

# 技術協力プロジェクト事業完了報告書

(英 文)

## ウガンダ「家畜疾病対策計画」

2007年3月20日-2009年3月19日

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# MASTER PLAN

**1. Project Name:** Technical Assistant Support to Enhance the Capacity of Animal Disease Control in the Republic of Uganda

**2. Period of Cooperation:** Two years (20th March 2007 ~ 19th March 2009)

## **3. Overall Goal**

National animal disease control system is improved through enhancing the animal disease diagnostic capacity in Uganda.

## **4. Project Purpose**

Necessary function of animal disease diagnoses at the National Disease Control Division in the Department of Livestock Health and Entomology is enhanced.

## **5. Outputs**

- (1) Action plan for more appropriate animal disease diagnostic activities at the Department of Livestock Health and Entomology, MAAIF, is drawn up.
- (2) Necessary techniques of animal disease diagnoses at the National Animal Disease Diagnostic and Epidemiology Laboratory are improved.
- (3) Collaboration and linkage between the National Disease Control Division and selected District Veterinary Offices are enhanced.

## **6. Project Activities**

1. Preparation of the action plan
  - 1-1 Study on the current status of livestock, such as location of farmers, numbers, breeding system, existing diseases, etc., in Uganda
  - 1-2 Study on the current status of organizations relating to animal disease diagnoses such as District Veterinary Office, Livestock Research Institute, Faculty of Veterinary Medicine of Makerere University, etc.
  - 1-3 Identifying duties to be conducted by the Animal Disease Diagnostic and Epidemiology Laboratory, and District Veterinary Offices
  - 1-4 Drawing up of the action plan
2. Enhancing capacity of the Animal Disease Diagnostic and Epidemiology Laboratory
  - 2-1 Identification of high priority diagnostic techniques

2-2 Strengthening the identified techniques and activities

2-3 Training of staff

3. Enhancing of collaboration and linkage with selected District Veterinary Offices

3-1 Selection of collaborating District Veterinary Offices

3-2 Training of staff from selected District Veterinary Offices

3-3 Monitoring and evaluation of Project activities

## **SELECTION OF DISTRICT VETERINARY OFFICES**

A few District Veterinary Offices will be selected at the first JCC meeting based on the following factors:

1. Available human and other resources of the Project
2. Available human and other resources at District Veterinary Offices
3. Importance of animal disease control in the district
4. Security condition

## **UGANDAN COUNTERPART AND ADMINISTRATIVE PERSONNEL**

1. Project Director

Director, Directorate of Animal Resources and Fisheries, MAAIF

2. Project Manager

Commissioner, Department of Livestock Health and Entomology, MAAIF

3. Deputy Project Manager

Assistant Commissioner, National Disease Control, MAAIF

4. Project Officers

(1) Principal Veterinary Officer, Diagnostic Unit, MAAIF

(2) Principal Veterinary Officer, Epidemiology Unit, MAAIF

5. Other Project Staff

Staff of Diagnostic Unit and Epidemiology Unit

## **JOINT COORDINATING COMMITTEE**

The Joint Coordinating Committee meets at least once a year and whenever the necessity arises.

### **1. Function**

- (1) To approve the Annual Plan of Operations under the framework of the Project
- (2) To review achievements of the Annual Plan of Operations and overall progress of the Project

### **2. Composition of the Joint Coordinating Committee**

(1) Chairperson: Permanent Secretary (or a person nominated by PS)

(2) Members

1) Ugandan Side

- a. Permanent Secretary, MAAIF
- b. Project Director: Director, Directorate of Animal Resources and Fisheries, MAAIF
- c. Commissioner, Agricultural Planning Department, MAAIF
- d. Project Manager: Commissioner, Department of Livestock Health and Entomology, MAAIF
- e. Deputy Project Manager: Assistant Commissioner, National Disease Control, MAAIF
- f. Director, Livestock Research Institute (LIRI), National Agricultural Research Organization, MAAIF
- g. Executive Director, National Agricultural Advisory Services, MAAIF
- h. Representative of Makerere University

2) Japanese Side

- a. Resident Representative of the JICA Uganda Office
- b. Chief Advisor / Animal Disease Diagnostic System
- c. Other experts and personnel concerned dispatched by JICA, if necessary

### **Notes:**

1. Officials of the Embassy of Japan may attend Joint Coordinating Committee meetings as observers.
2. Persons who are nominated by the Chairperson may attend Joint Coordinating Committee meetings as observers.

## **STEERING COMMITTEE**

The Steering Committee will be held regularly and whenever the necessity arises.

### **1. Function**

- (1) To develop and improve detailed activities
- (2) To monitor, coordinate and evaluate activities
- (3) To summarize the proceedings of activities

### **2. Composition of the Steering Committee**

- (1) Chairperson: Project Manager (or Deputy Project Manager)
- (2) Members of the Steering Committee
  - 1) Ugandan Side
    - a. Project Manager: Commissioner, Department of Livestock Health and Entomology
    - b. Deputy Project Manager: Assistant Commissioner, National Disease Control
    - c. Assistant Commissioner, Veterinary Inspection
    - d. Principal Veterinary Officer, Diagnostic Unit
    - e. Principal Veterinary Officer, Epidemiology Unit
    - f. Officers from selected District Veterinary Offices
    - g. Representative, Uganda Veterinary Association
    - h. Contact Person, Livestock Research Institute (LIRI), National Agriculture Research Organization
    - i. Contact Person, National Agriculture Advisory Services
    - j. Representative of Makerere University
  - 2) Japanese Side
    - a. Resident Representative of the JICA Uganda Office
    - b. Chief advisor / Animal Disease Diagnostic System
    - c. Other experts and personnel concerned dispatched by JICA, if necessary

### **Notes:**

1. Officials of the Embassy of Japan may attend Steering Committee meetings as observers.
2. Persons who are nominated by the Chairperson may attend Steering Committee meetings as observers.

## PROJECT DESIGN MATRIX

Name of the Project: Technical Assistant Support to Enhance the Capacity of Animal Disease Control in the Republic of Uganda

Target Groups: Veterinary service providers (\*), livestock officers, and officials concerned animal disease diagnostic services

Project Period: 20th March 2007 through 19th March 2009 (2 years)

Prepared on October 6, 2006

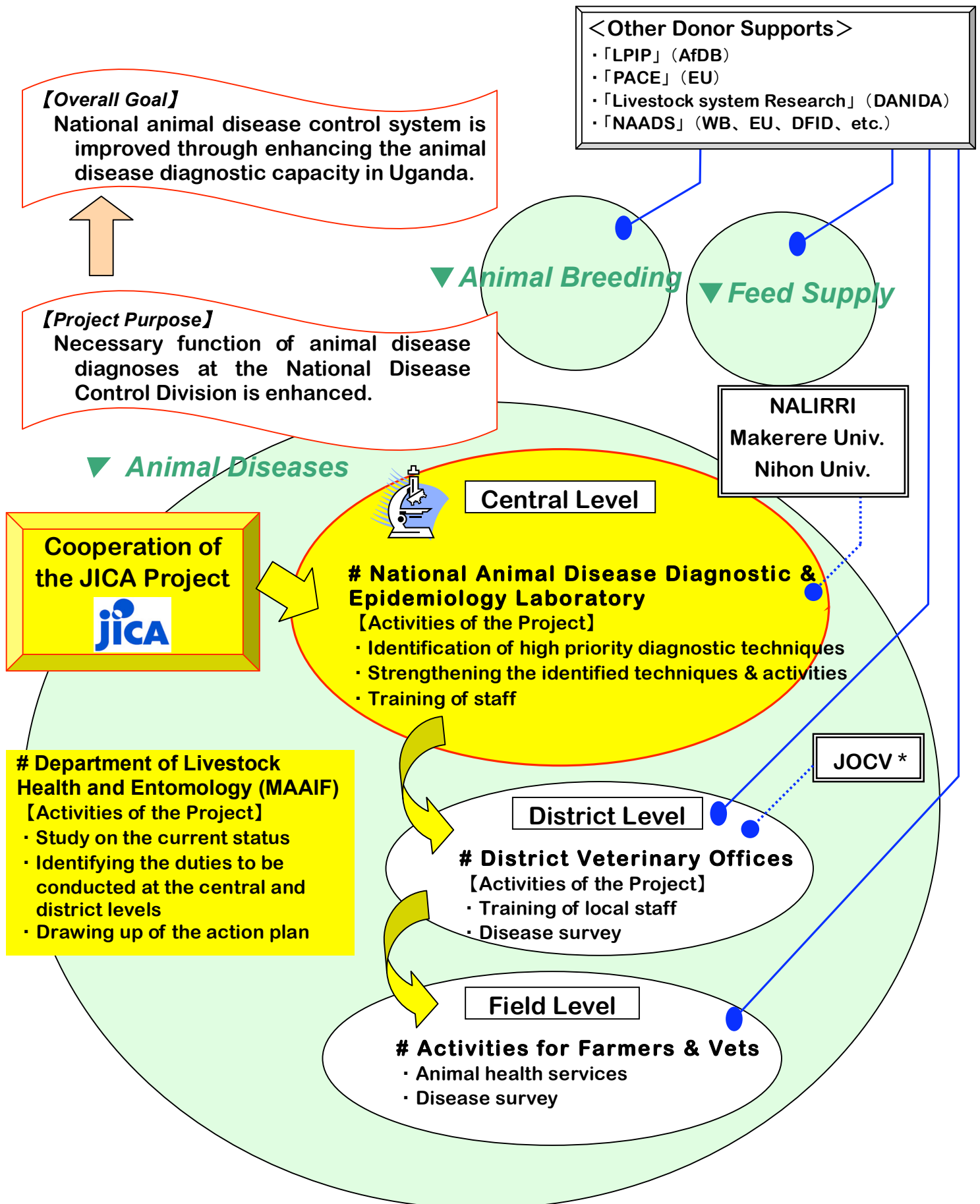
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goals</b> National animal disease control system is improved through enhancing the animal disease diagnostic capacity in Uganda.</p>	Quantity and quality of animal disease information for animal disease control	Monitoring report. Questionnaire of stakeholders. Statistics data	
<p><b>Project Purpose</b> Necessary function of animal disease diagnoses at the National Disease Control Division in the Department of Livestock Health and Entomology is enhanced.</p>	Degree of satisfaction of service providers and recipients	Monitoring report. Questionnaire of stakeholders. MM of JCC Meeting	The policy advocating particular attention on animal disease control is not changed
<p><b>Outputs</b> 1. Action plan for more appropriate animal disease diagnostic activities at the Department of Livestock Health and Entomology, MAAIF, is drawn up. 2. Necessary techniques of animal disease diagnoses at the National Animal Disease Diagnostic and Epidemiology Laboratory are improved. 3. Collaboration and linkage between the National Disease Control Division and selected District Veterinary Offices are enhanced.</p>	<p>1. Appreciation of action plan by stakeholders 2. Kinds of improved techniques 3-1. The number of samples submitted by District Veterinary Offices 3-2. The number of diagnosis results obtained</p>	<p>1. Action plan submitted, Questionnaire of stakeholders 2. Monitoring report, Questionnaire of stakeholders 3. Monitoring report, Questionnaire of stakeholders</p>	Trained staff at the central and district levels continuously work for animal disease diagnosis and control.
<p><b>Activities</b> 1. Preparation of the action plan 1-1. Study on the current status of livestock, such as location of farmers, numbers, breeding system, existing diseases, etc., in Uganda 1-2. Study on the current status of organizations relating to animal disease diagnoses such as District Veterinary Office, Livestock Research Institute, Faculty of Veterinary Medicine of Makerere University, etc. 1-3. Identifying duties to be conducted by the Animal Disease Diagnostic and Epidemiology Laboratory, and District Veterinary Offices 1-4. Drawing up of the action plan 2. Enhancing the capacity of the Animal Disease Diagnostic and</p>	<b>Inputs</b>		Number of qualified staff at the National Animal Disease Diagnostic and Epidemiology Laboratory is increased.
	<p><b>Japanese side</b> 1. Dispatch of experts 2. Provision of equipment 3. Training of counterparts 4. Allocation of operational costs for the Project</p>	<p><b>Ugandan side</b> 1. Assignment of counterpart personnel and administrative staff 2. Provision of building and other necessity facilities 3. Allocation of operational costs for the Project</p>	

