

PROJECT APPRAISAL REPORT (PAR)

6980617 (3)

PAGE 1

1. PROJECT NO. 698-11-130-617	2. PAR FOR PERIOD: July 1, 1968 TO June 30, 1971	3. COUNTRY Regional Kenya, Uganda, Tanzania, Sudan, Somalia	4. PAR SERIAL NO. 147
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Insurance Certificate
NO. 1656 NS

Joint Campaign Against Rinderpest, Phase IV

6. PROJECT DURATION: Began FY 62 Ends FY 75	7. DATE LATEST PROP May 12, 1970	8. DATE LATEST PIP None	9. DATE PRIOR PAR None
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10. U.S. FUNDING	a. Cumulative Obligation Thru Prior FY: \$ 90,000	b. Current FY Estimated Budget: \$	c. Estimated Budget to completion After Current FY: \$
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11. KEY ACTION AGENTS (Contractor, Participating Agency or Voluntary Agency)

a. NAME	b. CONTRACT, PASA OR VOL. AG. NO.
1. The International Coordinator's Unit, OAU/STRC	
2. The Veterinary Departments of the participating countries	
3. EAVRO laboratory for vaccine production and immunity testing	

I. NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X)			B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
USAID	AID/W	HOST		
			1. Encourage increased immunity testing by the participating countries so that a more accurate estimate of immunity of cattle at risk to rinderpest may be ascertained. (Action: Coordinator's Unit, Vet. Services, EAVRO, Reg. Livestock Advisor)	Sept. 1971
			2. Ensure that AID-supplied rinderpest vehicles are properly maintained and repaired for the final vaccination effort in Phase IV and also that they will be available for continuing veterinary activities following the Campaign. (Action; Coordinator's unit, Tanzania, Somalia)	Sept. 1971
			3. Improve disease reporting and laboratory diagnosis to obtain a more accurate picture of the incidence of rinderpest and CBPP and other livestock diseases. (Action: Coordinator's Unit, Vet. Services, Vet. labs, Regional Livestock Advisor)	Dec. 1971
			4. The IBAR to organize follow-up procedures for the Phase IV countries. (Action: IBAR, Phase IV countries, Coordinator's Unit)	Dec. 1971
			5. Estimates for vaccine needs to complete Phase IV and for follow-up measures should be supplied to EAVRO so the laboratory can plan their vaccine production schedule. (Action; Tanzania, Kenya, Uganda, Sudan, Somalia, EAVRO)	Sept. 1971
			6. Phase IV countries, with the exception of Kenya, which has been self-supporting, should plan financing for rinderpest follow-up giving consideration to the curtailment of donor support at the end of 1971 (Action: all Phase IV countries except Kenya) (Cont'd)	Sept. 1971

D. REPLANNING REQUIRES REVISED OR NEW:	<input type="checkbox"/> PROP	<input type="checkbox"/> PIP	<input type="checkbox"/> PRO AG	<input type="checkbox"/> PIO/T	<input type="checkbox"/> PIO/C	<input type="checkbox"/> PIO/P	E. DATE OF MISSION REVIEW
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PROJECT MANAGER: TYPED NAME, SIGNED INITIALS AND DATE Donald E. DeTray, Regional Livestock Advisor	MISSION DIRECTOR: TYPED NAME, SIGNED INITIALS AND DATE James Greene, Regional Dev. Officer
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I. NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X) USAID AID/W HOST	B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
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	7. Clear Phase IV accounts with USAID Contrôller. (Action: Tanzania, Somalia, EAVRO, and Coordinator's Unit)	Dec. 19 Dec. 31,197:
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Page 2 Continued

II. PERFORMANCE OF KEY INPUTS AND ACTIONS AGENTS

A. Comment on key factors determining rating: EAVRO has continued to provide this excellent immunizing agent to all Phase IV countries on a prompt basis at a very reasonable price. Without an adequate supply of safe and effective vaccine the Campaign would have been impossible.

A.5. Commodities

with spare parts by the local dealer in Mogadiscio. This did not work out and we had to get parts from Nairobi and the United States.

