

6250610 ②

I. PROJECT IDENTIFICATION

1. PROJECT TITLE		APPENDIX ATTACHED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Central Veterinary Laboratory (CVL)		2. PROJECT NO. (M.O. 1095.2) 625-11-190-610
3. RECIPIENT (specific)		4. LIFE OF PROJECT
<input type="checkbox"/> COUNTRY _____		BEGINS FY <u>1973</u>
<input checked="" type="checkbox"/> REGIONAL _____ <input type="checkbox"/> INTERREGIONAL _____		ENDS FY <u>1978</u>
		5. PERMISSION <u>1/28/74</u> <input checked="" type="checkbox"/> ORIGINAL DATE <input type="checkbox"/> REV. NO. _____ DATE CONTR. PASA NO. _____

II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMOD- ITIES \$	F. OTHER COSTS \$	G. PASA CONTR.		H. LOCAL EXCHANGE CURRENCY RATE \$ L'S (U.S. OWNED)			
		1 \$	MM	1 \$	2 MM			1 \$	2 MM	(1) U.S. GRANT LOAN		(2) COOP COUNTRY	
										(A) JOIN	(B) BUDGET	(A) JOIN	(B) BUDGET
1. PRIOR THRU ACTUAL FY	312	204	71	-	-	103	5	146	29			125	
2. OPRN FY 74	213	191	96	16	16	6	-	120	24			100	
3. BUDGET FY 75	197	161	96	16	16	20	-	90	24			225	
4. BUDGET 11 FY 76	173	131	84	16	16	26	-	60	12			230	
5. BUDGET 12 FY 77	167	131	84	16	16	20	-	60	12			240	
6. BUDGET 13 FY 78	104	71	72	16	16	17	-	-	-			250	
7. ALL SUBQ. FY													
8. GRAND TOTAL	1166	889	503	80	80	192	5	476	101			1,170	

9. OTHER DONOR CONTRIBUTIONS

(A) NAME OF DONOR FED UN (IAEC)	(B) KIND OF GOODS SERVICES Local operating Costs FY 74; Immunologist FY's 74-75-76	(C) AMOUNT \$300 \$120
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III. ORIGINATING OFFICE CLEARANCE

1. DRAFTER AFR/DS, JBlumgart <i>JB</i>	TITLE Assist. Dir. AFR/DS	DATE 2/13/74
2. CLEARANCE OFFICER AFR/CWR:FJSpencer <i>FJ</i>	TITLE Dir, AFR/CWR	DATE

IV. PROJECT AUTHORIZATION

1. CONDITIONS OF APPROVAL

2. CLEARANCES					
BUR OFF.	SIGNATURE	DATE	BUR OFF.	SIGNATURE	DATE
AFR/CWR	J. Patterson <i>J.P.</i>	2/13/74	AFR/CWR	RHuesmann	
AFR/CWR	L. Clyburn <i>L.C.</i>		AFR/AA	DBrown	
AFR/CWR	OCylke <i>O.C.</i>	2/11/74			
AFR/DS	Flyman <i>F.</i>	2/13/74			
3. APPROVAL AAS OR OFFICE DIRECTOR			4. APPROVAL AID (See M.O. 1025.1 VI C)		
SIGNATURE Samuel C. Adams, Jr.		DATE	SIGNATURE		DATE
TITLE Asst. Adm., Bureau for Africa			ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT		

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1974 to FY 1978
Total U. S. Funding \$854,000
Date Prepared: January 1974

Project Title & Number: Central Veterinary Laboratory (CVL)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>1. Increase and protect health of national herd. 2. Increase beef production and exports.</p>	<p>Measures of Goal Achievement:</p> <p>1. Reduce the death rate 2. Reduce calf mortality rate 3. Increase value of cattle for domestic slaughter and export. 4. Increase in value of total meat production.</p>	<p>1. GOM's Livestock and Animal Health Service, Abattoir and Market Statistics, and Customs data. 2. Other donor studies and surveys</p>	<p>Assumptions for achieving goal targets:</p> <p>1. Progressive recovery of the Sahel - Sudanic range lands. 2. Continued GOM and donor interest and support. 3. Continued growth in demand for beef.</p>																
<p>Project Purpose:</p> <p>Adequate supply of effective vaccines to the Malian Livestock and Animal Health Service.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <p>1. A facility able to meet vaccine demands of the Mali Livestock service. 2. Vaccines of quality to prevent disease. a) Improved CBPP vaccine and others developed through research. b) Diagnostic services for forecasting and evaluation. 3. Lab and equipment in good running order and supported by fully trained Malian staff.</p>	<p>1. Periodic reports of the Director of CVL, the Malian Livestock & Animal Health Service, AID project manager, Veterinary Advisor and contract technicians. 2. Periodic testing of the viability of stored vaccines and to determine antibody response. 3. Records of all diagnostic procedures and all shipments of vaccines to the six regional centers.</p>	<p>Assumptions for achieving purpose:</p> <p>1. Adequate local cost financing of the laboratory. 2. Proper & timely installation of lab equip. procured under R/R funds.</p>																
<p>Outputs:</p> <p>1. Vaccine Production: CBPP, Rinderpest Anthrax, Blackleg, Pasteurellosis. 2. Functioning Diagnostic Service</p>	<p>Magnitude of Outputs:</p> <p>1. Doses per year: CBPP (3,290,000) Rinderpest (3,290,000), Anthrax (250,000) Blackleg (1,000,000) Pasteurellosis (1,650,000). Amounts to be increased 2-4% each year. 2. Diagnostic Service: Capable of performing 300-400 diagnoses per year.</p>	<p>1. Inventory Control 2. Diagnostic Service records 3. Periodic reports of the Director of CVL, the Malian Livestock & Animal Health Service, AID Project Manager, Veterinary Advisor and contract technicians. 4. Annual & adhoc joint GOM, AID, and other donor evaluations.</p>	<p>Assumptions for achieving outputs:</p> <p>1. Adequate local financing of the laboratory. 2. Proper & timely installation of lab equip. procured under R/R funds.</p>																
<p>Inputs:</p> <p>AID: DH Vet. Advisor; Contract Microbiologist and Repairs & Maintenance Engineer- Commodities: Vehicles & spare parts- Training: 60 MM academic training; 15 MM short - term training; 120 MM Local hire sec/admin personnel. Other donors: FED local costs FY 73-74; UK financed immunologist FY 74-76 GOM: Technical Staff.</p>	<p>Implementation Target (Type and Quantity)</p> <p>AID DH Vet. Advisor (on board), 5 yrs.; Microbiologist-4 yrs.; Engineer, 3 yrs.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"></td> <td style="text-align: right;">Sub-Total (000) \$ 630</td> </tr> <tr> <td>Commodities</td> <td style="text-align: right;">89</td> </tr> <tr> <td>Training</td> <td style="text-align: right;">80</td> </tr> <tr> <td>Local Costs</td> <td style="text-align: right;">55</td> </tr> <tr> <td style="text-align: right;">U.S. Total</td> <td style="text-align: right;">854</td> </tr> <tr> <td>Other Donors</td> <td style="text-align: right;">420</td> </tr> <tr> <td>GOM</td> <td style="text-align: right;">1,045</td> </tr> <tr> <td style="text-align: right;">Grand Total</td> <td style="text-align: right;">2,319</td> </tr> </table>		Sub-Total (000) \$ 630	Commodities	89	Training	80	Local Costs	55	U.S. Total	854	Other Donors	420	GOM	1,045	Grand Total	2,319	<p>1. AID Project Agreements & FIO/T's 2. Implementation Plans 3. Annual & adhoc joint GOM, AID & Other Donor evaluations. 4. Contractor reports.</p>	<p>Assumptions for providing inputs:</p> <p>Continued financial resources.</p>
	Sub-Total (000) \$ 630																		
Commodities	89																		
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U.S. Total	854																		
Other Donors	420																		
GOM	1,045																		
Grand Total	2,319																		