<p>Epidemiology Laboratory</p> <p>2-1. Identification of high priority diagnostic techniques</p> <p>2-2. Strengthening the identified techniques and activities</p> <p>2-3. Training of staff</p> <p>3. Enhancing collaboration and linkage with selected District Veterinary Offices</p> <p>3-1. Selection of collaborating District Veterinary Offices</p> <p>3-2. Training for staff from selected District Veterinary Offices</p> <p>3-3. Monitoring and evaluation of Project activities</p>		
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NOTE: (\*) Veterinary service providers include Veterinarians, Livestock Technicians, and Veterinary Assistants.

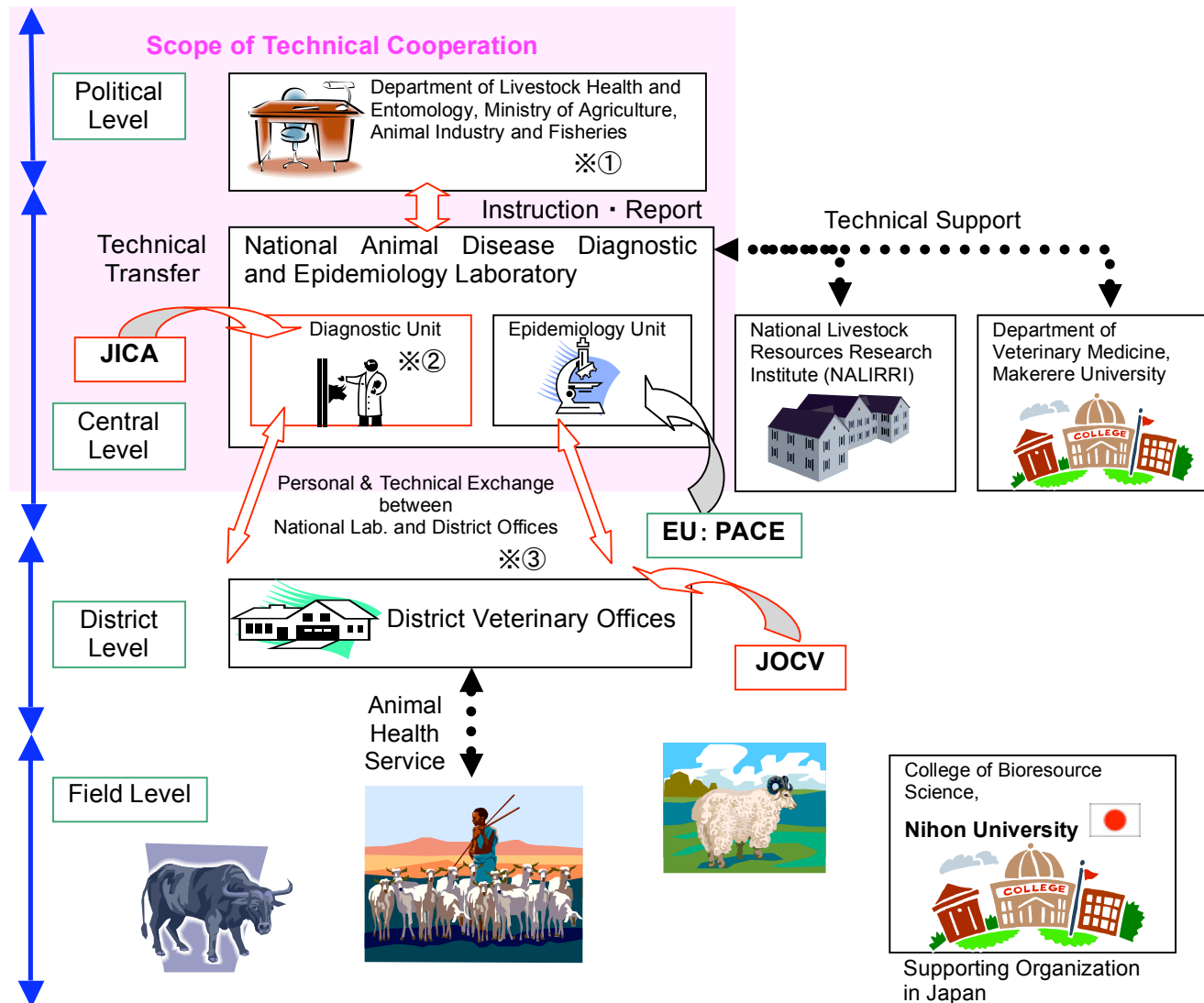


# Technical Assistant support to Enhance the Capacity of Animal Disease Control in the Republic of Uganda



\* JOCV: Japan Overseas Cooperation Volunteers (under JICA)

# CONCEPT OF THE PROJECT



**The Project Purpose;**  
 Necessary function of animal disease diagnoses at the National Disease Control Division in the Department of Livestock Health and Entomology is enhanced.

**The Project Output;**

1. Action plan for more appropriate animal disease diagnostic activities at the Department of Livestock Health and Entomology, MAAIF, is drawn up.
2. Necessary techniques of animal disease diagnoses at the National Animal Disease Diagnostic & Epidemiology Laboratory are improved.
3. Collaboration and linkage between the National Disease Control Division and selected District Veterinary Offices are enhanced.

**The Project Activities;**

1. Preparation of the action plan
  - 1-1 Study on the current status of livestock in Uganda
  - 1-2 Study on the current status of organizations relating to animal disease diagnoses
  - 1-3 Identifying duties to be conducted by the National Animal Disease Diagnostic and Epidemiology Laboratory, and District Veterinary Offices
2. Enhancing capacity of the Animal Disease Diagnostic and Epidemiology Laboratory
  - 2-1 Identification of high priority diagnostic techniques
  - 2-2 Strengthening the identified techniques and activities
  - 2-3 Training of staff
3. Enhancing of collaboration and linkage with selected District Veterinary Offices
  - 3-1 Selection of collaborating District Veterinary Offices
  - 3-2 Training of staff from selected District Veterinary Offices
  - 3-3 Monitoring and evaluation of Project activities

**PACE** (Pan-African Program for the Control of Epidemics: EU)  
 \* It works for animal disease surveillance mainly rinderpest, CBPP, and etc., using imported diagnostic kits.

## Plan of Operation (PO)

No.	Project Activities	Target/Indicator	Responsible/ Supported by	Japanese Fiscal Year (JFY)								Input	Remark	
				07	2007/08				2008/09					
				M	AMJ	JAS	OND	JFM	AMJ	JAS	OND			JFM
<b>1</b>	<b>Preparation of the action plan</b>													
1.1	Study on the current status of livestock, such as location of farmers, numbers, breeding system, existing diseases, etc. in Uganda		Department of Livestock Health & Entomology (LHE), Project Office										• Livestock census (MAAIF)	
1.2	Study on the current status of organisations relating to animal disease diagnoses such as District Veterinary Offices, National Livestock Resources Research Institute (NALIRRI*), Faculty of Veterinary Medicine of Makerere University, etc.		Department of Livestock Health & Entomology (LHE), Project Office											
1.3	Identifying duties to be conducted by the Animal Disease Diagnostic and Epidemiology Laboratory, and District Veterinary Offices	• No. of staff meetings held	Department of Livestock Health & Entomology (LHE), Project Office											
1.4	Drawing up of the action plan	• Plan of Operation	LHE, Project Office											
<b>2</b>	<b>Enhancing the capacity of the Animal Disease Diagnostic and Epidemiology Laboratory</b>													
2.1	Identification of high priority diagnostic techniques	• Plan of Operation	Project office, Entebbe Lab.											
2.2	Strengthening the identified techniques and activities													
2.2.1	Maintenance of diagnostic laboratory													
2.2.1.1	Renovation of the diagnostic facilities	• Water & electricity supply, physical & bio-security of the buildings, etc.	Project office, Entebbe Lab.										• Renovation of the buildings • Supply of equipment	
2.2.1.2	Allocation of personnel	• No. of veterinarians and lab. technicians	MAAIF, Entebbe Lab.											