II. PERFORMANCE OF KEY INPUTS AND ACTION AGENTS

A. INPUT OR ACTION AGENT CONTRACTOR, PARTICIPATING AGENCY OR VOLUNTARY AGENCY	B. PERFORMANCE AGAINST PLAN							C. IMPORTANCE FOR ACHIEVING PROJECT PURPOSE (X)				
	UNSA (15-FACTORY		SATISFACTORY			OUT-STANDING		LOW		MEDIUM		HIGH
	1	2	3	4	5	6	7	1	2	3	4	5
1. International Coordinator's Unit						X						X
2. Veterinary Departments				X								X
3. EAVRO							X					X

Comment on key factors determining rating The Coordinator's Unit has been highly effective in stimulating and maintaining interest among the participating countries in the Campaign. Without coordination, particularly along international borders, much of the effectiveness of the Campaign would be lost.

On the whole the veterinary departments have performed well as regards vaccinations. However, except for Tanzania, the number of serum samples submitted for immunity tests by the Departments has been much too low. The success of the Campaign depends on good vaccination coverage by the vaccinating teams under the supervision of the Veterinary Departments.

The vaccine used throughout the African Campaign was developed at EAVRO. (see att. sheet)

4. PARTICIPANT TRAINING	1	2	3	4	5	6	7	1	2	3	4	5
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Comment on key factors determining rating While no participant training was directly connected with JP 15, many JP 15 veterinarians were trained at the Nairobi Veterinary College. The Head of the Virus Section at EAVRO is to receive graduate training at Cornell University under participant training.

5. COMMODITIES	1	2	3	4	5	6	7	1	2	3	4	5
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Comment on key factors determining rating In regard to performance against plan, the results were medium. This does not begin to tell the story. Because of the delay in signing the ProAg, PIO/C's were issued at about the same time that Phase IV was initiated. About one year elapsed before commodities arrived. Camping equipment, particularly tents were not strong enough altho we specified to AMPC that we wanted military quality, not week-end camping gear. The International trucks for Somalia were supposed to be supplied (See att

6. COOPERATING COUNTRY	a. PERSONNEL	1	2	3	4	5	6	7	1	2	3	4	5
	b. OTHER				X								X

Comment on key factors determining rating This is essentially the same consideration as Veterinary Departments above.

7. OTHER DONORS	1	2	3	4	5	6	7	1	2	3	4	5
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(See Next Page for Comments on Other Donors).

AID 1020-25(10-70)	PROJECT NO. 698-11-130-617	PAR FOR PERIOD: 7/1/68-6/30/71	COUNTRY Kenya, Somalia, Tanzania, Uganda, Sudan	PAR SERIAL NO.
PAGE 3 PAR				

II. 7. Continued: Comment on key factors determining rating of Other Donors W. German and British support to Somalia have been excellent and absolutely essential to the success of the Campaign there. British support to Uganda has been good but not quite so essential because Uganda has a well organized Veterinary Department. The British support to Sudan has included field equipment, vaccine, lab. equipment and personnel and has also been essential to JP 15 operations there. (see attached Project Logical Framework for details of inputs)

III. KEY OUTPUT INDICATORS AND TARGETS

A. QUANTITATIVE INDICATORS FOR MAJOR OUTPUTS		TARGETS (Percentage/Rate/Amount)					END OF PROJECT
		CUMU- LATIVE PRIOR FY	CURRENT FY		FY ____	FY ____	
			TO DATE	TO END			
No. of cattle vaccinated for rinderpest - Kenya, Uganda, Somalia, Sudan, Tanzania (see attached sheet)	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
No. of cattle vaccinated for CBPP (pilot project) (Kenya and Tanzania) (see attached sheets)	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
Results of immunity tests (see attached sheets)	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
B. QUALITATIVE INDICATORS FOR MAJOR OUTPUTS	COMMENT: The objective has been met in Kenya, Uganda and Tanzania. Somalia is making good progress. Sudan still has some way to go.						
1. Control of rinderpest as a major threat to the cattle industry							
2. Improvement of Veterinary Departments to deal with livestock diseases.	COMMENT: The impact of JP 15 on the morale of the various Veterinary Departments has been excellent. It has developed a friendly, competitive desire to improve veterinary services.						
3. Control of CBPP in Pilot Project area	COMMENT: Tanzania has controlled and possibly eradicated CBPP, mainly by vaccination. The incidence of CBPP has been greatly reduced in Kenya, Masailand. This should encourage the further extension of CBPP control and eradication in OAU states.						