NON CAPITAL PROJECT PAPER

(PROP)

CENTRAL VETERINARY LABORATORY
(MALI)

February, 1974

TABLE OF CONTENTS

PROP

	<u>Page</u>
I. Background and Summary Description	1
II. Project Design Summary - Logical Framework	4
III. Project Justification and Rationale	11
IV. Donor Inputs	13
A. AID Inputs	13
1. Completion of work under the loan	14
2. Commodities to be purchased through the Sahel Recovery and Rehabilitation Program	14
3. Technical Assistance and Related Items	15
B. Other Donor Inputs	22
1. United Nations	22
2. FED	23
3. Potential Donors	23
C. GOM Inputs	24
V. Project Implementation	25
A. Annual Work Plans	26
B. Project Evaluation	27

TAB A

I. Narrative Report on the Mali CVL Project - October 1973 (28 p.)	
Annex A - Organizational Chart of the Ministry of Production	
Annex B - Veterinary Production and Research Facilities in West Africa: A "Regional Role" for the CVL?	
Annex C - Description of the CVL - Excerpt from 1972 Annual Report	
Annex D - State 193979 of 9/28/73	

TAB B

- I. CVL - Urgent Commodity Requirements
- II. Konnerup Memorandum of 11/30/73 on Technical issues on the C.V.L.

TAB C

- I. Suggested Staffing Pattern

Central Veterinary Laboratory

Non-Capital Project Paper (PROP)

I. Background and Summary Description

Exactly ten years ago, in December 1963, AID and the Government of Mali (GOM) signed a loan agreement for the construction and equipment of a Central Veterinary Laboratory (CVL) some 12 kilometers outside Bamako. The Development Loan, amounting to \$1.1 million was increased in 1968 to \$1.95 Million. In addition to the loans, AID has invested several hundred thousand dollars in grant funds for commodities, technical assistance and local costs for this project and related activities since FY 1962.*

As indicated in the loan paper, the CVL was constructed with three objectives in mind. The first was to provide Mali -- the major livestock producing nation of West Africa -- with a dependable source of production of vaccines for the major diseases affecting the Malian livestock population. The second was to supply rinderpest vaccine for the West African Rinderpest Campaign -- a major AID/FED regional project which was being organized at that time. The third was to supply the vaccine needs of some of Mali's neighboring West African countries. For various reasons, neither the second nor third objectives has proved feasible.** Nevertheless the importance and value of the first objective continues to have validity -- probably even more so today than when the project was first conceived.

* Under the earlier bi-lateral program in Mali, AID obligated \$833,000 for project 688-11-130-013 ("Animal Resources and Marketing") most of which was devoted to veterinary activities. In addition, \$312,000 was obligated for this project in FY 1973.

** Delays in CVL loan implementation and construction caused the rinderpest Campaign to obtain its vaccines from other sources. The problems of the CVL serving as a regional vaccine production center are evaluated in Tab A, Annex B.

The CVL project has been plagued with problems since its inception. Its record of woes is well documented. Even today it is still not entirely out of the woods. It has been a source of serious friction and frustration for both the USG and the GOM. Hence, AID has a considerable psychological as well as financial stake in bringing this project to a successful conclusion.

Since it began functioning in June 1972, the Technical problems that have been discovered in the CVL have been receiving attention and correction. An engineering firm is systematically taking measures to correct or repair equipment malfunctions due to earlier design or installation errors. That work should be completed by the end of February. Work is also proceeding on the construction of a back-up water source and on external fencing and housing. In addition, certain additional equipment and spare items are being procured on an expedited basis (from Drought Recovery Funds) which will meet the CVL's remaining urgent production and storage needs and will provide an inventory of spare parts. Thus the CVL is now on the verge of having the capability to serve its primary objective -- of being a dependable and adequate source for the materials necessary to meet the vaccination needs of the Malian National herd.

Meanwhile, much has happened in Mali and in its livestock sector over the past decade to enhance the importance and value of CVL's vaccine production role. Of immediate importance is providing the materials for the current 1973-4 vaccination campaign -- a campaign which is a vital part of the drought recovery effort, given the greater susceptibility of Malian cattle this year to animal diseases.

Moreover, longer-term changes have been taking place in livestock production and consumption patterns in West Africa which point toward major development opportunities for Mali. The growth of demand for cattle for slaughter in the coastal markets of West Africa is bound to result in major price increases for Malian cattle and income gains for all involved in the livestock sector, particularly the producers. Here again the animal health protection effort, of which the CVL is an indispensable component, will help to determine the extent to which Mali will benefit from this opportunity.