\*NALIRRI: National Livestock Resources Research Institute, formerly known as LIRI: Livestock Health Research Institute

No.	Project Activities	Target/Indicator	Responsible/ Supported by	Japanese Fiscal Year (JFY)								Input	Remark	
				07	2007/08				2008/09					
				M	AMJ	JAS	OND	JFM	AMJ	JAS	OND			JFM
2.2.2	Strengthening the identified techniques and activities													
2.2.2.1	Improvement of bacterial isolation and identification techniques	• No. of samples identified	Project Office, Nihon University, Makerere University										• Japanese experts • Expert from 3rd country • Training of staff	<b>Model disease:</b> <i>Salmonella</i> , etc.
2.2.2.2	Establishment of cell culture techniques	• No. of cell lines established	Project Office, Nihon University										• Japanese experts • Training of staff • Supply of equipment	
2.2.2.3	Establishment of virus isolation and identification techniques	• No. of viruses isolated	Project Office, Nihon University										• Japanese experts • Training of staff • Supply of equipment	<b>Model disease:</b> rotavirus, etc.
2.2.2.4	Establishment of histopathological diagnosis	• No. of samples diagnosed histopathologically	Project Office, Nihon University, Makerere University										• Japanese experts • Training of staff • Supply of equipment	
2.2.2.5	Improvement of serological diagnosis	• No. of serological diagnosis established	Project Office, Nihon University, NALIRRI										• Japanese experts • Expert from 3rd country • Training of staff	<b>Model diseases:</b> rabies, brucellosis, trypanosomiasis, etc.
2.2.3	Establishment of rapid diagnosis for the major infectious diseases													
2.2.3.1	Establishment of molecular biological techniques for the selected diseases	• No. of systems established • No. of samples diagnosed	Project office, Entebbe Lab., Nihon University										• Japanese experts • Expert from 3rd country • Training of staff, • Supply of equipment	<b>Target diseases:</b> rabies, HPAI, ND, ASF, PPR, CBPP, CCPP, FMD, rinderpest, etc.
2.2.3.2	Development of sampling methods for molecular diagnosis of the selected diseases	• No. of personnel trained • No. of sampling methods established • No. of samples submitted	Project office, Entebbe Lab., District Vet. Offices										• Preparation of manuals • Seminar at Entebbe Lab.	
2.3	<b>Training of staff</b>	• No. of personnel trained	Project Office, JICA, Nihon University, Makerere University, LIRI										• Training at Makerere Univ. & LIRI • Training in Japan or 3rd countries • Training by experts	Outcomes from the activities in <b>Section 2.2</b>

No.	Project Activities	Target/Indicator	Responsible/ Supported by	Japanese Fiscal Year (JFY)										Input	Remark	
				07	2007/08					2008/09						
				M	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM				
<b>3</b>	<b>Enhancing collaboration and linkage with the selected District Veterinary Offices</b>															
3.1	Selection of collaborating District Veterinary Offices		Project office, Entebbe Lab.												Mbale, Kumi, Mpigi, Kiboga, Kiruhura, etc.	
3.2	Training for staff from selected District Veterinary Offices															
3.2.1	Improvement of parasitological diagnosis and haematological examination at the selected offices	• No. of personnel trained • No. of samples examined	Project office, Entebbe Lab., JOCV (JICA)											• Training at Entebbe Lab. • Supply of equipment and reagents • Dispatch of JOCV	<b>Target diseases:</b> blood parasites, stomach worms, flukes, avian coccidiosis, etc.	
3.2.2	Disease survey and animal health service in the selected districts	• No. of animals tested • No. of reports on disease survey	Project Office, District Vet. Offices, Entebbe Lab., JOCV (JICA), NALIRRI											• Dispatch of JOCV • Supply of reagents and disposables	<b>Target diseases:</b> TB, brucellosis, blood parasites, etc.	
<b>4</b>	<b>Monitoring and evaluation of the Project activities</b>															
4.1	<b>Holding Committee meetings</b>															
4.1.1	Steering Committee (SC) Meeting	• No. of meetings held	Project Office, JICA, DLHE											• Participation of SC members		
4.1.2	Joint Coordinating Committee (JCC) Meeting	• No. of meetings held	Project Office, JICA, MAAIF											• Participation of JCC members		
4.2	<b>Monitoring and evaluation</b>															
4.2.1	Monitoring and evaluation of the activities	• No. of staff meetings held	Project office, Entebbe Lab.													
4.2.2	Evaluation of the Project		MAAIF, JICA											• Dispatch of mission team		

### Abbreviations

**MAAIF:** Ministry of Agriculture, Animal Industry and Fisheries

**LHE:** Department of Livestock Health and Entomology

**Entebbe Lab.:** Animal Disease Diagnostic and Epidemiology Laboratory

**JICA:** Japan International Cooperation Agency

**JOCV:** Japan Overseas Cooperation Volunteers

**HPAI:** highly pathogenic avian influenza, **ND:** Newcastle disease

**ASF:** African swine fever, **FMD:** foot and mouth disease

**PPR:** peste des petits ruminants, **TB:** tuberculosis

**CBPP:** contagious bovine pleuropneumonia

**CCPP:** contagious caprine pleuropneumonia

## Evaluation Table of the Project Activities

No.	Project Activities	Responsible/ Supported by	Japanese Fiscal Year (JFY)								Activities		Future Activities		
			07	2007/08				2008/09				Input		Output	
			M	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM				
<b>1</b>	<b>Preparation of the action plan</b>														
1.1	Study on the current status of livestock, such as location of farmers, numbers, breeding system, existing diseases, etc. in Uganda	Department of Livestock Health & Entomology (LHE), Project Office											<ul style="list-style-type: none"> <li>• 12 short-term volunteers dispatched to 5 districts, and information &amp; data collected.</li> </ul>	<ul style="list-style-type: none"> <li>• The collected data were summarised in their activity reports.</li> </ul>	
1.2	Study on the current status of organisations relating to animal disease diagnoses such as District Veterinary Offices (DVOs), National Livestock Resources Research Institute (NALIRRI*), Faculty of Veterinary Medicine of Makerere University, etc.	Department of Livestock Health & Entomology (LHE), Project Office											<ul style="list-style-type: none"> <li>• 8 DVOs, Makerere Univ., NALIRRI visited to study the current status of livestock and illuminate possible collaboration through the Project.</li> <li>• The staff of Entebbe Lab. interviewed to identify the current problems to be solved and duties to be conducted.</li> </ul>	<ul style="list-style-type: none"> <li>• Action plan (plan of operation: PO) was drawn up and implemented.</li> </ul>	
1.3	Identifying duties to be conducted by the Animal Disease Diagnostic and Epidemiology Laboratory (Entebbe Lab.), and District Veterinary Offices	Department of Livestock Health & Entomology (LHE), Project Office													
1.4	Drawing up of the action plan	LHE, Project Office													

Annex 1: Evaluation Table (Uganda-ADC)

No.	Project Activities	Responsible/ Supported by	Japanese Fiscal Year (JFY)										Activities		Future Activities		
			07	2007/08				2008/09				Input	Output				
			M	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM						
<b>2</b>	<b>Enhancing the capacity of the Animal Disease Diagnostic and Epidemiology Laboratory</b>																
2.1	Identification of high priority diagnostic techniques	Project office, Entebbe Lab.													• Interview with the staff and observation	• The identified techniques were reflected in the PO.	
2.2	Strengthening the identified techniques and activities																
2.2.1	Maintenance of diagnostic laboratory																
2.2.1.1	Renovation of the diagnostic facilities	Project office, Entebbe Lab.													• The upper laboratory rehabilitated. • The lower laboratory partially renovated.	• The laboratories became readily available for diagnostic work.	
2.2.1.2	Allocation of personnel	MAAIF, Entebbe Lab.													• 2 vets allocated for diagnostics.		
2.2.2	Strengthening the identified techniques and activities																
2.2.2.1	Improvement of bacterial isolation and identification techniques	Project Office, Nihon University, Makerere University													• One short-term expert dispatched. • The section redesigned. • Equipment supplied (dry oven, waterbath, etc.).	• Bacteria culture and staining techniques were transferred. • Diagnostic reagents for <i>Brucella</i> were produced.	• Regular production of the reagents
2.2.2.2	Establishment of cell culture techniques	Project Office, Nihon University													• Virology Section established. • Equipment supplied (laminar flow cabinet, centrifuge, autoclave, etc.).	• Four cell lines (Vero, SK6, MDCK, BHK) were established. • The section became readily available for virus isolation from field samples.	
2.2.2.3	Establishment of virus isolation and identification techniques	Project Office, Nihon University													• 3 cell lines introduced.		• Attempt for virus isolation
2.2.2.4	Establishment of histopathological diagnosis	Project Office, Nihon University, Makerere University													• Histopathology section established. • One short-term expert dispatched. • A staff trained • Equipment supplied. • A Japanese senior volunteer assigned.	• The techniques for the preparation of histopathological specimen were transferred.	• Activation of histopathological diagnosis

Annex 1: Evaluation Table (Uganda-ADC)

No.	Project Activities	Responsible/ Supported by	Japanese Fiscal Year (JFY)										Activities		Future Activities						
			07	2007/08					2008/09					Input		Output					
			M	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM										
2.2.2.5	Improvement of serological diagnosis	Project Office, Nihon University, NALIRRI														• ELISA for brucellosis introduced from Thailand.	• <i>Brucella</i> ELISA became available.	• Production of antigen for ELISA			
2.2.3	Establishment of rapid diagnosis for the major infectious diseases																				
2.2.3.1	Establishment of molecular biological techniques for the selected diseases	Project office, Entebbe Lab., Nihon University																	• This field has been supported by other donors such as DANIDA for FMD, IAEA for HPAI, ILRI for ASF, etc.	• Utilisation of PCR for virus identification	
2.2.3.2	Development of sampling methods for molecular diagnosis of the selected diseases	Project office, Entebbe Lab., District Vet. Offices																	• A 3-day seminar organised at Entebbe Lab.		• Standardisation of the methods for major diseases
2.3	<b>Training of staff</b>	Project Office, JICA, Nihon University, Makerere University, NALIRRI																	• Training by experts • One staff trained in Japan (group training) • One staff of Makerere trained in Japan		
3	<b>Enhancing collaboration and linkage with the selected District Veterinary Offices</b>																				
3.1	<b>Selection of collaborating District Veterinary Offices</b>	Project office, Entebbe Lab.																	• 8 DVOs visited and studied.	• 5 DVOs were selected (Kiboga, Kiruhura, Kumi, Mbale & Mpigi).	
3.2	<b>Training for staff from selected District Veterinary Offices</b>																				
3.2.1	Improvement of parasitological diagnosis and haematological examination at the selected offices	Project office, Entebbe Lab., JOCV (JICA)																	• Equipment and reagents supplied. • DVOs either renovated or rehabilitated. • 12 JOCV members dispatched.	• Basic laboratory was established in each DVO. • Blood and fecal examinations became routinely carried out. • Antibiotics sensitivity test became feasible.	• Improvement of dagnosis of bacterial diseases • Field survey • Extension activity for farmers
3.2.2	Disease survey and animal health service in the selected districts	Project Office, District Vet. Offices, Entebbe Lab., JOCV (JICA), NALIRRI																	• 2 seminars organised for DVO staff at Entebbe Lab.	• Survey on brucellosis, TB, CBPP, <i>Trypanosoma</i> and mastitis were implemented.	



