOLLARS [illegible] MILLION IN FY 1987), THE FACT THAT THE OUTYEAR AAPL PROJECTIONS OF DOLLARS 8 MILLION MAY BE OVERLY OPTIMISTIC, AND THE LIKELIHOOD THAT ERRP AND POSSIBLY PRMC-SUPPORT PROGRAMS MAY HAVE TO BE FUNDED THROUGH DA. FUNDING OF NEW STARTS MAY BUILD UP EXPECTATIONS AND CREATE COMMITMENTS THAT CANNOT BE MET. WHILE THE MISSION'S TWO TRACK STRATEGY OF POLICY REFORM AND FOOD

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CLARITY IS STILL APPROPRIATE, THE MISSION MAY [illegible] CHOOSE ONE OR THE OTHER, TO FURTHER ITS [illegible] FUTURE INVESTMENT. THE MISSION SHOULD EXPLORE THIS IN PREPARING THE CDSS, WHICH SHOULD INCLUDE ALL [illegible] PLANNING LEVELS. THE SPECIFIC RECOMMENDATIONS [illegible] MISSION WERE AS FOLLOWS:

- A) FY 1988 NEW STARTS - MISSION SHOULD DESIGN, [illegible] AND APPROVE FUNDING OF LIVESTOCK II AMENDMENT UNDER CURRENT DOA. IT MAY DESIGN THE DHV PROJECT AND SUBMIT PID FOR AID/W REVIEW, WITH THE UNDERSTANDING THAT IT MAY HAVE TO BE A SHELF PROJECT OR HAVE A REDUCED [illegible], DEPENDING ON BUDGET AVAILABILITIES;

- B) NATURAL RESOURCES MANAGEMENT - MALI PROPOSES TO FULFILL ITS ROLE AS A NRM EMPHASIS COUNTRY THROUGH ITS ONGOING PORTFOLIO RATHER THAN THROUGH DISCRETE PROJECTS WHILE THE ABS REVIEW CONCURRED WITH MALI'S APPROACH, RECENT DECISIONS ON HOW TO RESPOND TO THE THREE CONGRESSIONALLY MANDATED EMPHASES (CHILD SURVIVAL, POPULATION AND NRM) MAY RESULT IN CHANGING THIS DECISION;

- C) AEPRP II - A DOLLARS 20 MILLION AEPRP IS UNREALISTIC BECAUSE OF EXPECTED EXTREME FUNDING STRINGENCIES. IF THE DEVELOPMENT FUND FOR AFRICA IS APPROVED, THAT WILL BE THE SOURCE FOR AEPRP FUNDS. OTHERWISE, DA FUNDS WOULD IN ALL LIKELIHOOD HAVE TO BE USED. THE MISSION WILL HAVE TO CAREFULLY PRIORITIZE ITS EPRP REQUIREMENTS;

- D) CEREALS MARKETING SUPPORT (PRMC) - ALL POL AND ALTERNATIVES SHOULD BE EXPLORED TO ENABLE US TO CONTINUE TO SUPPORT THE PRMC WITHOUT USING SCARCE DA FUNDS.

FYI: AID/W ADVISES THAT ALL PIDS AND PAIPS FOR NEW STARTS IN FY 88 AND 89 SHOULD BE SUBMITTED TO AID/W FOR REVIEW AND APPROVAL. DECISIONS REGARDING THE AUTHORIZATION ENVELOPES EACH OF THESE NEW STARTS WILL BE MADE ON A CASE BY CASE BASIS AT THE PID OR PAIP [illegible] ET

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MEETING. AND FYI.

5. MANAGEMENT ISSUES

- A) STAFFING LEVELS AND COMPOSITION - MISSION USE LEVEL WILL REMAIN AT 19 (PLUS AN IDI).

- B) THERE WERE NO OBJECTIONS TO THE POSSIBLE RE-STAFFING OF THE ENGINEERING OR HUMAN RESOURCES DEVELOPMENT OFFICER POSITIONS AS AN ASSISTANT PROGRAM ECONOMIST.

- C) IN ORDER TO PROMOTE GREATER MALIANIZATION, THE FSN TRAINING PROGRAM SHOULD BE CONTINUED.