AID 1020-25 (10-7/2)	PROJECT NO. 698-11-130-617	PAR FOR PERIOD: July 1, 1968 June 30, 1971	COUNTRY: Kenya, Somalia, Tanzania, Uganda, Sudan	PAR SERIAL NO.
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IV. PROJECT PURPOSE

A. 1. Statement of purpose as currently envisaged. 2. Same as in PROP? YES NO

The main purpose of the Rinderpest Campaign is to control and hopefully eradicate rinderpest. A secondary purpose is to strengthen the Veterinary Departments of participating countries. CBPP and other livestock diseases are being attacked in conjunction with JP 15.

B. 1. Conditions which will exist when above purpose is achieved.	2. Evidence to date of progress toward these conditions.
<p>Rinderpest, which has been the main concern of Veterinary Departments since the turn of the century, will no longer require primary attention. Emphasis can then be placed on other major diseases such as CBPP, foot-and-mouth, East Coast Fever and trypanosomiasis.</p>	<p>As a result of JP 15 rinderpest is being brought under control in Phase IV countries, except possibly Sudan.</p> <p>No reports of rinderpest in Northern Somalia since October 1970. Kenya, Tanzania and Uganda continued to be free of rinderpest. The incidence in Sudan has decreased in the past few months.</p> <p>From all available evidence CBPP has been eradicated in Tanzania</p>

V. PROGRAMMING GOAL

A. Statement of Programming Goal
To improve the livestock industry by improving livestock health in order to provide a higher level of protein in the diet of Africans and eventually to make possible exports of surplus livestock products.

B. Will the achievement of the project purpose make a significant contribution to the programming goal, given the magnitude of the national problem? Cite evidence.

The livestock industry cannot begin to meet its potential until animal diseases, such as rinderpest, are controlled. Most importing countries will not accept meat from rinderpest infected countries.

Quantitative Indicators for Major Outputs

I. Tanzania

A. Rinderpest vaccinations

	original plan	revised plan	actual
FY 69-70	6,000,000 ^{1/}	1,400,000	1,346,233
FY 70-71	1,400,000	1,400,000	1,164,206 ^{2/}
FY 71-72	1,300,000	1,300,000	

^{1/} During the original planning for Phase IV, it was anticipated that all cattle in Northern Tanzania would have to be vaccinated. However, immunity tests showed a high level of immunity in adult cattle so that it was only necessary to vaccinate calves, yearlings and two year olds.

^{2/} The decrease from the previous year probably resulted in an actual decrease in cattle due to the severe drought.

B. Rinderpest outbreaks.

The last outbreak was in 1965.

C. CBPP vaccinations (Pilot Project)-Loliando/Longido districts.

	planned	actual
FY 69-70	350,000	331,716
FY 70-71	350,000	247,466 ^{3/}
FY 71-72	350,000	

^{3/} same as ^{2/} above.

The last outbreak of CBPP in Tanzania was in 1964.

D. Results of immunity testing.

The Pre JP survey from June to October 1968 showed that 1,298 adult cattle were immune out of 1,476 tested for a percentage of 88%. However, only 11% of calves less than 6 months of age were immune; 28% of calves 7-12 months old were immune; and 50% of 13 to 24 months old animals were immune. It was on this basis that JP 15 was limited to the vaccination of calves, yearlings and two year olds in Tanzania. After the first vaccination the immunity level was increased markedly as follows:

	less than 6 months	7-12 months	13-24 months	over 25 months
age %immune	94%	96%	93%	92%

Quantitative indicators for major outputs continued

II. Uganda

A. Rinderpest vaccinations.

	original plan	revised plan	actual
FY 69-70	1,500,000	1,500,000	1,314,088
FY 70-71	1,500,000	4,145,000 ^{1/}	2,855,063
FY 71-72	4,145,000	4 145,000	

^{1/} Uganda decided to vaccinate all their cattle during the second year of the Campaign.

B. Rinderpest outbreaks

year	No. of Outbreaks
1963	12
1964	8
1965	1
1966	2 in wild game

No outbreaks since 1966.

C. CBPP

The policy in Uganda is to combine rinderpest vaccinations in Karamoja with CBPP control measures of testing, slaughter of reactors and vaccination.