No.	Project Activities	Responsible/ Supported by	Japanese Fiscal Year (JFY)										Activities		Future Activities	
			07	2007/08				2008/09				Input	Output			
			M	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM					
<b>4</b>	<b>Monitoring and evaluation of the Project activities</b>															
<b>4.1</b>	<b>Holding Committee meetings</b>															
4.1.1	Steering Committee (SC) Meeting	Project Office, JICA, DLHE														
4.1.2	Joint Coordinating Committee (JCC) Meeting	Project Office, JICA, MAAIF														
<b>4.2</b>	<b>Monitoring and evaluation</b>															
4.2.1	Monitoring and evaluation of the activities	Project office, Entebbe Lab.														
4.2.2	Evaluation of the Project	MAAIF, JICA														

### Abbreviations

**MAAIF:** Ministry of Agriculture, Animal Industry and Fisheries

**LHE:** Department of Livestock Health and Entomology

**Entebbe Lab.:** Animal Disease Diagnostic and Epidemiology Laboratory

**JICA:** Japan International Cooperation Agency

**JOCV:** Japan Oversease Cooperation Volunteers

**NALIRRI:** National Livestock Resources Research Institute, formerly known as LIRI: Livestock Health Research Institute

**HPAI:** highly pathogenic avian influenza, **ND:** Newcastle disease

**ASF:** African swine fever, **FMD:** foot and mouth disease

**PPR:** peste des petits ruminants, **TB:** tuberculosis

**CBPP:** contagious bovine pleuropneumonia

**CCPP:** contagious caprine pleuropneumonia

**6-1 List of Japanese Experts & Volunteers** (as of March 2009)**Long-term Expert**

No.	Name of Expert	Field	Period of Assignment				
			From	To	Duration	JFY 2007	JFY 2008
1	Dr. Yoshihito KASHIWAZAKI	Chief advisor	20 Mar 07	19 Apr 09	2 yrs + 1 m	←	→

**Short-term Experts**

No.	Name of Expert	Field	Period of Assignment				
			From	To	Duration	JFY 2007	JFY 2008
1	Dr. Hisashi SHIBUYA	Pathological Diagnosis	18 Feb 08	17 Mar 08	29 days	—	
2	Dr. Hiroshi KAMATA	Bacteriological Diagnosis	1 Aug 08	31 Aug 08	31 days		—
3	Dr. Yukita SATO	Evaluation	31 Nov 08	7 Dec 08	8 days		—

**Short-term Volunteers (JOCV members)**

No.	Name of Volunteer	Field	Period of Assignment				
			From	To	Duration	JFY 2007	JFY 2008
1	Dr. Ikuo KOBAYASHI	Veterinary Health, Kiruhura DVO	1 Oct 07	4 Dec 07	65 days	—	
2	Dr. Tokio MATSUNAMI	Veterinary Health, Kiboga DVO	1 Oct 07	4 Dec 07	65 days	—	
3	Dr. Shinji HIRANO	Veterinary Health, Kumi DVO	1 Oct 07	4 Dec 07	65 days	—	
4	Dr. Makoto NAKATA	Veterinary Health, Mbale DVO	1 Oct 07	4 Dec 07	65 days	—	
5	Dr. Hirotaka KONDO	Veterinary Health, Kiboga DVO	22 Jul 08	7 Sep 08	48 days		—
6	Dr. Hideaki TODA	Veterinary Health, Mpigi DVO	22 Jul 08	21 Sep 08	62 days		—
7	Dr. Yusuke ECHIGOYA	Veterinary Health, Kumi DVO	22 Jul 08	21 Sep 08	62 days		—
8	Dr. Masako KATO	Veterinary Health, Mbale DVO	22 Jul 08	21 Sep 08	62 days		—
9	Dr. Toshiki UEDA	Animal Husbandry, Mpigi DVOs	14 Oct 08	13 May 09	7 months		—
10	Dr. Yuko HIRANO	Veterinary Health, Mbale DVO	2 Feb 09	1 Apr 09	59 days		—
11	Dr. Keisuke KOYAMA	Veterinary Health, Kiruhura DVO	2 Feb 09	1 Apr 09	59 days		—
12	Mr. Tomoyuki CHIBA	Veterinary Health, Kiboga DVO	17 Feb 09	1 Apr 09	44 days		—

**Long-term Senior Volunteer (SV)**

No.	Name of Volunteer	Field	Period of Assignment				
			From	To	Duration	JFY 2007	JFY 2008
1	Dr. Hiroshi KONDO	Pathological Diagnosis	25 Mar 09	24 Mar 11	2 years		

**6-2 Provision/Procurement of Equipment (as of March 2009)****Note:**

R/P (Route of Procure) J: from Japan with Expert, E: Local with equipment budget, L: Local with local budget

Frequency of Use A: Always - B: Often - C: Sometimes - D: Seldom

Condition A: Good - B: Fair - C: Bad

No	Description		Qty (Set)	R/P	S-total		Place of installation	Frequency of use	Condition	Delivery date
	Item	Maker/Spec.			Yen	UGX				
<b>National Animal Disease Diagnostic &amp; Epidemiology Laboratory: NADDEL (Entebbe)</b>										
1	Project Car	Nissan Patrol	1	E	5,000,000	80,000,000	MAAIF	A	A	3 Apr 07
2	Laminar flow cabinet	Jencons Bio	1	E	1,523,230	24,371,600	Virology	A	A	11 Mar 08
3	Refrigerated microcentrifuge	Eppendorf	1	E	827,400	13,238,500	Virology	B	A	5 Dec 07
4	Waterbath	Memmert	1	E	102,520	1,640,250	Virology	A	A	2 Apr 08
5	Dry oven	Memmert	1	E	158,630	2,538,100	Virology	A	A	2 Apr 08
6	Autoclave	Tommy	1	E	693,800	11,101,400	Virology	A	A	5 Dec 07
7	Refrigerator	LG	1	L	78,100	1,250,000	Virology	A	A	15 Nov 07
8	Liquid nitrogen tank	Air Liquid GT	1	E	204,440	3,271,000	Virology	A	A	5 Dec 07
9	Balance	Ohaus	1	J	78,000	1,248,000	Virology	A	A	21 Feb 08
10	Hot plate stirrer	VWR	1	E	89,300	1,429,200	Virology	B	A	5 Dec 07
11	Microscope	OLYMPUS	1	E	144,530	2,312,400	Virology	B	A	2 Apr 08
12	Micropipette, 0.5-10 microlitre	Finn	5	J	100,000	1,600,000	Virology	C	A	7 May 07
13	Micropipette, 5-50 microlitre	Finn	5	J	100,000	1,600,000	Virology	A	A	7 May 07
14	Micropipette, 20-200 microlitre	Finn	5	J	100,000	1,600,000	Virology	A	A	7 May 07
15	Micropipette, 100-1000 microlitre	Finn	5	J	100,000	1,600,000	Virology	A	A	7 May 07
16	Multichannel pipette, 5-50 microlitre	Finn	3	J	240,000	3,840,000	Virology	B	A	7 May 07
17	Multichannel pipette, 50-300 microlitre	Finn	3	J	240,000	3,840,000	Virology	B	A	7 May 07
18	Compact pH meter	HORIBA	2	J	40,000	640,000	Virology	B	A	7 May 07
19	Mixer	Vortex	2	J	100,000	1,600,000	Virology	C	A	7 May 07
20	Pipette aid, rechargeable	Drummond	4	J	100,000	1,600,000	Virology	A	A	7 May 07
21	Rotary shaker		1	L	49,690	795,000	Virology	B	A	9 Sep 08
22	Microplate shaker		1	L	25,630	410,000	Virology	B	A	5 Sep 08

## Provision of Equipment (Uganda-ADC)

No	Description		Qty (Set)	R/P	S-total		Place of installation	Frequency of use	Condition	Delivery date
	Item	Maker/Spec.			Yen	UGX				
23	Air Conditioning	Panasonic	1	L	110,400	2,400,000	Virology	A	A	16 Mar 09
24	Microwave	Panasonic	1	L	18,400	400,000	Virology	B	A	2 Feb 09
25	Water stills	Aquatron	1	E	827,400	13,238,500	Common Lab.	A	A	28 Jan 08
26	Refrigerator	Toshiba	1	L	76,560	1,225,000	Pathology	A	A	12 Feb 08
27	Balance	Ohaus	1	J	78,000	1,248,000	Pathology	A	A	21 Feb 08
28	Hot plate stirrer	VWR	1	E	89,300	1,429,200	Pathology	D	C	5 Dec 07
29	Laboshaker	As One	1	J	117,000	1,872,000	Pathology	C	A	21 Feb 08
30	Paraffin progress machine	SAKURA	1	J	223,200	3,571,200	Pathology	C	A	21 Feb 08
31	Microscope	OLYMPUS	1	E	144,530	2,312,400	Pathology	C	A	2 Apr 08
32	Air Conditioning	Panasonic	1	L	110,400	2,400,000	Pathology	A	A	16 Mar 09
33	Microscope	OLYMPUS	1	E	144,530	2,312,400	Bacteriology	C	A	2 Apr 08
34	Dry oven	Memmert	1	L	158,630	2,538,100	Bacteriology	C	A	8 Aug 08
35	Water bath	Memmert	1	L	102,520	1,640,250	Bacteriology	C	A	8 Aug 08
36	Air Conditioning	Panasonic	1	L	110,400	2,400,000	Bacteriology	A	A	16 Mar 09
37	Refrigerator	Samsun	1	L	75,000	1,200,000	General	A	A	29 Mar 07
38	Microscope	OLYMPUS	2	E	289,060	4,624,800	General	C	A	2 Apr 08
39	Fields Virology	Book	1	J	51,000	816,000	General	C	A	7 May 07
40	Introduction to Veterinary Genetics	Book	1	J	10,000	160,000	General	C	A	7 May 07
41	Veterinary Medicine: A Textbook of the iseases of Cattle, Horses, Sheep, Pigs and ats	Book	1	J	20,000	320,000	General	C	A	7 May 07
42	A Comparative Veterinary Histology with linical Correlates	Book	1	J	10,000	160,000	General	C	A	7 May 07
43	Color Atlas of Veterinary Pathology: eneral Morphological Reactions of Organs l Tissues	Book	1	J	20,000	320,000	General	C	A	7 May 07
44	Diseases of Swine, Ninth Edition	Book	1	J	30,000	480,000	General	C	A	7 May 07
45	Color Atlas of Diseases and Disorders of Cattle	Book	1	J	20,000	320,000	General	C	A	7 May 07
46	Diseases of Poultry	Book	1	J	20,000	320,000	General	C	A	7 May 07
47	Molecular Diagnostic PCR Handbook	Book	1	J	20,000	320,000	General	C	A	7 May 07
				<b>Subtotal</b>	<b>12,971,600</b>	<b>209,553,300</b>				