Finally, the Mali livestock sector is receiving increasing attention from external donors. FED, FAC, IBRD, the U.N. and AID are all involved in current and potential projects aimed at increasing production and commercialization of livestock. Some, like those under consideration by IBRD and AID, have animal health components which look to the CVL to meet their vaccine requirements. In addition, FED, the U.N. and, indirectly, FAC are providing assistance to the CVL itself.

The project recommended in this PROP involves assisting the CVL to strengthen its capabilities to serve the vaccine production needs of the Mali livestock sector. It will do this in three ways. First, technical assistance will be provided in the management of the laboratory, increasing its efficiency and output and training its professional and technical staff. Second, technical assistance inputs will also strengthen the capability of the maintenance crew to service, maintain and repair the equipment at the facility. Third, applied adaptive research will be carried out at the

laboratory through the joint efforts of an immunologist (provided by the U.N.) and a microbiologist who, with their Malian counterparts, will seek to improve the quality of locally produced vaccines, beginning with CBPP, so that they will provide more effective immunity. On-site training in the foregoing fields will be supplemented by academic training abroad and internships at other African laboratories. Fortunately, CVL already has a capable Director and the core of a well trained professional and technical staff. Finally, procurement of spare parts and supplies will complement the equipment maintenance and service program.

The technical assistance, training and commodities proposed in this PROP should assure that Mali will have by FY 1978, and probably much earlier, an effective and dependable production facility, to meet the country's annual needs for vaccines for the foreseeable future. In addition to annual reviews, an extensive evaluation of the program is proposed in FY 1976, at midpoint in the project, to measure progress and recommend future directions for the balance of the project, including CVL's relationship to the international livestock research centers in Africa, ILRAD and ILCA, which are also presently just being established.

II. Project Design Summary - Logical Framework

A-1. Program or Sector Goal: The Broader Objective to which this Project Contributes:

1. Improve and protect the health of the Malian national herd of 4-5 million animals, thereby permitting Mali to realize maximum benefits from the growth of demand by the coastal markets for Malian cattle as well as from the urban centers of Mali.

2. Increase the annual output of Malian Cattle for domestic consumption and for exports.

A-2. Measures of Goal Achievement:

1. Reduce the calf mortality rate from an estimated 40% to 20% by 1978.

2. Increase the number of cattle slaughtered for domestic consumption and for export to an annual rate of 5% by 1978.

3. Increase in the value of total meat production by 100% over 1972 by 1978.

A-3. Means of Verification:

1. The GOM's Livestock and Animal Health Service, which is the "delivery system" for the CVL in the field, gathers data and makes periodic estimates of animal health conditions. In addition, other donors also make periodic studies of animal health that can be compared with GOM figures.

2. Domestic consumption data can be obtained from market and abattoir statistics; Customs statistics and IBRD/IMF surveys provide data on exports and sales.

A-4. Assumptions for Achieving Goal Targets

1. Progressive recovery of the Sahelian and Sudanic range lands over the next five years.

2. Continued GOM and donor support of the development of the Mali livestock industry.

3. Continued growth of demand for Malian beef by the coastal countries as well as urban centers in Mali.

B-1. Project Purpose

1. To provide the Malian Livestock and Animal Health Service with an adequate supply of the major cattle disease vaccines having effective immunizing quality.

B-2. Conditions that will Indicate Purpose has been Achieved: End of Project Status:

1. A Veterinary Laboratory capable of producing vaccines to meet the requirements of the Mali Livestock Service -- to include trained staff, a research program to improve CBPP and other Vaccines, and a diagnostic service.

2. Laboratory producing a supply of vaccines of adequate quantity and quality to protect the national herd from major diseases.

a. Improved CBPP and other vaccines developed through research.

b. Diagnostic services in operation for forecasting and adjusting production and evaluating vaccine quality.

3. CVL facilities and equipment in good running order and supported by a fully trained Malian staff.

B-3. Means of Verification

1. Periodic reports of the Director of CVL, the Malian Livestock and Animal Health Service, the AID Project Manager, the Veterinary Advisor, and the contract technicians.

2. Periodic testing of the viability of stored vaccines before distribution in the field. Periodic serological testing on vaccinates to

determine antibody response.

3. Record all diagnostic procedures and all shipments of vaccines to the six regional centers of the Livestock Service.

B-4. Assumptions:

1. Adequate Malian financing of local costs of laboratory and of Livestock and Animal Health Service, possibly through charging the nomads and farmers for livestock services.

2. Adequate donor assistance on local costs to cover any major shortfalls on GOM financing.

3. Proper installation of equipment procured under Drought Recovery program and continued availability of the Maintenance Engineer through FY 1976.

C-1. Project Outputs:

1. Produce the following vaccines: Rinderpest, CBPP, Anthrax, Blackleg, Pasteurellosis.

2. Functioning diagnostic service

C-2. Magnitude of Outputs:

1. Produce following number of doses per year: Beginning in FY 1974: Rinderpest (3,290,000), CBPP (3,290,000), Anthrax (250,000), Blackleg (1,000,000) Pasteurellosis (1,650,000). These amounts will be increased 2-4% each year as the national herd increases in size. In addition, variations in requirements will occur as a result of campaigns initiated to avert possible outbreaks of particular diseases.

2. A diagnostic service capable of servicing the requests of the six regional centers and of evaluating samples of all lots of vaccines. The six centers will probably require such assistance on a weekly basis.

C-3. Means of Verification.

1. Routine inventory control
2. Diagnostic service records
3. Periodic reports of the Director of CVL, the Malian Livestock and Animal Health Service, AID Project Manager, Veterinary Advisor and contract technicians.
4. Annual and ad hoc joint GOM, AID and other donor evaluations.

C-4. Assumptions for achieving outputs.