D. Results of immunity testing.

District	1969-70		1968	
	Positive/samples	%	Pos/Sam.	%
Karamoja	107/165	64.8	127/170	74.7
Teso	170/357	47.9	59/88	67.0
Lango	98/246	39.8	154/184	83.7
Acholi	29/87	33.3	165/174	89.7
West Nile/Madi	135/246	54.9	145/159	97.3

It would appear from these results that the state of immunity was better before the Campaign. This points out the importance of sampling techniques. Firstly, as an overall survey, insufficient samples were taken to give a true indication of the level of immunity. Secondly, in the case of Lango, Acholi, and Teso the 1969-70 samples were taken from localities outside the normal barrier zone and before JP 15 had been started. It is hoped to correct this situation this year. From October 1970 to April 1971 the following results were obtained:

age	0-12 mos.	13-24 mos.	over 25 mos.	total
	60/178	88/190	662/730	810/1098
	33.7%	46.3%	90.7%	73.8%

Quantitative indicators for major outputs continued

III. Somalia

A. Rinderpest vaccinations.

	original plan	actual
FY 69-70	2,000,000	480,000
FY 70-71	2,000,000	1,608,000
FY 71-72	2,000,000	

B. Rinderpest outbreaks.

No reliable figures are available on the number of outbreaks and mortality during the 1963-69 period although it is known that rinderpest was prevalent.

In 1969-70 about 25 outbreaks were reported in the Banadir region near Mogadiscio. From January to October 1970 nineteen outbreaks were reported in Northern Somalia. Since October 1970, at which time more than 70% of the cattle were vaccinated, there have been no further outbreaks in Northern Somalia.

C. CBPP and other diseases.

In conjunction with JP 15, 600,000 cattle have been vaccinated against CBPP, 120,000 against blackleg and 72,000 against anthrax.

D. Results of immunity testing.

Very little immunity testing has been carried out on Somali cattle to date. However, the immunity level increased from 70% to 90% after the first year of JP 15 as indicated by these few tests.

Quantitative indicators for major outputs continued

IV. Sudan

A. Rinderpest vaccinations.

	planned	actual
FY 69-70	10,000,000	1,330,226
FY 70-71	10,000,000	3,026,492
FY 71-72	10,000,000	
FY 72-73 ^{1/}	10,000,000	

^{1/} The Campaign is to be extended one year in Sudan.

B. Rinderpest outbreaks.

year	outbreaks	No. sick	No. deaths
64/65	531	-	-
65/66	400	-	-
66/67	102	4,353	1,844
67/68	374	2,214	1,709
68/69	234	1,643	779
69/70	178	1,051	1,099

C. CBPP vaccinations.

322,692 CBPP vaccinations were done in 1968/69.

D. Results of immunity testing.

None thus far. Sudan is preparing to do their own testing in the near future.

Quantitative indicators for major outputs continued.

V. Kenya

A. Rinderpest vaccinations.

year	original plan	revised plan	actual
FY 69/70	7,000,000 ^{1/}	2,000,000	1,023,442
FY 70-71	2,000,000	2,000,000	1,435,574
FY 71-72	2,000,000	2,000,000	

^{1/} It was decided to limit JP 15 to border areas which are at special risk to rinderpest from Somalia, from Ethiopia and from Masailand.

B. Rinderpest outbreaks.

year	No. of outbreaks
64	7
65	5
66	0
67	1
No outbreaks since 1967	

C. CBPP vaccinations (Pilot Project)

year	planned	actual
69/70	650,000	514,552
70/71	650,000 ^{2/}	497,943
71/72	650,000	

^{2/} 585,165 CBPP vaccinations were done in areas outside Masailand.

D. Results of immunity testing.

Up to end of October 1970

age	0-6 mos.	7-12 mos.	13-24 mos.	over 25 mos.	total
	64/342	129/693	191/576	649/845	1033/2456
	18.7%	18.6%	33.1%	76.8%	42%

Narok area only as of April 1971

	8/23	20/39	40/50	79/92	147/204
	34.8%	51.3%	80%	85.9%	72.1%

Evaluation Meeting, Phase IV Rinderpest Campaign

July 7, 1971

D.E. DeTray, D.V.M.

The meeting was convened at 10 AM. by Eugene Reed, Mission Evaluation Officer for EAORA. The members of the evaluation panel were as follows:

Mr. Eugene Reed, EAORA, Chairman ✓
Mr. Al Koenig, Controller, USAID/Kenya ✓
Dr. Ahmed Dahab, Deputy International Coordinator, OAU/STRC ✓
Joint Campaign Against Rinderpest
Dr. Mustafa Sall, Deputy Director, OAU/STRC, Inter-african ✓
Bureau of Animal Resources
Dr. D.E. DeTray, Regional Livestock Advisor ✓

Mr. Reed explained the purpose of the meeting. He pointed out the importance of preparing the "Project Logical Framework" and relating inputs to outputs. Not all aspects of this kind of operation are manageable.