## Provision of Equipment (Uganda-ADC)

No	Description		Qty (Set)	R/P	S-total		Place of installation	Frequency of use	Condition	Delivery date
	Item	Maker/Spec.			Yen	UGX				
<b>Kiboga District Veterinary Office</b>										
1	Microscope	OLYMPUS	1	L	144,530	2,312,400	Laboratory	A	A	8 Oct 07
2	Generator		1	L	43,750	700,000	Laboratory	C	A	1 Oct 07
3	Incubator	Memmert	1	L	153,680	2,618,850	Laboratory	B	A	1 Jul 08
4	Autoclave		1	E	220,140	3,522,200	Laboratory	B	A	9 Apr 08
5	Micropipette, 10-100 microlitter		1	L	29,100	465,570	Laboratory	B	A	8 Oct 07
6	Micropipette, 100-1000 microlitter		1	L	28,670	458,730	Laboratory	B	A	8 Oct 07
			<b>Subtotal</b>		<b>619,870</b>	<b>10,077,750</b>				
<b>Kiruhura District Veterinary Office (Kazo Veterinary Centre)</b>										
1	Microscope	OLYMPUS	1	L	144,530	2,312,400	Laboratory	A	A	10 Oct 07
2	Generator		1	L	43,750	700,000	Laboratory	C	A	13 Sep 07
3	Water pump		1	L	17,500	280,000	Laboratory	C	B	13 Sep 07
4	Battery for solar system	200 Amps	2	L	77,500	1,240,000	Laboratory	A	A	25 Sep 07
5	Inverter		1	L	84,375	1,350,000	Laboratory	A	A	25 Sep 07
6	Solar panel	12V/75W	4	L	225,000	3,600,000	Laboratory	A	A	23 Sep 08
7	Solar charge regulator	12V/24V/30A	1	L	21,880	350,000	Laboratory	A	A	23 Sep 08
8	Micropipette, 10-100 microlitter		1	L	29,100	465,570	Laboratory	B	A	10 Oct 07
9	Micropipette, 100-1000 microlitter		1	L	28,670	458,730	Laboratory	B	A	10 Oct 07
10	Incubator	Memmert	1	L	124,430	2,705,000	Laboratory	B	A	27 Jan 09
11	Autoclave		1	L	228,800	4,974,000	Laboratory	B	A	27 Jan 09
			<b>Subtotal</b>		<b>1,025,535</b>	<b>18,435,700</b>				
<b>Kumi District Veterinary Office</b>										
1	Microscope	OLYMPUS	1	L	144,530	2,312,400	Laboratory	A	A	8 Oct 07
2	Generator		1	L	43,750	700,000	Laboratory	B	A	27 Sep 08
3	Water pump		1	L	17,500	280,000	Laboratory	C	A	27 Sep 08
4	Micropipette, 10-100 microlitter		1	L	29,100	465,570	Laboratory	B	A	8 Oct 07
5	Micropipette, 100-1000 microlitter		1	L	28,670	458,730	Laboratory	B	A	8 Oct 07
			<b>Subtotal</b>		<b>263,550</b>	<b>4,216,700</b>				

## Provision of Equipment (Uganda-ADC)

No	Description		Qty (Set)	R/P	S-total		Place of installation	Frequency of use	Condition	Delivery date
	Item	Maker/Spec.			Yen	UGX				
<b>Mbale District Veterinary Office</b>										
1	Microscope	OLYMPUS	1	E	144,530	2,312,400	Laboratory	A	A	30 Jun 08
2	Generator		1	L	43,750	700,000	Laboratory	C	A	28 Sep 08
3	Incubator	Memmert	1	L	153,680	2,618,850	Laboratory	B	A	30 Jun 08
4	Autoclave		1	E	220,140	3,522,200	Laboratory	B	A	30 Jun 08
5	Micropipette, 10-100 microlitter		1	L	29,100	465,570	Laboratory	B	A	8 Oct 07
6	Micropipette, 100-1000 microlitter		1	L	28,670	458,730	Laboratory	B	A	8 Oct 07
			<b>Subtotal</b>		<b>619,870</b>	<b>10,077,750</b>				
<b>Mpigi District Veterinary Office</b>										
1	Microscope	OLYMPUS	1	L	144,530	2,312,400	Laboratory	A	A	4 Mar 08
2	Generator		1	L	43,750	700,000	Laboratory	C	A	25 Oct 07
3	Refrigerator	HITACHI	1	L	62,500	1,000,000	Laboratory	A	A	16 Nov 07
4	Incubator	Memmert	1	L	153,680	2,618,850	Laboratory	B	A	11 Jul 08
5	Autoclave		1	E	220,140	3,522,200	Laboratory	B	A	25 Aug 08
6	Micropipette, 10-100 microlitter		1	L	29,100	465,570	Laboratory	B	A	4 Mar 08
7	Micropipette, 100-1000 microlitter		1	L	28,670	458,730	Laboratory	B	A	4 Mar 08
			<b>Subtotal</b>		<b>682,370</b>	<b>11,077,750</b>				
<b>Diagnostic Lab., Faculty of Veterinary Medicine, Makerere University</b>										
1	Microscope	OLYMPUS	2	L	253,270	5,506,000	Laboratory	A	A	29 Jan/30 Mar 09
3	Refrigerator	HITACHI	1	L	96,600	2,100,000	Laboratory	A	A	2 Feb 09
4	Incubator	Memmert	1	L	124,430	2,705,000	Laboratory	B	A	29 Jan 09
4	Waterbath	Memmert	1	L	92,000	2,000,000	Virology	A	A	30 Mar 09
5	Dry oven	Memmert	1	L	162,840	3,540,000	Virology	A	A	30 Mar 09
			<b>Subtotal</b>		<b>729,140</b>	<b>15,851,000</b>				
			<b>Grand Total</b>		<b>16,911,935</b>	<b>279,289,950</b>				

**6-3 Assignment of Counterparts (as of March 2009)**

No.	Name of Counterpart	Project Role/Field	Present Position	Site	Period (JFY)		Seminar/Training	
					2007	2008	Course	Period
1	Dr. W. Olaho-Mukani	Project Director	Director	MAAIF	←	→		
2	Dr. Nicholas Kauta	Project Manager	Commissioner	MAAIF	←	→		
3	Dr. C. S. Rutebarika	Assistant Project Manager	Assistant Commissioner	MAAIF	←	→		
4	Dr. Ademun A. O. Rose	Project Officer	Principal Veterinary Officer	NADDEL	←	→		
5	Dr. Nantima Noelina	Project Officer	Principal Veterinary Officer	NADDEL	←	→		
6	Dr. Mugabi Keneth	Epidemiology Unit	Senior Veterinary Officer	NADDEL	←	→		
7	Dr. Ndumu Deo Birungi	Diagnosis Unit	Senior Veterinary Officer	NADDEL	←	→	Group Training Japan	27/08-1/12/07
8	Dr. Ayebazibwe Chrisostom	Diagnosis Unit	Senior Veterinary Officer	NADDEL	←	→		
9	Mr. Mugisha William	Diagnosis Unit	Senior Lab. Technician	NADDEL	←	→		
10	Mr. Kidega Kasimiro Eugene	Diagnosis Unit	Senior Lab. Technician	NADDEL	←	→	Counterpart (Dr. Kamata)	2-30/08/08
11	Mr. Esau Martin	Diagnosis Unit	Laboratory Technician	NADDEL	←	→		
12	Mr. Opoka Lawrence	Diagnosis Unit	Laboratory Technician	NADDEL	←	→		
13	Ms. Nanfuka Mary	Diagnosis Unit	Laboratory Technician	NADDEL	←	→		
14	Mr. Erima Simon	Diagnosis Unit	Principal Lab. Technician	NADDEL	←	→		
15	Mr. Bahati Milton	Diagnosis Unit	Laboratory Technician	NADDEL	←	→	Counterpart (Dr. Shibuya)	19/02-16/03/08
16	Mr. Dwoka Raymond	Diagnosis Unit	Laboratory Technician	NADDEL	←	→		
17	Ms. Nambo Estha	Epidemiology Unit	Data Entrant	NADDEL	←	→		
18	Dr. Atikoro John Richard	District Staff	District Veterinary Officer	Kiboga	←	→		
19	Dr. Kamurasi Tom	District Staff	Veterinary Officer	Kiboga	←	→		
20	Dr. Nsereko Godfrey	District Staff	Veterinary Officer	Kiboga	←	→	Pathology Group Training Japan	11-13/03/08 12/08-22/11/08
21	Mr. Achong Moses	District Staff	Animal Husbandry Officer	Kiboga	←	→	Pathology Bacteriology	11-13/03/08 19-21/08/08
22	Mr. Mawejje Robert	District Staff	Animal Husbandry Officer	Kiboga	←	→	Bacteriology	19-21/08/08
23	Dr. Ronald Mugisha	District Staff	District Veterinary Officer	Kiruhura	←	→	Bacteriology	19-21/08/08
24	Dr. Rusita J.B.	District Staff	Veterinary Officer	Kiruhura	←	→		
25	Mr. Kato Moses	District Staff	Animal Husbandry Officer	Kiruhura	←	→	Pathology Bacteriology	11-13/03/08 19-21/08/08