6. WRAPUP MEETING - THIS WAS DEVOTED TO A SUMMARY OF THE CONCLUSIONS REACHED (SEE ABOVE) AND A DISCUSSION OF ADDITIONAL, NOT PREVIOUSLY DISCUSSED ISSUES, AS FOLLOWS:

- A) EVALUATION REPORTING - THERE WAS CONCERN OVER THE MIX OF EVALUATIONS AS BETWEEN INTERNAL AND EXTERNAL. THE MISSION REPRESENTATIVES EMPHASIZED THAT MOST OF THE EVALUATIONS WERE EXTERNAL. FURTHERMORE, ONCE THEY HAVE BEEN TRANSLATED AND (WHEN APPROPRIATE) SHARED WITH THE GOM, THEY WILL BE MADE AVAILABLE TO AID/W. GIVEN LONG LEAD SOMETIMES REQUIRED TO FINALIZE EVALUATION SUMMARIES FOR SUMISSION TO AID/W, MISSION ENCOURAGED TO SHARE PRELIMINARY RESULTS OF EVALUATIONS WITH AID/W;

- B) PROGRAM PERFORMANCE BENCHMARKS - MISSION WILL TRY TO DEVELOP THESE FOR NON-PROJECT ACTIVITIES.

7. AID/W WILL CABLE FY 88-89 BUDGET FIGURES AFTER FINAL AGENCY REVIEW. ARMACOST
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#2307

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Annex 6

Initial Environmental Examination

INITIAL ENVIRONMENTAL EXAMINATION

PROJECT LOCATION : MALI

PROJECT TITLE : LIVESTOCK SECTOR II

FUNDING : FY 88 DEVELOPMENT FUND FOR AFRICA

IEE PREPARED BY : Jeffrey W. Goodson
Regional Environmental Expert
June 3, 1988

RECOMMENDED THRESHOLD DECISION : Negative Determination, categorical exclusion; Summary of findings: Project interventions over and above those considered in the IEE for the original project include 1) development of a diseases diagnostic network; 2: improving field agent capacity to address animal nutrition and production problems; 3) development of a natural resources and disease information system; 4) development of a improved vaccine and medication distribution system; 5) implementation of a forage and animal production research program; 6) strengthening the extension service's capacity to disseminate technologies; 7) implementation of a financial management system; 8) implementation of a management information system to meet Ministry-wide program needs. Items 3, 5, 6, 7 and 8 above are categorically excludable pursuant to the provisions of 22 CFR 216.2 (c) (1) (i); 2 (c) (1) (iii), (ii), (iii) and or (xiv). Items 1, 2 and 4 above are recommended for negative determination because they are extensions of current activities undertaken to address livestock disease, nutrition and production problems, and because none of the activities is expected to result in a significant adverse impact on the physical or natural environment. While they should serve to improve livestock survivability and therefore increase impact to some extent over other project interventions they will serve to better distribute livestock impact geographically.

MISSION DIRECTOR'S CONCURRENCE

Eugene R. Chiavaroli

Eugene R. Chiavaroli

Date: Aug. 13, 1988

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INITIAL ENVIRONMENT EXAMINIATION

or

CATEGORICAL EXCLUSION

(PP AMENDMENT)

Project Country: Mali

Project Title: Mali Livestock Sector II (688-0218)

Funding: FY(s) 1982-1991 US$ 5,000,000 (increase)

IEE Prepared By: Jeffrey W. Goodson
Regional Environmental Officer
REDSO/WCA

Date: 3 June 1988

Environmental Action Recommended:

Positive Determination	
Negative Determination	X
Categorical Exclusion	X
Deferral	

Summary of Findings:

Project interventions over and above those considered in the IEE for the original project include 1) development of a disease diagnotic network; 2) improving field agent capacity to address animal nutrition and production problems; 3) development of a natural resources and disease information system; 4) development of an improved vaccine and medication distribution system; 5) implementation of a forage and animal production research program; 6) strengthening the extension service's capacity to disseminate technologies; 7) implementation of a financial management system; and 8) implementation of a management information system to meet ministry-wide program needs. Items 3, 5, 6, 7 and 8 above are categorically excludable pursuant to the provisions of 22 CFR 216.2(c)(1)(i); 2(c)(1)(iii); 2(c)(2)(i), (ii), (iii) and or (xiv). Items 1, 2, and 4 above are recommended for negative determination because they are extensions of current activities undertaken to address livestock disease, nutrition and production problems, and because none of the activities is expected to result in a significant adverse impact on the physical or natural environment. While they should serve to improve livestock survivability and therefore increase impact to some extent over and above what it would otherwise be, at the same time and in tandem with other project interventions they will serve to better distribute livestock impact geographically.