Mr. Koenig said that we could only control those aspects that are controllable. We try to influence the rest. Under some situations if the aspects not under our control were not properly managed it would be advisable to discontinue the project.

Dr. Dahab said that one of the side benefits of JP 15 was bringing the veterinarians from different countries together. The cooperation between countries has been outstanding.

DeTray presented a draft of the Project Logical Framework and pointed out that it was prepared for discussion purposes only. Improvements were welcome.

It was suggested that we be more specific in detailing the inputs. Target dates should be supplied. Dahab and DeTray agreed to provide the needed details.

Dr. Dahab pointed out that another side benefit was assistance to rinderpest operations outside Africa. For example rinderpest tissue culture vaccine seed was provided to U.S. veterinary personnel in Saigon. A request was pending from Yemen for diagnostic assistance from EAVRO

Considerable discussion was given to immunity testing. It was agreed that the number of tests carried out was not nearly as important as the sampling procedure used. The main idea was to show that the vaccine was effective in raising the level of herd immunity. Dr. Plowright, the developer of the vaccine and the immunity test in tissue culture, believes that there is little or no point in carrying out further immunity tests in Tanzania because the desired information has already been obtained. There has probably been more immunity testing carried out in JP 15 than in any other mass vaccination campaign in man or animal.

The ideal measure of success of a vaccination campaign is to provide a comparison of disease outbreaks before and after the campaign. This was possible in phases I, II and III. Phase IV is somewhat different in that Kenya, Tanzania and Uganda have been reported free of rinderpest for the past several years. The last outbreak occurred in Kenya in 1967, in Tanzania in 1965 and in Uganda 1966. Rinderpest has been prevalent in Somalia and Sudan but Somalia has had no disease reporting system in the pest. Dr. Dahab reported that Somalia had 19 outbreaks in the north from January to October 1970. Since October, at which time more than 70% of the cattle had been vaccinated, there have been no outbreaks reported in Northern Somalia.

Sudan will provide the best opportunity in Phase IV for before and after comparisons. Rinderpest has been reported in Sudan as follows:

year	outbreaks	No. sick	No. deaths
64/65	531	-	-
65/66	400	-	-
66/67	102	4,353	1,844
67/68	374	2,214	1,709
68/69	234	1,643	779
69/70	178	1,051	1,099

Therefore there are 2 measures of success for Phase IV.

1. The decrease in rinderpest outbreaks in the enzootic areas of Somalia and Sudan.

2. Continuing and improving the level of immunity in the non-enzootic areas of Kenya, Tanzania and Uganda.

(This is particularly important in the Karamoja area of Uganda along the Sudan border and in Kenya along the Ethiopian border and the Somalia border where cattle movements in the past could introduce the disease at any time. The threat of rinderpest to Kenya and Uganda becomes less as immunity levels increase in Sudan, Somalia and Ethiopia. At the present time the risk of rinderpest to Tanzania appears very slight).

The general consensus of the review panel was that Phase IV was progressing very well. There were the usual "running in" problems during the first year. Commodities, as usual, were about a year late in arriving. EAVRO has done an excellent job of producing vaccine and of immunity testing. It appears now that the campaign will need to be extended one year in Sudan in order to get the desired results there. However, there has been considerable improvement this year in the operations in Sudan.

A final appraisal of Phase IV should be made sometime after the final meeting in Addis Ababa next December.

PROJECT LOGICAL FRAMEWORK

Project Title:

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS
<p>Program or Sector Goal:</p> <p>To improve the livestock industry in 22 OAU countries by improving animal health and by strengthening the Veterinary Services of these countries. As a result meat production and the availability of animal protein should increase. The potential for export of livestock and livestock products should improve.</p>	<p>Measure of Goal Achievement:</p> <p>Mortality and morbidity from livestock diseases will decrease. The Veterinary Services will be strengthened. More animal protein will be included in the diets of Africans.</p>
<p>Project Purpose:</p> <ol style="list-style-type: none"> 1. To control rinderpest and eliminate it as a major epizootic disease in Kenya, Tanzania, Uganda, Somalia and Sudan. 2. To control CBPP by vaccination in the pilot area of Masailand. 3. To improve animal health in general through vaccination and treatment in conjunction with JP 15. 	<p>Conditions Expected at End of Project:</p> <ol style="list-style-type: none"> 1. Rinderpest will no longer exist as a major epizootic disease in Africa. The Veterinary Services will be better able to deal with other livestock disease problems. 2. CBPP will be controlled in the Pilot Project Area.
<p>Outputs:</p> <ol style="list-style-type: none"> 1. Vaccine production and testing. 2. Vaccinations of cattle. 3. Immunity testing. 4. Laboratory diagnosis for rinderpest and differential diagnosis for rinderpest-like diseases. 	<p>Magnitude of Outputs:</p> <ol style="list-style-type: none"> 1. Produce and test 20 million doses of rinderpest vaccine and 1 million of CBPP vaccine each year of the Campaign. 2. Vaccinate 20 million cattle against rinderpest and 1 million against CBPP each year. 3. Increase in herd immunity to 80 percent as shown by immunity tests.
<p>Inputs:</p> <p>USAID to EAVRO - \$66,000 lab. equip 1 tech; USAID to Tanzania - \$464,000 commodities, vaccine, other costs; USAID to Somalia - \$100,000 commodities, vaccine, other costs, USAID to Coord. Unit - \$234,000 PIO/T commodities; UK/ODA to EAVRO \$100,000 est. lab. equip; UK/ODA Sudan \$924,000 commodities, vaccine, 2 vets.; UK/ODA Uganda \$232,000 commodities, vaccine 1 vet; UNDP Somalia \$142,000 field training scheme; W. Germany - Somalia \$700,000 commodities, vaccine, 3 vets 2 mech; Kenya - \$800,000 est. total cost personnel & equip; Tanzania - \$300,000 personnel, vaccine, equip; Uganda - \$500,000 personnel, vaccine, equipment.; Sudan \$ 1,284,000 personnel, equip. Somalia - \$450,000 personnel and running costs.</p>	<p>Implementation Schedule (Target Dates):</p> <ol style="list-style-type: none"> 1. Commodities to arrive by October 1968 prior to initiation of Phase IV. 2. Vaccine to be produced and tested prior to need each year. 3. Trained expatriate and local personnel prior to initiating campaign. 4. Continuing supply of funds for local costs.

PROJECT LOGICAL FRAMEWORK

Evaluation
for Period: 7/1/68 to 7/3/71
Date Prepared: July 3, 1971

IMPORTANT ASSUMPTIONS	MEANS OF VERIFICATION
<p>Improved livestock production, marketing, and processing will go hand in hand with livestock disease control. Improved range-management will be implemented. The price of meat, milk and eggs will not be prohibitive for the local consumer.</p>	<ol style="list-style-type: none"> 1. Government economic surveys will show an increase in quantity and quality of livestock and an increase in the income of livestock producers. 2. Technical surveys of soil erosion and water conservation will show that grazing practices have improved. 3. The ratio of veterinarians to livestock units will improve along lines of FAO recommendation. 4. National reports of mortality & morbidity indicates improved animal health.
<p>Tissue culture rinderpest vaccine is safe and effective. A sufficient number of cattle at risk to rinderpest will be immunized.</p> <p>CBPP can be controlled by vaccination.</p>	<ol style="list-style-type: none"> 5. Nutrition surveys show increase in animal protein consumption. <p>Records of outbreaks show reduction. Careful supervision of vaccine production and testing will be maintained, 80% or more cattle at risk to rinderpest must be immunized as verified by nos. vaccinated and by immunity tests.</p> <p>Reports based on clinical and lab diagnosis of rinderpest and CBPP.</p>
<p>Sufficient qualified staff will continue to be available to produce and test vaccines, apply them in the field and carry out diagnostic studies to evaluate the disease situation.</p>	<p>Vaccine production records of the laboratories. Vaccination records of the various countries. Immunity tests carried out.</p>
<ol style="list-style-type: none"> 1. Commodities must be ordered one year prior to the opening date of the vaccination campaign. 2. With the departure of expatriate personnel, local personnel must be available to take over in the lab. and in the field. 3. Host country and other donor funding must be continued. 	<ol style="list-style-type: none"> 1. Arrival of commodities. (always late) 2. Adequate numbers of trained local personnel (not yet achieved, especially for the laboratories) 3. Funds available for local operating costs. (donor systems of accounting usually too complex.