## Assignment of Counterparts (Uganda-ADC)

No.	Name of Counterpart	Project Role/Field	Present Position	Site	Period (JFY)		Seminar/Training	
					2007	2008	Course	Period
26	Mr. Matove Emma M.	District Staff	Animal Husbandry Officer	Kiruhura	↔	↔		
27	Mr. Tumwesigye Acleleo	District Staff	Animal Husbandry Officer	Kiruhura	↔			
28	Dr. Onyait Opiede Alfred	District Staff	District Veterinary Officer	Kumi	↔	↔		
29	Dr. Fransis	District Staff	Veterinary Officer	Kumi	↔	↔		
30	Mr. Imarigat Joseph	District Staff	Animal Husbandry Officer	Kumi	↔	↔	Pathology	11-13/03/08
31	Mr. Agaroi Peter	District Staff	Animal Husbandry Officer	Kumi	↔	↔		
32	Dr. George H. Were	District Staff	District Veterinary Officer	Mbale	↔	↔		
33	Dr. Philip Walcimwere	District Staff	Veterinary Officer	Mbale	↔	↔	Pathology Bacteriology	11-13/03/08 19-21/08/08
34	Dr. Alfred Ochieng	District Staff	Veterinary Officer	Mbale	↔	↔		
35	Dr. Moses Chepkwurui	District Staff	Veterinary Officer	Mbale	↔	↔	Pathology	11-13/03/08
36	Mr. Ecewu Ekis C.L.	District Staff	Laboratory Technician	Mbale	↔	↔	Bacteriology	19-21/08/08
37	Dr. Ssekiwunga	District Staff	District Veterinary Officer	Mpigi	↔	↔		
38	Dr. Kabanda	District Staff	Veterinary Officer	Mpigi	↔	↔		
39	Mr. Musoke	District Staff	Animal Husbandry Officer	Mpigi	↔	↔	Pathology Bacteriology	11-13/03/08 19-21/08/08

**6-4 Seminars & Training Courses** (as of March 2009)

No.	Seminars/Training Courses	Participants		Place of the Venue	Period/Date	Duration
		Name/Institution	Present Post			
1	Detection technology of pathogens in food animals (group training course)	Dr. Ndumu Deo Birungi	Senior Veterinary Officer	Osaka Prefectural University, Japan	27 Aug - 1 Dec 2007	3 months
2	Livestock farming and animal health	10 Japanese volunteers in Mpigi	JOCV members	NADDEL, Entebbe	10-11 Sep 2007	2 days
3	Pathology & pathological diagnosis	10 district staff from 5 districts	District Officer	NADDEL, Entebbe	11-13 Mar 2008	3 days
4	Poultry and pig farming	14 Japanese volunteers in Uganda	JOCV members	NADDEL, Entebbe	24 Apr 2008	1 day
5	Veterinary technology for farm animals (group training course)	Dr. Nsereko Godfrey	District Veterinary Officer, Kiboga	Hokkaido Veterinary Association, Japan	12 Aug - 22 Nov 2008	3 months
6	Poultry and pig farming	14 Japanese volunteers in Malawi, Zambia & Uganda	JOCV members	NADDEL, Entebbe	14 Aug 2008	1 day
7	Pig farming	35 farmers in Budondo Sub-county, Jinja	Farmers	Kivubuka Primary School, Ivunamba, Budondo, Jinja	16-17 Aug 2008	2 days
8	Bacteria & bacterial diagnosis	8 district staff from 4 districts	District Officer	NADDEL, Entebbe	19-21 Aug 2008	3 days
9	Technical exchange seminar	from MAAIF, Makerere Univ., NALIRRI, Univ. of Zambia, Nihon Univ.		Imperial Hotel	3 Dec 2008	1 day
10	Individual training (plan)	Dr. Wampande Eddie Mujjwiga	Lecturer, Makerere Univ.	Nihon University, Japan	8 Feb - 15 Mar 2009	36 days

**6-5 Official Visits by Long-term Expert (as of March 2009)**

<b>No.</b>	<b>Place visited</b>	<b>Accompanied by</b>	<b>Purpose</b>	<b>Period/Date</b>	<b>Duration</b>
1	DVOs (Jinja, Mbale, Kumi), NALIRRI (Troro)	Dr. Ademun Rose Dr. Ndumu Deo Birungi	Selection of DVOs as Project sub-site Observation of NALIRRI	26-27 Apr 2007	2 days
2	Kiboga DVO	Dr. Ademun Rose	Selection of DVOs as Project sub-site	9 May 2007	1 day
3	DVOs (Mbarara, Kiruhura, Masaka, Mpigi)	Dr. Ndumu Deo Birungi	Selection of DVOs as Project sub-site	28-29 May 2007	2 days
4	NGO in Bugiri, NALIRRI (Tororo), Mbale & Kumi DVOs, NASARRI (Soroti)	5 JOCV members (for NASARRI)	Discussion on Project activities Observation of animal traction	7-10 Aug 2007	4 days
5	Kiboga DVO		Discussion on Project activities	13 Aug 2007	1 day
6	Kiruhura & Mpigi DVOs	Dr. Ndumu Deo Birungi	Discussion on Project activities	16-17 Aug 2007	2 days
7	Kazo Vet. Centre (Kiruhura)	Ms. Obata	Accommodation for volunteer	13 Sep 2007	1 day
8	Kazo Vet. Centre (Kiruhura)		Arrangement for renovation	25 Sep 2007	1 day
9	Kumi & Mbale DVOs	Ms. Obata	Accommodation for volunteer	27-28 Sep 2007	2 days
10	Kiboga DVO	Ms. Obata	Accommodation for volunteer	1 Oct 2007	1 day
11	Kiboga DVO	Drs. Matsunami & Kobayashi	Assignment of a volunteer	8 Oct 2007	1 day
12	Kazo Vet. Centre (Kiruhura) Mpigi DVO	Dr. Kobayashi	Assignment of a volunteer Discussion on Project activities	10 Oct 2007	2 days
13	Mpigi DVO		Attending a seminar by JOCV members	25 Oct 2007	1 day
14	Kiboga DVO	Dr. Matsunami	Observation of field activity	29 Oct 2007	1 day
15	Kumi DVO	Dr. Hirano	Observation of field activity	31 Oct - 2 Nov 2007	3 days
16	Kazo Vet. Centre (Kiruhura)	Dr. Kobayashi	Observation of field activity	5-7 Nov 2007	3 days
17	Kiboga DVO	Dr. Matsunami	Observation of field activity	12 Nov 2007	1 day
18	Mpigi DVO		Carrying equipment (refrigerator)	16 Nov 2007	1 day
19	Mbale & Kumi DVOs	Dr. Nakata & Dr. Hirano	Observation of field activity Return of 2 volunteers	21-23 Nov 2007	3 days
20	Mbale & Kumi DVOs		Arrangement for renovation	4-5 Feb 2008	2 days
21	Kiruhura & Mpigi DVOs		Arrangement for renovation	7-8 Feb 2008	2 days
22	Kiboga DVO		Discussion on Project activities	15 Feb 2008	1 day
23	Mpigi DVO		Carrying equipment	4 Mar 2008	1 day

## Official Visits (Uganda-ADC)

No.	Place visited	Accompanied by	Purpose	Period/Date	Duration
24	Mbale & Kumi DVOs		Arrangement for renovation	5-6 Mar 2008	2 days
25	Mpigi DVO, Kazo Vet. Centre (Kiruhura)	Dr. Shibuya	Observation of DVO Sampling in the field	7-8 Mar 2008	2 days
26	Mpigi DVO	Dr. Shibuya	Arrangement for equipment	14 Mar 2008	1 day
27	Zambia	Drs. Mugabi & Muwazi	Technical exchange programme	17-21 Mar 2008	5 days
28	Kiboga DVO		Carrying equipment (autoclave)	9 Apr 08	1 day
29	Mpigi DVO		Demonstration of diagnostic techniques	10 Apr 2008	1 day
30	Maddu in Mpigi District		Observation of field activity	14-15 Apr 2008	2 days
31	Mpigi DVO		Carrying equipment	17 Apr 2008	1 day
32	Mbale & Kumi DVOs		Arrangement for renovation	18-19 Apr 2008	2 days
33	Mbale & Kumi DVOs		Carrying equipment Discussion on Project activities	5-6 May 2008	2 days
34	Maddu in Mpigi District	Dr. Tada	Field activity	22 May 2008	1 day
35	Ankole Western Institute (Bushenyi), Sanga & Kazo Vet. Centres (Kiruhura)		Observation of the institute Arrangement for renovation of the centres	5-6 Jun 2008	2 days
36	Mbale DVO		Arrangement for renovation	12 Jun 2008	1 day
37	Mpigi DVO		Carrying equipment	25 Jun 2008	1 day
38	Mbale & Kumi DVOs		Carrying equipment Discussion on Project activities	30 Jun 2008	1 day
39	Kiboga DVO		Carrying equipment (incubator)	1 Jul 2008	1 day
40	Rwanda	Dr. Tada	Consultation on dairy farming	1-4 Jul 2008	4 days
41	Mpigi DVO		Carrying equipment (incubator)	11 Jul 2008	1 day
42	Mbale & Kumi DVOs		Arrangement for volunteer	21-22 Jul 2008	2 days
43	Mbale & Kumi DVOs	Dr. Kato & Dr. Echigoya	Assignment of 2 volunteers	28-29 Jul 2008	2 days
44	Kazo Vet. Centre (Kiruhura)	Mr. Yoshino (JOCV)	Inspection of solar system	31 Aug - 1 Sep 2008	2 days
45	Kaliro DVO	2 volunteers	Application of a volunteer on animal husbandry	5 Aug 2008	1 day
46	Kiboga DVO	Dr. Kondo	Observation of field activity	11 Aug 2008	1 day
47	Jinja	4 volunteers	Seminar on pig farming for farmers	16-17 Aug 2008	2 days

## Official Visits (Uganda-ADC)

No.	Place visited	Accompanied by	Purpose	Period/Date	Duration
48	Mpigi DVO	Dr. Toda	Carrying equipment	25 Aug 2008	1 day
49	Kumi & Mbale DVOs	Dr. Echigoya & Dr. Kato	Observation of field activity	31 Aug - 3 Sep 2008	4 days
50	Kiboga DVO	Dr. Kondo	Return of a volunteer	5 Sep 2008	1 day
51	Mpigi DVO	Dr. Toda	Observation of field activity	8 Sep 2008	1 day
52	Mbale & Kumi DVOs	Dr. Echigoya & Dr. Kato	Return of 2 volunteers	12-13 Sep 2008	2 days
53	Kazo Vet. Centre (Kiruhura)	Engineer	Carrying solar panels	23 Sep 2008	1 day
54	Kiboga DVO		Carrying reagent (rose bengal) Discussion on Project activities	28 Nov 2008	1 day
55	Mpigi DVO, Kazo & Sanga Vet. Centre (Kiruhura)	Drs. Tada & Sato, Ms. Naito	Evaluation of the Project	5-6 Dec 2008	2 days
56	Mbale & Kumi DVOs		Discussion on Project activities	18-19 Dec 2008	2 days
57	Mbale & Kumi DVOs		Discussion on Project activities	20-21 Jan 2009	2 days
58	Mpigi DVO		Discussion on Project activities	22 Jan 2009	1 day
59	Kazo Vet. Centre (Kiruhura)		Carrying equipment Discussion on Project activities	26-27 Jan 2009	2 days
60	Mpigi DVO	Dr. Koyama & Dr. Hirano	Carrying laboratory necessities	6 Feb 2009	1 day
61	Kazo Vet. Centre (Kiruhura)	Dr. Koyama	Assignment of a volunteer Carrying laboratory necessities	9-10 Feb 2009	2 days
62	Mpigi DVO		Carrying laboratory furniture	13 Feb 2009	1 day
63	Kazo Vet. Centre (Kiruhura)		Arrangement for incubator	15 Feb 2009	1 day
64	Mpigi DVO		Carrying laboratory furniture	19 Feb 2009	1 day
65	Mbale DVO	Dr. Hirano	Observation of volunteer activity	26-27 Feb 2009	2 days
66	Kazo Vet. Centre (Kiruhura)	Dr. Koyama	Observation of field activity	3-4 Mar 2009	2 days
67	Kiboga DVO	Dr. Chiba	Observation of field activity	9 Mar 2009	1 day
68	Mbale DVO	Dr. Hirano	Observation of field activity Return of a volunteer	18-20 Mar 2009	3 days
69	Kiboga DVO	Dr. Kondo (SV)	Introduction of Dr. Kondo	3 Apr 2009	1 day
70	Mbale & Kumi DVOs, NALIRRI	Dr. Kondo (SV)	Introduction of Dr. Kondo	6-7 Apr 2009	2 days
71	Mpigi & Kiruhura DVOs	Dr. Kondo (SV) & Dr. Tada	Introduction of Dr. Kondo	14-15 Apr 2009	2 days