Concurrence:

Bureau Environmental Officer: APPROVED: _____

DISAPPROVED: _____

DATE: _____

Clearance:

GC/Africa: E.A. Dragus, RLA DATE: 15 June 1988

VZCZCBMA *
RR RUEHC RUEHAB
DE RUTAEM #3676 169 **
ZNR UUUUU ZZH
R 171445Z JUN 88
FM AMEMBASSY BAMAKO
TO RUEHC / SECSTATE WASHDC 4752
INFO RUEHAB / AMEMBASSY ABIDJAN 1284
BT
UNCLAS BAMAKO 03676

CLASS: UNCLASSIFIED
CHRGE: AID 06/16/88
APPRV: DIR: ERCHIAVAROLI
DRFTD: PRM: CCANTELL:CD
CLEAR: 1.PRM:VH ADO:CP
3.CONT:KF
DISTR: AID AMB ECON
DCM

AIDAC

AID/W FOR AFR/TR/PRO - BESSIE BOYD; ABIDJAN FOR J. GOODSON

E.O. 12356:N/A
SUBJECT: MALI - IEE FOR LIVESTOCK SECTOR II, 688-0218

1. FOLLOWING IS TEXT OF IEE OR CATEGORICAL EXCLUSION PREPARED AND SIGNED BY REDSO/WCA REGIONAL ENVIRIONMENTAL OFFICER, JEFFREY W. GOODSON.

BEGIN TEXT.

INITIAL ENVIRONMENT EXAMINATION OR CATEGORICAL EXCLUSION (PP AMENDMENT).
PROJECT COUNTRY: MALI
PROJECT TITLE: MALI LIVESTOCK SECTOR II (688-0218)
FUNDING: FY(S) 1982-1991 US DOLS 5,000,000 (INCREASE)
IEE PREPARED BY: JEFFERY W. GOODSON, REGIONAL ENVIRONMENTAL OFFICER, REDSO/WCA.
DATE: 3 JUNE 1988.
ENVIRIONMENTAL ACTION RECOMMENDED:
- NEGATIVE DETERMININATION
- CATEGORIAL EXCLUSION
SUMMARY OF FINDINGS:
PROJECT INTERVENTIONS OVER AND ABOVE THOSE CONSIDERED IN THE IEE FOR THE ORIGINAL PROJECT INCLUDE 1) DEVELOPMENT OF A DISEASE DIAGNOSTIC NETWORK; 2) IMPROVING FIELD AGENT CAPACITY TO ADDRESS ANIMAL NUTRITION AND PRODUCTION PROBLEMS; 3) DEVELOPMENT OF A NATURAL RESOURCES AND DISEASE INFORMATION SYSTEM; 4) DEVELOPMENT OF A IMPROVED VACCINE AND MEDICATION DISTRIBUTION SYSTEM; 5) IMPLEMENTATION OF A FORAGE AND ANIMAL PRODUCTION RESEARCH PROGRAM; 6) STRENGTHENING THE EXTENSION SERVICE'S CAPACITY TO DISSEMINATE TECHNOLOGIES; 7) IMPLEMENTATION OF A FINANCIAL MANAGEMENT SYSTEM; AND 8) IMPLEMENTATION OF A MANAGEMENT INFORMATION SYSTEM TO MEET MINISTRY-WIDE PROGRAM NEEDS. ITEMS 3, 5, 6, 7 AND 8 ABOVE ARE CATEGORICALLY EXCLUDABLE PURSUANT TO THE PROVISIONS OF 22 CFR 216.2 (C)(1)(I); 2(C)(1)(III), (II), (III) AND OR (XIV). ITEMS 1, 2, AND 4 ABOVE ARE RECOMMENDED FOR NEGATIVE DETERMINATION BECAUSE THEY ARE EXTENSIONS OF CURRENT ACTIVITIES UNDERTAKEN TO ADDRESS LIVESTOCK DISEASE, NUTRITION AND PRODUCTION PROBLEMS, AND BECAUSE NONE OF THE ACTIVITIES IS EXPECTED TO RESULT IN A