1. Same as project assumptions (B-4)

D-1. Project Inputs

(\$000)

A. AID

1. U. S. Technical Assistance Personnel 630
 - (a) D. H. Veterinary Advisor - five years
 - (b) Microbiologist - four years
 - (c) Repair and Maintenance Training Engineer - three years
2. Commodities - vehicles and spare parts 89
3. Training 80
 - (a) five man years of academic training
 - (b) twenty man months of short term training
4. Local costs 55
 - (a) twenty-five man years of local hire secretarial/administrative personnel for U.S. staff

Total	854
B. Other Donors	(\$000)
1. FED financing of local costs, FY '74	300
2. U. N.-financed immunologist, FY '74-76	120
3. Possible U. K.-financed entomologist	N/A
4. Possible stationing of IICA scientists at CVL and Sotuba	N/A
C. GOM	
1. Provision of technical staff and local operating costs (approx. \$200,000-\$250,000 year)	1,045

D-2 Implementation Target (Type and Quantity)

A. AID

1. Veterinary Advisor already on board under pre-PROP financing.
2. Repair and Maintenance Engineer already on board under ORT contract with loan financing. Contract expires FY 1975 and negotiations for two year extension should be initiated in late FY 1974.
3. Microbiologist should be recruited under contract immediately upon approval of PROP. Assuming satisfactory performance, contract should be renewed in FY 1976 for additional two years.
4. Commodity procurement involves annual increment of spare parts and supplies for the laboratory equipment and the infrastructure equipment; one four wheel drive replacement vehicle would be purchased in FY 1975 and a second in FY 1977 for the U.S. staff.

5. The training schedule calls for providing one year of advanced academic training and four man months of short term observational training for the Malian professional staff annually. This is considered adequate given the fact that a small but well qualified Malian staff is already in being.

B. Other Donors

1. FED and U.N. assistance already made available. Additional FED assistance for local costs would be desirable in the event GOM unable to provide full amount of local operating costs.

2. The U.K. has expressed interest in providing technical assistance. The GOM should be encouraged to follow up on this, with entomological research on the tsetse an important priority.

3. U.S. and other donors should encourage IICA Board of Directors and Director to consider CVL and Sotuba research facilities as locations for one of their outreach stations.

C. GOM

1. Periodic advances of funds from GOM budget to CVL
2. Consideration by GOM in FY '74 and '75 of putting livestock services on a revenue earning basis based on fees charged to consumers

D-3. Means of Verification

A. AID

1. AID Project Agreement and PIO/T's
2. Project Implementation Plans
3. Project evaluations and FY '76 in-depth review
4. Contractor reports

B. Other Donors

1. Conclusion of necessary project agreements

C. GOM

1. Notification of necessary laws and regulations

D-4. Assumptions to providing Inputs

- A. AID and GOM will provide necessary financial resources

- B. Other donors will find the CVL an attractive project to invest in.

III. Project Justification and Rationale

The justification and rationale for the project is described in detail in Part A of the attached "Narrative Report on the Mali CVL Project" of October 1973 (Tab A). That section deals with the importance of the livestock sector to the Malian economy, the promising prospects for future growth in the value of livestock exports to the coastal markets of West Africa, and the importance of the current vaccination campaign to the Malian drought recovery effort.

The role of the CVL is also examined in the context of AID's proposed livestock strategy for Mali as articulated in the March 1973 "Mali Livestock Design Study" and the subsequent Mali livestock project. It is noted that CVL-produced materials will be required in support of the project's animal health activity.

Third, other donor investments in the Mali livestock sector are identified and the role of the GOM in coordinating these investments is noted. Thus, AID support for the CVL complements the substantial inputs of other donors and some, like The World Bank, are looking to

CVL-produced materials to meet their vaccine requirements.

As a result of the above, the following conclusion is reached (page 8): "Given the importance of the livestock sector for Malian development generally, and given the emphasis that AID and other donors are directing toward the expansion and greater efficiency of that sector, the importance and role of the CVL becomes clear. Essentially, the CVL, together with the Livestock Service and the research stations of the Agricultural Economic Institute, provide the services and supplies to protect or enhance the health of the Malian national herd. Their effective functioning is a precondition to the success of the investments which AID and other donors are considering, or are in the process of making, in the livestock industry. The need for these institutions to perform their roles is all the more important at this time when much of the herd has been weakened by the drought and is more susceptible to disease and parasites."

As indicated in Tab A, the ability of the CVL to perform its mission is directly dependent on the capacity of the local "delivery system", the Malian Livestock and Animal Health Service, to carry out its role of vaccinating the cattle. In addition, like the CVL, the Livestock Service has for some time functioned under severe budgetary constraints which have hampered its operations, although this fiscal year the problem has been met by special FED assistance to both agencies. However, it should be recognized that the problem may reoccur in the future unless some of the growth in income and sales which are anticipated in the Mali livestock

sector can be channeled back into government revenues for improved livestock services. This is a matter which AID and other donors investing in the development of Mali livestock -- perhaps at the forthcoming West African Livestock meeting convened by FED, -- should consult with a view to suggesting policy options to the GOM for changes in the livestock tax system or in charges for livestock services. Such changes will, at best, take several years to carry out and AID and other donors will need to consider what interim arrangements need to be made with the GOM to assure that its livestock agencies are adequately funded.

In the meantime, AID has a special interest in helping this project while such issues are being resolved. As noted in section A-6 of the report, the CVL project, for a variety of reasons, has been plagued with problems since its inception 11 years ago. It has been a periodic source of frustration, embarrassment and disappointment to both Mali and the U.S. for much of this time. AID has invested \$2 million in loan funds and several hundred thousand in grant funds for the CVL and related veterinary activities in Mali. With most of the technical problems apparently behind us, the CVL can begin to make a record of positive accomplishment and service in which both countries should be able to take pride.

IV. Donor Inputs

A. The funding for technical assistance proposed in this PROP would complement AID inputs from two other sources, the completion of construction and repair work under the loan (688-H-003) and the

procurement of vaccine production and storage equipment for the laboratory under the Drought Recovery Program.

1. Completion of Work under the Loan

This work concerns (a) the repair and correction of deficiencies discovered in the design of the CVL and in the installation of its equipment, (b) the construction of staff housing and fencing, and (c) the construction of a stand-by water supply system including a well and water tower. The first task is being carried out by an American engineering firm, the Leo A. Daly Company of California, and is scheduled for completion by the end of February. Contracts with local contractors have recently been signed for the housing and fencing and for the well. As indicated in the narrative report, work on the fencing and well should be expedited to the extent possible since their completion will help to assure the dependability of the CVL as a source of vaccines.