**In total:** Kiboga DVO 14 times, Kiruhura DVO 17 times, Kumi DVO 16 times, Mbale DVO 18 times, Mpigi DVO 22 times visited.

**6-6 Financial Input** (as of March 2009)

Category	Currency	Budgetary Year (from April to March)			Total
		JFY 2006	JFY 2007	JFY 2008	
Project local budget	UGX	7,156,400	93,867,949	164,031,000	<b>265,055,349</b>
	Yen	500,000	5,090,000	9,521,000	<b>15,111,000</b>
Budget from advisor	UGX		55,324,920	8,367,900	<b>63,692,820</b>
	Yen		3,000,000	418,400	<b>3,418,400</b>
<b>Grand Total</b>	<b>UGX</b>	<b>7,156,400</b>	<b>149,192,869</b>	<b>172,398,900</b>	<b>328,748,169</b>
	<b>Yen</b>	<b>500,000</b>	<b>8,090,000</b>	<b>9,939,400</b>	<b>18,529,400</b>

**Japanese Experts in number**

Long-term	1	1	1	<b>3</b>
Short-term	0	1	2	<b>3</b>

**Japanese Volunteers (JOCV & SV members) in number**

Short-term JOCV members	0	4	8	<b>12</b>
Long-term Senior Volunteer	0	0	1	<b>1</b>

**Training in Japan**

Group	0	1	1	<b>2</b>
Individual	0	0	1	<b>1</b>

**Provision of Equipment by JICA (JPY)**

from equipment budget	Yen	5,000,000	8,840,000		<b>13,840,000</b>
from Japan with expert	Yen	2,270,000	857,000	1,063,000	<b>4,190,000</b>
from local budget	Yen	75,000	1,719,895	2,476,360	<b>4,271,255</b>
<b>Total</b>	Yen	<b>7,345,000</b>	<b>11,416,895</b>	<b>3,539,360</b>	<b>22,301,255</b>

**Local Training Courses**

for JOCV members		1	2	<b>3</b>
for district staff		1	1	<b>2</b>
for farmers			1	<b>1</b>
<b>Total</b>		<b>2</b>	<b>4</b>	<b>6</b>

**Technical Exchange Programmes**

Official visit to Zambia		1		<b>1</b>
Seminar on Animal Disease Control			1	<b>1</b>

**The Project for  
Technical Assistant Support to Enhance the Capacity of Animal Disease Control  
in the Republic of Uganda  
(ADC Project)**

**Terminal Evaluation Report**

**ACRONYMS & ABBREVIATIONS**

ELISA	Enzyme-Linked Immunosolvent Assay
CBPP	Contagious Bovine Pleuro-pneumonia
PDM	Project Design Matrix
ADC Project	Technical Assistant Support Project to Enhance the Capacity of Animal Disease Control in the Republic of Uganda
NADDEL	National Animal Disease Diagnostic and Epidemiology Laboratory
DAHE	Department of Animal Health and Entomology
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MOFA	Ministry of Foreign Affairs
JICA	Japan International Cooperation Agency
NaLiRRI	National Livestock Resource Research Institute
DANIDA	Danish International Development Agency
IAEA	International Atomic Energy Agency
ILRI	International Livestock Research Institute
JOCV	Japan Overseas Cooperation Volunteers
OIE	Office International des Epizooties
EU	European Union
GTZ	Deutsche Gesellschaft fur Technische Zusammenarbeit
FAO	Food and Agriculture Organization

**I. Background of the Project**

Uganda has for long relied on its National Diagnostic Laboratory at Entebbe and has had support from several projects. The Laboratory has had capacity to carry out ELISA for rinderpest, CBPP and brucellosis using the imported kit. However, the facility, equipment and available diagnostic techniques were below international standard as the central referral laboratory for animal disease diagnosis. In this regard, Government of Uganda requested technical assistant support from the Government of Japan.

In response to the request from the Government of Uganda, the two years cooperation Project for the Technical Assistant Support to Enhance the Capacity of Animal Disease Control in the Republic of Uganda (ADC Project) has been implemented in accordance with the agreed

framework of the Project, which are summarized in Project Design Matrix (PDM, See ANNEX 1), since March 2007 based at the National Animal Disease Diagnostic and Epidemiology Laboratory (NADDEL) of Department of Animal Health and Entomology (DAHE), Ministry of Agriculture, Animal Industry and Fisheries (MAAIF).

The ADC Project is scheduled to be closed in 19<sup>th</sup> March 2009. Hence, terminal evaluation exercise was conducted in accordance with the usual procedures of cooperation project by Japan International Cooperation Agency (JICA).

## **II. Method of the Evaluation**

Hence specifically designated evaluation team was not comprised and evaluation was conducted by the members of implementing partners namely, DAHE and JICA through the consultation to the members of Project Steering Committee and other stakeholders.

In early December 2008, two senior lecturers, Dr. V.C. Zulu and Dr. M.S. Syakalima from School of Veterinary Medicine of University of Zambia and Dr. Y. Sato from Nihon University, Japan visited Project sites and relevant authorities in Uganda to attend the technical exchange seminar on animal disease control organized by the Project and gave some comments on the Project. Their comments are also referred to draft this evaluation report.

The objectives of the evaluation were to:-

1. Assess the extent to which ADC Project's objectives have been met in terms of inputs, outputs and purpose.
2. Review the capacity built in the development of veterinary diagnostic service provision as a result of the ADC project.
3. Assess the relevance, efficiency, effectiveness, impact and sustainability of the ADC Project.
4. Provide recommendations to authorities of the Governments of Uganda and Japan on future projects and to similar projects based on lessons learnt during the implementation of ADC Project.

## **III. Achievement and Implementation Process**

The achievements of the Project were reviewed based on the inputs, activities, outputs and the purpose which are appeared in Project Design Matrix (PDM) (Please refer Annex 1). The implementation work is also reviewed.

### **1. Input** (Please see Table 6-1~6)

Japanese experts (Table 6-1)

Short term Japanese Volunteers (Table 6-1)

Provision/procurement of equipment (Table 6-2)

Assignment of counterparts (Table 6-3)

Seminars and training courses (Table 6-4)

Advisory visit to Veterinary offices by JICA experts (Table 6-5)

Financial input (Table 6-6)



## **2. Results of Activities**

The results of activities are summarized in ANNEX 8, Evaluation Table of the Project activities.

### **2-1. Preparation of the action plan**

At the initial period of the Project, a total of 8 District Veterinary Offices, Faculty of Veterinary Medicine of Makerere University and NaLiRRI were visited to study the current status of livestock, institutional arrangements and possible collaboration through the Project. The Staff of NADDEL were interviewed to identify the current problems to be solved and duties to be conducted.

Information about livestock and livestock diseases has been collected from various sources. Information about specified campaign diseases was obtained from Epidemiology Unit of NADDEL, which was supported by PACE Project. A total of 12 short term veterinary volunteers, who were dispatched to 5 districts, collected data on current status of livestock and existing diseases such as parasites infection, brucellosis, bovine tuberculosis and mastitis with the staff of district veterinary offices.

### **2-2. Enhancing capacity of the Animal Disease Diagnostic and Epidemiology Laboratory**

High priority diagnostic techniques which are essential and to be established were identified through the interview with the staff and observation of NADDEL. The unused upper laboratory was rehabilitated and some part of lower laboratory was also renovated with necessary equipment and materials to enable the identified essential diagnostic works such as bacterial isolation and identification, cell culture, virus isolation and identification, histopathological diagnosis, serological diagnosis and molecular biological diagnosis. Bacteriology laboratory was redesigned and Virology and histo-pathology laboratories were newly established. Two Japanese short-term experts, one is for bacteriology and another for pathology were dispatched and members of technical staff in charge were retrained by them. One veterinary staff of NADDEL was participating group training course in Japan for veterinary diagnosis. One veterinary staff from Faculty of Veterinary Medicine of Makerere University will be scheduled to be trained at Nihon University, Japan from February to March in 2009.

Beside the JICA supported activities, molecular biological diagnostic techniques for selected diseases have been introduced by supports of several donor agencies including DANIDA for foot and mouth disease, IAEA for highly pathogenic avian influenza, ILRI for African swine fever etc. In harmonizing with these donor supports, 3 day seminar on sampling methods for molecular diagnosis of the selected diseases was organized at NADDEL by the Project.

### **2-3. Enhancing collaboration and linkage with the selected District Veterinary Offices**

At the beginning of the Project, a total of 8 District Veterinary offices were visited and studied on location, current activities, available facility, equipment, staffing and their motivation etc. for selection of targeted five Veterinary Offices by the Project. The selected veterinary offices were renovated or rehabilitated and essential equipment and reagents were supplied. Seminars on

diagnostic techniques were organized twice for the staff of District Veterinary Offices at NADDEL, Entebbe.

A total of 12 short-term JOCV members were assigned to the District Veterinary Offices for two months in 2007, 2008 and early 2009, and engaged in disease survey and veterinary service activities in collaboration with district veterinary staff.