3676

SIGNIFICANT ADVERSE IMPACT ON THE PHYSICAL OR NATURAL ENVIRONMENT. WHILE THEY SHOULD SERVE TO IMPROVE LIVESTOCK SURVIVABILITY AND THEREFORE INCREASE IMPACT TO SOME EXTENT OVER OTHER PROJECT INTERVENTIONS THEY WILL SERVE TO BETTER DISTRIBUTE LIVESTOCK IMPACT GEOGRAPHICALLY.

CONCURRENCE:
- BUREAU ENVIRONMENTAL OFFICER APPROVED:

- DISAPPROVED:

- DATE:

END TEXT.

2. ACTION REQUESTED: PLEASE CABLE IMMEDIATE CONCURRENCE APPROVAL. USAID ANTICIPATIES OBLIGATING DOLS 3,800,000 BY BEGINNING OF 4TH QUARTER. FYI: REGIONAL LEGAL ADVISOR, ED DRAGON, WILL BE TDY TO BAMAKO JUNE 15 - 19, AND USAID WILL OBTAIN HIS CLEARANCE. END FYI.
LEWIS
ET
#3676

NNNN

UNCLASSIFIED STATE 205208

ACTION: AID 5 INFO: AMB DCM ECON

5 A100

VZCZCTAA415ESA165
PP RUTAEM
DE RUEHC #5209 1770816
ZNR UUUUU ZZH
P 250811Z JUN 88
FM SECSTATE WASHDC
TO AMEMBASSY BAMAKO PRIORITY 2415
BT
UNCLAS STATE 205208

LVST

LOC: 225 239
25 JUN 88 0909
CN: 20540
CHRG: AID
DIST: AID

ACTION TAKEN: Prog sending AE copy
DATE 7/8/W. 7/8/8
INITIALS:

RECEIVED JUN 27 1988

AIDAC, ABIDJAN FOR REDSO/WCA

E.O. 12356: N/A
TAGS:
SUBJECT: MALI-LIVESTOCK SECTOR II - IEE (688-0218)

REF: BAMAKO 03576

BUREAU ENVIRONMENTAL OFFICER, AFR/TR/ANR, CONCURS WITH RECOMMENDED ACTION IN REFTEL. WHEN IEE CLEARED BY REGIONAL LEGAL ADVISOR, FORWARD COPY FOR AID/W RECORDS. SHULTZ
BT
#5208

NNNN

UNCLASSIFIED STATE 205208

DUE DATE 6/30/88
ACTION A100
INFO
DIR
D/DIR
PROG
DEO
MGT
CONT
ADO
GDO
JAO/DIR
JAO/GSO
JAO/PER
DISP
C&R
CHRON
RF

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ANNEX 7

N° ...../MEE-CAB

Bamako, le 5 Juillet 1988

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Le Ministre de l'Environnement et de l'Elevage

A Monsieur le Directeur de l'USAID...

- Bamako -

Monsieur,

La phase de prolongation du Projet Sectoriel de l'Elevage jusqu'au 30 Septembre 1991, a fait l'objet de plusieurs rencontres entre nos deux services.

Cette prolongation devrait permettre de consolider les acquis et de parfaire la stratégie définie par les diverses réunions du CCG et les différents rapports d'évaluation pour atteindre les objectifs assignés.

C'est pourquoi j'ai l'honneur de solliciter auprès des hautes Autorités de votre pays le financement de la phase de prolongation du Projet Sectoriel de l'Elevage et ce, jusqu'au 30 Septembre 1991.

P/LE MINISTRE PO

LE DIRECTEUR DE CABINET

FERNAND TRAORE

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