2. Commodities to be Purchased through the Sahel Recovery and Rehabilitation Program

There is an urgent need for the shipment and installation of a number of production and storage equipment items which would make a major difference over the near term in the CVL's capacity to provide sufficient vaccination materials of adequate quality. The major items include a freeze drier, refrigeration equipment and cryogenic equipment as well as adequate supply of spare parts and materials for the

existing facilities. Total cost is estimated at about \$200,000.* The list (attached as Tab B) was compiled by the CVL Director and the AID Veterinary Advisor in consultation with the livestock specialist and agricultural economist on the Special Sahel Task Force when the Task Force visited Mali in October. A technical justification for the procurement of these items has been provided by the Task Force livestock specialist in a memorandum of November 30, attached as Tab C.

The CVL Veterinary Advisor has submitted specifications for these items so that they can be procured and shipped to Mali as soon as Drought Recovery funds are made available. Procurement and shipment should be carried out on an expedited basis so that the equipment will make a maximum contribution to the current vaccination campaign.

3. Technical Assistance and Related Items

This PROP concerns the third component of AID assistance to the CVL and is largely related to the institution's needs for technical assistance as shaped by its objectives.

* Most of the equipment would be used for the production of lyophilized (freeze dried) CBPP vaccine. As noted in the narrative report (p. 17), the FMO Committee on CBPP vaccine has doubts about it and is not currently recommending its use. However AID, IEMVT and other Veterinary experts are of the opinion, on the contrary, that the freeze dried method of production does improve the vaccine's potency and shelf life. For example, the vaccine being produced at the IEMVT laboratory at Dakar-Hanh is freeze dried.

The most urgent and important objective of the CVL is to become the dependable and sufficient source of vaccine for the Mali livestock industry beginning with the present vaccination campaign. This involves producing in the neighborhood of 10 million doses of vaccine per year of which 70% would be for rinderpest and CBPP, the two diseases which pose the greatest threat to Malian cattle.

The next objective would be to initiate research activities designed to improve the quality and effectiveness of the vaccines produced by the CVL, beginning with the CBPP vaccine. The latter is subject to criticism - both by Malians and outside observers - for its short shelf life and the relatively weak degree of immunity which it provides. Also, the short shelf life prevents stocking sizeable quantities in advance for emergencies. The research referred to here is not "basic" research in the sense of attempting to develop a new type of CBPP vaccine, but applied research in the sense of attempting to improve the effectiveness of the vaccine currently produced at the CVL through improved production methods and adapting the strain more fully to the particular types of cattle found in Mali. See pages 2-3 of Tab C for a more detailed description of the kind of research contemplated.

The third and final objective of AID assistance is to institutionalize the production and research programs of the CVL and thus the training of Malian professional staff to carry on these programs after AID assistance terminates. This applies particularly to the

production program and concerns both the professional Malian personnel at the CVL as well as the laboratory technicians and maintenance crew. In regard to research, it would be desirable for the CVL-as with other research centers in Africa -- to serve indefinitely as^a/base for visiting scientists working with their Malian colleagues on Malian and regional veterinary problems.

These objectives should form the guidelines for the development of the CVL over the period of at least the next three years of AID assistance. Toward the end of FY 1976, the objectives should be reviewed and possibly modified in the light of accomplishment or changing circumstances. Clearly, the review should include consideration of research relationships with the African international livestock centers, IICA and ILRAD, as well as the various laboratories associated with IEMVT. IICA in particular would be an appropriate institution for stationing scientists at the CVL.

AID assistance would be provided in the following ways:

a. Veterinary Advisor (Direct Hire, 60 man-months). The incumbent, an experienced veterinarian, has been working at the CVL for about two years under interim funding and has done an outstanding job of coping with the many problems and crises which have arisen. He will continue to function as the senior technical advisor to the Director on the overall planning and operation of the total facility -- production, research and maintenance -- and will guide and evaluate the work of the two contract specialists. He will keep the AID Project Manager (see below)

advised on the status of the project and will provide the technical inputs necessary for the latter to perform his management functions.

b. Microbiologist/laboratory manager (personal services contract, 48 man-months). This technician would have two important functions. The first would be to serve as adviser to the Malian in charge of the vaccine production facility. In that capacity, he would be concerned with the efficient organization and management of the vaccine production laboratory. Developing the capabilities of the Malian laboratory technicians would be an important corollary responsibility. His second major function would be in the area of vaccine improvement. Working in collaboration with the U.N.-financed immunologist, he will be involved in the research and diagnostic activities aimed at improving the quality and lengthening the shelf life of the vaccines, especially CBPP. This position should be continued for four years by which time the Malian counterpart and his technical staff should have been fully trained.

c. Mechanical Engineer (ORT contract, 24 man-months).

A loan-funded contract with the Organization for Rehabilitation and Training (ORT) will provide until FY 75 the services of a Mechanical Engineer who has been doing an outstanding job in training the repair and maintenance crew of the CVL and its Malian chief. This contract should be extended for an additional two years with grant funding, by which time the crew should be capable of performing the necessary range of maintenance and repair functions.

SUMMARY OF TECHNICAL SERVICES (COST IN \$000)

<u>Category</u>	<u>Man Months</u>	<u>Projected Total Cost</u>
Veterinary Advisor (direct hire)	60	300
Microbiologist (PSC)	48	240
Mechanical Engineer (ORT Contract)	24	90
TOTAL	132	630

d. Participant Training. The CVL is fortunate in that there are several highly competent Malians already occupying key positions at the facility. These include the Director, the technician in charge of the production laboratory, an Entomologist and a Parasitologist. In addition, many of the sub-professional Malian staff have had previous experience in the pre-CVL laboratory which was located in Bamako. Also, there are a number of Malians presently being trained in Europe in specialties relevant to the CVL's needs but information is lacking as to specific fields, when they will return and their availability for work at the CVL.