#### **2-4. Monitoring and evaluation of the Project activities**

Project activities were regularly monitored by long-term JICA expert, and reported and reviewed at the Steering Committee Meeting which was held 3 times and at the Joint Coordinating Committee Meeting which were held twice. In addition to the regular internal monitoring, one short-term expert from Nihon University visited to monitor and give technical guidance on the project activities in December 2008.

### **3. Results of Output**

The Results of output are also summarized in ANNEX 7, Evaluation Table of the Project Activities.

#### **3-1. Action Plan**

Plan of Operation of the Project was drawn up in accordance with the collected information through sites visit and interviews. The Data collected by the JOCV members and their counterparts of District Veterinary Offices were reported in their activity reports and presented at Steering Committee Meeting.

Based on the collected information and advice from the various sources, request proposal of next phase project, in which the functions of related organizations including involvement of MAK-FMV into National Public Veterinary Services were more defined, was drafted and submitted.

#### **3-2. Improvement of techniques at NADDEL**

Upper and lower laboratories were renovated with essential equipment and became readily available for pathological, bacteriological and virological diagnostic works.

Bacteriology laboratory was reconditioned and technical staff was retrained for basic bacteriological techniques including bacterial isolation, culture, staining and identification methods by Prof. Kamata, a short term JICA expert from Nihon University. However, diagnostic activity for field samples is still stagnant at the laboratory. Diagnostic reagents for brucellosis can be prepared. Rose-Bengal test, Milk ring test and *Brucella* ELISA test become available at the laboratory.

Histopathology laboratory was reconditioned with essential equipment. A technical staff was retrained for pathological and histo-pathological sample preparation techniques by Prof. Shibuya, a short term JICA expert from Nihon University. However, there is no specialized well trained staff member who can examine and diagnose the prepared samples. Diagnostic requests of field sample are still very few.

In virology section, 3 cell lines (Vero, SK6 and MDCK) was established and maintained. The section became readily available for virus isolation from field samples.

### **3-3. Collaboration and linkage with District Veterinary Offices**

A total of 5 District Veterinary Offices (Kiboga, Kiruhura, Kumi, Mbale and Mpigi) were selected and basic laboratory was established in each District Veterinary Office. Blood and fecal examinations and antibiotics sensitivity tests became feasible. Survey on brucellosis, tuberculosis, CBPP, Trypanosome infection and mastitis were implemented in collaboration with JICA-JOCV members and NADDEL.

### **3-4. Monitoring and evaluation**

Project plan and activities were regularly reviewed and approved by Steering Committee Meeting and Joint Coordinating Committee. Monitoring results were utilized to plan the activities come continuously. The review results were utilized to prepare and draft the request of a next phase project plan.

One day technical exchange seminar was held 3<sup>rd</sup> December 2008 inviting resource persons from Zambia and Thailand to exchange the views and experiences on control of zoonotic diseases and institutional, regional and Africa-Asia Cooperation. Some observation and findings about the Project which were reported and commented were referred to this evaluation report.

## **4. Implementation Process**

Plan of project operation was drawn and implemented following the prepared operation plan. JICA has implemented input activities including dispatch of experts, provision of equipment and materials, acceptance of trainees in accordance with the project framework agreed at the inception of the Project. While, much of the practices of project implementation have been heavily depending on JICA experts. This heavy dependence on JICA experts is mainly caused by lack/shortage of the qualified staff at operational level of project implementation in the NADDEL and DAHE.

Recruitment and application process of trainees for training in Japan were sometimes hindered because of the lack of suitable candidates in MAAIF and more or less reluctant responses by MAAIF and MOFA for official approval of recommended candidates from other related technical institutes.

## **VI. Evaluation Results**

### **1. Relevance of the Project**

Livestock industry accounts for 7% of the country's Gross Domestic Product and 16 % of Agricultural Gross Domestic Products. The effective control of animal diseases is one of the critical factors for national development policy and strategy of poverty reduction through the increasing livestock productivity and marketing. The accurate and prompt diagnosis of animal disease will lead to better control of animal diseases. In this context, the Overall Goal of the Project,

Improvement of National Animal Disease Control System through enhancing the animal disease diagnostic capacity in Uganda, is still highly relevant.

However, observing stagnant diagnostic activities and ineffective use of transferred diagnostic techniques mainly caused by the prolonged and unsolved shortage of qualified staff at NADDEL, and also observing the distribution of technological and human resources in other related institutes, it is necessary to re-orient the relevance of the Project Purpose, enhancement of necessary functions of animal disease diagnoses at Animal Disease Control Division in the Department of Livestock Health and Entomology and to formulate more practical organizational framework for the National Disease Diagnostic System involving other relevant technical institutes.

## **2. Effect of the Project**

The Project was successfully implemented and the essential diagnostic techniques of pathology, bacteriology and virology are become readily available and some diagnostic reagents for brucellosis can be produced at NADDEL. Some basic diagnostic techniques are also introduced in 5 district veterinary offices and are used for primary survey on animal diseases including brucellosis, tuberculosis, parasite infections and mastitis. Some of the District staff is now expressing their interest to develop the more advanced techniques and more detailed study on existing diseases in collaboration with NADDEL or other central institutes.

However, laboratory diagnostic samples from the field are still few both in district veterinary office and in NADDEL, and developed diagnostic techniques have not been fully utilized.

## **3. Efficiency of the Project**

Cooperation period by JICA is only two years. Only one long-term Japanese expert is assigned to the Project. To compensate the relatively small input of human resources by the Project and to improve the efficiency of the project activities, the project was effectively coordinated with the JICA-JOCV program. Necessary equipment and materials was carefully selected and provided in account of the practicability under the available laboratory conditions and have been maintained at good conditions. Nihon University has actively supported the Project in provision of technical information and materials, dispatch of its staff members as short-term experts and JOCVs and also accepting the trainees from the Project. All these have significantly contributed to increasing efficiency throughout the project implementation.

## **4. Sustainability of the Project**

Lack of qualified staff and shortage of budget for running cost are the most constraint to sustain the activities. There are only two veterinarian and four technicians for the laboratory works of NADDEL in reality at the moment. The most of the veterinarians of the Department of Animal Health and Entomology, MAAIF are engaged in administrative work and not in the works of operational level for national animal disease diagnosis and control including the central reference functions of laboratory diagnoses. The most of the Project activity heavily has depended on the

JICA long-term experts. A number of the constraints such as decreasing number of the staff, shortage of necessary budget, scarcity of diagnostic samples from the clients and heavy dependence on continued donor supports etc. severely damage the activities and motivation of the remained staff of NADDEL.

## **5. Impact of the Project**

The impact of the Project has not been observed apparently at the moment.

However, two years experiences of project implementation has impacted to stakeholders including Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), National Livestock Resource Research Institute (NaLiRRI) and Faculty of Veterinary Medicine of Makerere University for taking some action to re-orient more practical and effective national disease diagnostic system. In the technical exchange seminar held on 3<sup>rd</sup> December 2008, participants seriously discussed on the way for strengthening National Animal Disease Diagnostic and Control Systems, and more effective utilization and integration of ready available technological and human resources by means of the institutional cooperation. In this recent development, preparation of the memorandum of understanding between MAAIF and MAK-FVM is in progress.

## **V. Conclusion**

Project has been successfully implemented to enhance the bacteriological, virological and histo-pathological diagnostic techniques in NADDEL and some basic laboratory diagnostic and sample preparation techniques in 5 District Veterinary Offices.

Although technology and functional laboratory became available, they were not fully utilized. Prolonged shortage of the qualified laboratory staff including veterinary and technical staff is the most constraint to sustain the activities.

Although the technological and personal linkage between NADDEL and selected District Veterinary Offices has been formulated through the Project, NADDEL has still few demands of laboratory diagnostic services from the field at the moment. It is difficult to anticipate the effective use of transferred diagnostic technology through the Project under such a situation of NADDEL.

## **VI. Recommendation**

1. The Project is closed on 19<sup>th</sup> March 2009. Fortunately one JICA senior volunteer for NADDEL and several JICA-JOCV members for Districts Veterinary Offices will be scheduled to be assigned in 2009. Some activities and its achievements of current projects are necessary to be carried on and sustained by the cooperation with JICA Volunteers. Full collaboration and support by concerned persons and organizations with JICA volunteers are requested.
2. It is considered that two years of project period is too short to re-construct the public veterinary diagnostic services although the basic diagnostic techniques become available at the NADDEL. It is desirable to formulate and implement the next phase II project to achieve the purpose of

enhancing animal disease diagnostic capacity in Uganda in which the fragmented technological and human resources in several institutes are re-integrated under the National Disease Diagnostic System and Network.

3. Observing the current project activities and the situation of related training and research institutes, the formulation of national animal disease diagnostic network and the establishment of joint diagnostic laboratory which is technologically cored by Faculty of Veterinary Medicine, Makerere University are recommended.
4. NADDEL might be more effectively used by means of functioning “common use laboratory” where outside veterinarians, scientists and researchers come in and use the laboratory facilities. For this, strong laboratory management, well standardized laboratory techniques and procedures and available laboratory tests which can be offered to laboratory users from outside are required and clearly revealed
5. NADDEL has been able to produce some diagnostic reagents and prepare some biological materials which can be used for diagnostic and study purposes in veterinary offices and other related laboratories. Production and distribution of such veterinary biologics may be developed as one of the function of NADDEL.
6. Laboratory test for quarantine inspection is thought to be one of the important roles of NADDEL as a part of regulatory function of the government. The primary screening tests for designated notifiable diseases of quarantine importance in accordance with OIE standard are required to become available at NADDEL. In this regards, the activities of the EU supported PACE Project which was closed in April 2008 is required to be sustained.
7. At the district level, capacity of basic laboratory diagnoses and record keeping and reporting management are needed to be improved. Such a capacity development at district level is very important in effective linkage with comprehensive and more detailed analysis at central and/or regional/global level reference laboratories.

## VII. Lesson learnt

Assurance of qualified human resource especially at the operational level of the project is critical for the successful implementation and sustainability of the Project activities in technical cooperation.

### Other comments:

NADDEL has received repeated support from donors, GTZ, FAO, EU etc., before JICA comes in. However, after the end of donor supports, the activities of NADDEL had not been well sustained. The technical staff members who retire have not been replaced by others through new

recruitment because of the government policy of the ban on employment. Many of the provided equipment and materials had not been effectively used. Some are not installed properly. Some are left in store room for long years. Some equipment lack necessary parts. It is questioned whether the procurement process has been properly done in selection of equipment, specification of equipment, installation and training service requirement, and necessary attachments etc.