Therefore, it does not appear that a major training program will be required to fill the gaps in CVL's staff needs. It is estimated that about 12 man-months of academic training and 4 man-months of short term training per year would be adequate over the five year period of the project. However, one of the first orders of business in implementing the project will be to establish a training schedule which will identify positions for which training is required, take into account potential trained personnel returning from Europe, and establish target dates for completion of training.

SUMMARY OF PARTICIPANT TRAINING (COST IN \$000)

<u>Category</u>	<u>Man Months</u>	<u>Projected Cost</u>
Short Term	20	20
Long Term	<u>60</u>	<u>60</u>
TOTAL	80	80

e. Commodity Costs. The basic outfitting of the CVL, mostly financed by the loan, will have been completed with the procurement of the additional equipment funded with Drought Recovery assistance (see above). Therefore, the commodity costs include in the project represent, for the most part, yearly requirements for spare parts and imported supplies and materials which run (including transportation) at the rate of about \$15-20,000 per year. To this should be added some air conditioners, a replacement vehicle for the expatriate staff (in FY 1975 and '77) and a preventive maintenance overhaul and second storage unit for the cryogenic generator in FY '76.

SUMMARY OF COMMODITY PROCUREMENT (COST IN \$000)

<u>ITEM</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>
Freeze drier and related equipment and supplies		1	1	1	1
Refrigeration equipment <u>a/</u>		1	1	1	1
Cryogenic generator and storage unit <u>b/</u>		1	9	1	1
Spare parts for lab equipment <u>c/</u>		2	2	2	2
Maintenance tools <u>c/</u>		1	1	1	1
Vehicles and spare parts <u>c/</u>		5	2	5	2

<u>ITEM</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>
Imported Chemicals and supplies c/		5	5	5	5
Air conditioners	<u>5</u>	<u>--</u>	<u>1</u>	<u>--</u>	<u>1</u>
TOTAL	5	16	22	16	14
Transportation cost on imported items (25%)	<u>1</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>3</u>
TOTAL	6	20	26	20	17

- a) For work in ultra low temperature storage room for virus vaccines after lyophilization.
- b) Ultra low temperature storage equipment for stockpiling seed materials for virus vaccines, rinderpest vaccines, and research materials. A preventive maintenance overhaul and a second storage unit would be required in FY 1976.
- c) Funding for supplemental spares, materials, replacement vehicles.

f. Local Technician Costs. The issue of local cost financing is discussed in the covering memorandum to this PROP. The local cost requirement noted below is for local hire secretarial driver and other services for the expatriate staff, estimated at \$11,000 per year.

SUMMARY OF LOCAL TECHNICIAN COSTS (IN \$000)

<u>Category</u>	<u>Man Months</u>	<u>Projected Cost</u>
Local Support Staff-five persons	300	55

g. Contingency. While no funds are included in this PROP for contingencies, and none are requested here, it is recommended that in its internal budgeting for this project, AFR include an additional 10% over the costs shown on the PROP face sheet, or \$85,000 over the life of the project as a contingency item. This would provide some element of flexibility for meeting legitimate unanticipated costs that may arise.

B. Other Donor Inputs

As indicated in the narrative report, section A-3, other donor assistance for livestock development in Mali is considerable with FED, FAC, IBRD and the U.N. in particular making considerable investments in capital and technical assistance. Also noteworthy is the fact that the GOM is doing a creditable job of coordinating these contributions in a rational way which facilitates their complementarity. Thus U.S. support for the CVL dovetails with FED and IBRD investments for livestock production and FAC technical assistance to the Mali Livestock Service permits better utilization of CVL-produced vaccines.

In addition, although AID is the predominant donor for the CVL itself, other donors are beginning to provide support and the prospect is that this trend will continue as the CVL becomes an increasingly attractive project.

1. United Nations. The U.N. International Atomic Energy Commission has provided an Immunologist for 30 months and funding for his research equipment. The Director of CVL plans to have him work with the Microbiologist (see above) on the improvement of vaccine quality, beginning with CBPP. In addition, the emergency Sahelian relief office of FAO in Rome (OSRO) has been requested to provide assistance to the CVL in connection with the current vaccination campaign in Mali.

2. FED. Included in the \$9.4 million which the European Development Fund made available for emergency drought relief last year was \$750,000 livestock and veterinary supplies, equipment and operational expenses for the livestock sector. Of the latter amount, \$300,000 was programmed for CVL vaccines and is currently being used for this and related purposes, including some capital improvements. It is anticipated that this assistance will meet CVL's needs for local funding at least through March, 1974 if not beyond.

3. Potential Donors. Both the U.K. and the FAC are potential future donors for the CVL. The U.K. would be a logical possibility for providing technical assistance in entomological research if the CVL becomes involved in plans to undertake survey and research work directed at the tsetse fly problem of Southern Mali. FAC technical and material assistance to the CVL is also a possibility, although one complicated by a reluctance, for historical reasons, for Mali to accept French help in the veterinary field. A third possibility is that CVL and the nearby Sotuba Research Station would serve as locations for IICA-sponsored and financed research work on animal nutrition. IICA is planning to consider such work in Mali along with other locations in West Africa. Both IICA and IIRAD would have budgets to cover the financing of researchers and their equipment costs so that their use of CVL facilities would not constitute a financial burden to the CVL.

SUMMARY OF OTHER DONOR INPUTS (IN \$000)

<u>Donor</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>
United Nations					
IAEC	40	40	40	n/a	n/a
FAO	n/a	n/a	n/a	n/a	n/a
FED	300	n/a	n/a	n/a	n/a
UK, FAC, ILCA	n/a	n/a	n/a	n/a	n/a

C. GOM Inputs

The Government of Mali contributed the land for the CVL site and is providing funding for salaries of the Malian personnel and for operating costs. The latter costs are funded from the budget of the Malian Livestock and Animal Health Service which is an agency of the Malian Ministry of Production (see organizational chart included as Annex A to narrative report). This budgetary allocation from the GOM is the only source of official GOM financing for the CVL since the CVL is not permitted to charge for the vaccines it produces. In return for central government financing, the CVL is obliged to furnish the Malian Livestock and Animal Health Service with the latter's annual requirements for vaccines. In CY 1972, the first year of operation of the CVL, funding in the amount of about \$175,000 was made available to it by the GOM including some \$60,000 for salaries. However, the CVL was not operational for periods during that year and costs may be expected to rise to \$225,000-\$250,000 annually when it is operating year around. In view of the emergency assistance that the FED is providing in FY '73-4 for CVL operating expenses, it is assumed that the GOM will only need to provide \$100,000 for this purpose in FY '74.

SUMMARY OF GOM INPUTS (IN \$000)

<u>ITEM</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>	<u>FY 78</u>
Estimate of GOM Financing of operating costs	100	225	230	240	250

V. Project Implementation

The Director of the Area Development Office/Dakar (ADO/Dakar) shall designate a member of his staff to serve as Project Manager of the project. The Project Manager shall be responsible for the management of all AID inputs into the project and for the implementation and evaluation functions noted below. He shall carry out these responsibilities in close consultation with the Veterinary Advisor and the Director.

The U.S.-financed advisors (Veterinary Advisor, Microbiologist, Mechanical Engineer) will necessarily be required to assume some operational responsibilities at the CVL during the early years of the project. These duties will include assistance in installation of the additional equipment, improving the organization and procedures of the vaccine production laboratory, initiating operational vaccine research, and carrying out the required maintenance and repair activities. These operational activities will provide valuable on the job training for the Malian staff. By the third year of the project (FY 1976), it should be possible for the expatriate advisors to withdraw from most if not all operational tasks and serve in a more strictly advisory capacity to the Malian staff.

A. Annual Work Plans

To assist in implementation scheduling, the AID Project Manager, in consultation with the Veterinary Advisor and the Director of the CVL, will prepare a detailed implementation schedule (using a PERT analysis if appropriate) of the entire project which will be kept up to date. The overall project implementation schedule will be developed in consultation with the senior GOM officials involved in livestock development including the Director of the Livestock and Animal Health Service, the Director of the Malian Office for Cattle and Meat (OMBEVI) and possibly the Minister of Production as well as by ADO/Dakar.

The Project Manager will be expected to prepare annual detailed plans of work for the AID-financed staff for approval by the Director of the CVL, the Director of the Livestock and Animal Health Service and ADO/Dakar. Such annual work plans should be in sufficient detail to show such items as:

1. Identification of participant training requirements and priorities;
2. Procurement schedule (including spare parts);
3. Major activities and accomplishment targets for each member of expatriate staff;
4. Vaccine production schedule for distribution and stockpiling;

5. Annual statement of vaccine research objectives, plans of work and progress benchmarks.

6. Budget for current year and forward estimate for subsequent year.

7. Other items as requested by the Director of CVL and concurred in by ADO/Dakar.

B. Project Evaluation

The Project Manager, the Veterinary Advisor and the Director of the CVL will develop an evaluation system for the project which will serve to identify project progress, suggest appropriate modifications or actions and assure the GOM and AID that all needed and agreed to steps have been and are followed. Evaluations should be carried out on an annual basis. Other donors should participate as appropriate. Principal attention should be given to (a) meeting vaccine production targets (b) improvement in vaccine quality, and (c) development of Malian Staff. They should be coordinated with evaluations of the Mali Livestock Project if the latter is approved.

As noted earlier, a special in-depth evaluation of the project should be carried out in FY 1976 to measure progress on major objectives over the first two-three years and to suggest priorities for the remaining year of the project. The mid-term evaluation should

-28-

especially focus on whether sufficient progress has been achieved in establishing the vaccine production capabilities of the CVL to permit giving greater attention to the research aspect of the work. Relationship with the international livestock research institutes and the IEMVT research network should also be covered in the evaluation.

UNITED STATES GOVERNMENT

Memorandum

TO : AA/AFR, Dr. Samuel C. Adams, Jr.

DATE: *Steel*
FEB 21 1974

FROM : AFR/DP, Robert G. Huesmann *RH*

SUBJECT: PROP for Central Veterinary Laboratory, Mali (625-11-190-610)

The subject PROP has been reviewed and revised by the Project Committee and is ready for ECPR consideration. The following questions and/or issues might usefully be discussed at the ECPR meeting, in addition to those mentioned in the CWR-DS cover memorandum.

1. The CWR-DS cover memorandum proposes that AID finance part of CVL operating costs at a level of \$200,000 per year and that "the grant agreement with the GOM ... should include whatever assurances we can obtain on local cost support." We agree that some AID financing of operating costs is necessary, however, the components AID would be willing to pay for should be more clearly specified by the ECPR. We propose that ECPR also focus (a) on specifying the minimum assurances AID will require from the GOM regarding their contributions to, and assumption of, local cost financing for the CVL; (b) on whether the U.S. should provide local cost financing at a flat annual level of \$200,000 (which for the FY 1975-FY 1978 period would increase total project cost by \$800,000 to a revised total of \$1,966,000), or in a gradually decreasing amount to involve the GOM prior to FY 1979 while also easing the burden of the transfer of the full amount of such financing to the GOM, and (c) on setting a year at which the transfer is to be completed.
2. The project purpose as stated on page 6 of the PROP indicates the project is "to provide the Malian Livestock and Animal Health Service with an adequate supply of the major cattle disease vaccines having effective immunizing quality." On page 3, however, the project is said to involve "assisting the CVL to strengthen its capabilities to serve the vaccine production needs of the Mali livestock sector." While we concur in the "production" emphasis in the Project Purpose as now written, the latter statement is more consistent with the thrust and emphasis of the entire PROP though it does entail a much broader and, possibly longer, involvement in the project. The ECPR may wish to discuss the extent to which an institution building element is seen as part of the project purpose.



3. The proposed magnitude of vaccine production per page 7 of the PROP reflects anticipated requirements for vaccine as shown at the bottom of page 15 of Tab A. However, at the top of page 16 of Tab A it is indicated that meeting these targets over the next campaign year - which is a very crucial period due to the Sahel drought - may require superhuman effort. We agree that the initial production targets are probably unrealistic, and the ECPR should be aware of this, in relation to future evaluations. The ECPR should also be aware that capacity of the GOM Livestock Service to vaccinate cattle at the target rates is not assured and that donor attention to this institution is required.

Clearances:

AFR/DP:JGovan (draft)
AFR/DP:EDonoghue (draft)

CC:

AFR/CWR:FSpencer
AFR/CWR:OCylke
AFR/CWR:JPatterson
AFR/DS:PLyman
AFR/DS:JBlumgart

UNITED STATES GOVERNMENT

Memorandum

TO : AA/AFR, Dr. Samuel C. Adams, Jr.
THRU : AFR/DP, Mr. Robert G. Huesmann
FROM : AFR/CWR, Fermino J. Spencer
AFR/DS, Princeton N. Lyman

DATE: February 13, 1974

SUBJECT: PROP for Central Veterinary Laboratory, Mali (655-11-190-610)

The purpose of this memorandum is to request your approval to finance, over a five year period, FY 1974-1978, assistance, training and commodities (mainly spare parts) for the Mali CVL in the amount of \$854,000 as set forth in the attached PROP.*

As you know, this PROP does not deal with the initiation of a new project but rather deals with successfully realizing the benefits anticipated from earlier AID investments amounting to about \$3 million. AID's involvement in veterinary vaccine production in Mali goes back over a decade and the initial loan for the CVL was made exactly ten years ago. We do not believe this is the place to recapitulate the details of the long history and many problems which this project has entailed for us and the GOM.** We do believe, on the basis of field reports, supplemented by a special study, that this project has turned the corner in regard to the technical problems that have plagued it. We further believe that the technical assistance proposed by this PROP will serve to (a) consolidate the gains that have been made and (b) help to assure that the CVL will play a vital role in support of the development of the Mali livestock industry by providing the materials necessary to protect and enhance the health of the national herd.

As we indicate in the body of the PROP, West Africa, Mali and the Mali livestock industry have evolved considerably over the past decade. Some of the objectives which led to the initiation of this project in 1963 are no longer valid. On the other hand, what has always been the basic objective of the project since its inception -- to serve the Mali livestock sector -- has perhaps an even higher priority for Malian development today that was the case ten years ago. The growth of exports to the coastal markets, the probability of dramatic price gains for Malian cattle over the next few years, and the comparative advantage of Mali over its neighbors as the region's major cattle producer -- all of these point to a major development opportunity for the livestock sector and for the country as a whole. An effectively functioning CVL could do much to assure that the opportunity would be realized.

* This request is additive to the \$312,000 in interim funding for this project which was approved and obligated in FY 1973.

** For a summary, see appended Tab A narrative report, part A-6, "The CVL: Past Problems and Present Status"



In addition, an effective CVL bears a close relationship to the Malian drought recovery effort. It is currently producing the materials required by the Livestock Service for the latter's annual vaccination campaign -- a campaign of increased urgency and importance this year as a result of the weakened condition and greater susceptibility to disease of much of the Malian herd. By the same token, the assistance proposed in this PROP can help to assure that the CVL will continue to play an important role in efforts to reduce the damaging impact of future droughts on the Mali livestock sector.

We should also point out that consideration of technical assistance to the CVL has been pending before the Bureau for some time. Given the history of the project, it behooved us, we felt, to be on firm ground before recommending additional AID expenditures for it. We therefore requested that a special study of the CVL be carried out and the major issues discussed. * John Blumgart, AFR/DS, undertook this task in October and presented a narrative report and issues paper in early November. These documents (Tab A) are appended to and supplement the attached PROP.

In the course of staff review of the report by AFR/CWR and AFR/DS in November, two major issues were identified.

The first issue relates to the scope of the research program that AID should finance at the CVL; specifically, whether it should include research beyond that directly related to the vaccine production objective. You will recall that the Mali Livestock Study (March 1973) recommended that work in parasitology and animal nutrition be carried out at the CVL in support of the animal health objectives of the proposed Mali livestock project. Six man-years of technical assistance and some research equipment had therefore been proposed for these purposes in the narrative report. However, in our staff reviews we felt it best to restrict the provision of technical assistance to the strengthening of the vaccine production function of the CVL since this is the principal raison d'etre of the laboratory and the one AID is most interested in seeing successfully realized. On the other hand, we have invited the field to assess the merits of including the parasitology and nutrition research as elements in the Mali CAP for the Mali livestock program that is currently being prepared by REDSO/WA. This will permit such research activities to be considered in the broader context of Mali livestock priorities rather than in the more limited context of the CVL.

The second major issue relates to local cost financing which, in turn, relates to the public sector finance problems of the GOM. After assessing the deterioration of the GOM's budget deficit, and its probable impact on covering the expenditures of government agencies operating in the livestock sector

* See State 193979 of 9/28/73 appended as Annex D of the narrative report.

(including the CVL), the narrative report recommends that AID be prepared to partially finance the CVL's operating budget if the GOM is unable to cover the total (estimated at \$200,000 per year). This recommendation is advanced as an interim measure. It is accompanied by the further recommendation that AID consult with the GOM, other donors and the IMF with respect to suggesting ways in which the GOM can increase livestock-related revenues and provide better services to the livestock sector.

In our staff reviews, we concurred with the second recommendation but were doubtful about the first. We were skeptical about offering partial local cost funding since we felt that this would tend to reduce the incentive of the GOM to finance these costs or to take the necessary fiscal measures. The grant agreement with the GOM on the project should include whatever assurances we can obtain on local cost support. However, if the operation of the CVL is jeopardized by lack of GOM financing, we should be prepared, we believe, to consider making supplemental AID financing available under certain conditions which would include reference to the necessary GOM self-help measures. We do not believe such a decision would need to be taken (if at all) before FY '75, given the probable availability of emergency FED assistance until then.

In the meantime, we have initiated consideration of the general problem of local cost financing and asked that it be included in the agenda of the West African livestock meeting to be held in Brussels. In preparation for this meeting, we have asked that some preliminary analysis of the problem be prepared by a consultant who served on the Mali livestock study.

To sum up, we believe that the technical assistance and training recommended in this PROP will assure the establishment of a well-run effectively functioning vaccine production laboratory, producing increasingly effective vaccines, and meeting the demands of the Mali Livestock Service for materials for its animal vaccination campaigns. Your approval will permit us to promptly recruit the remaining key technician, the micro biologist, who has already been identified and is available. Given the contribution this project can make to Malian development, we would like your approval to move ahead with despatch.

including financial guidelines