

OIE Twinning Project on KHV disease between Indonesia and Japan

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Parent Laboratory (Reference Laboratory)

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Candidate Laboratory (Laboratory which intends to be Reference Laboratory)

Start of the project (according to OIE)

1. CL requests a Reference Laboratory to be PL for the project.
2. PL assesses facilities and human resources in CL
3. CL prepares a proposal according to the format by OIE (including working plan and budget) with PL
4. CL submits the proposal to OIE
5. OIE assesses/evaluates the working plan and budget in the proposal
6. PL prepares a contract for the project and signed by Director Generals of both PL /CL and Delegates of both countries.
7. The Director General of OIE signed the document and the budget is sent to PL.

In our project

<Positive factors>

- Requested by Director General of Indonesia who was a member of JICA project that was accompanied by me.
- I have visited the CL when I worked in Indonesia as a JICA expert.

<Negative factors>

PL (NRIA) had no experience for the project.

- Uncertain benefit for PL/NRIA
- Budget management: Who? How to?
- Manpower: Support of staff in PL is required
- Living space for trainee: Understanding of the staff is required.
- Accommodation/ food for trainee: Support of hotel owner is required to serve foods without meat.

Budget execution rate in two years				
Activities	Budget	Expenses	Balance	Execution
(1st year)				
Dispatch of a PL expert to CL	3,200	2,136	1,064	
Hold training sessions at PL (for two CL staff)	10,200	9,039	1,161	
Laboratory materials	5,000	5,393	-393	
Others (FedEx, trip to Niigata)	0	639	-639	
	18,400	17,206	1,194	94%
(2nd year)				
Dispatch of a PL expert to CL	3,200	2,172	1,028	
Hold training sessions at PL (for two CL staff)	10,200	9,220	980	
Convene a workshop on KHV at CL	2,600	1,931	669	
Laboratory materials	5,000	4,335	665	
Others (FedEx)	0	32	-32	
	21,000	17,690	3,310	84%
Sum	39,400	34,896	4,504	89%
(Laboratory materials)	10,000	9,728	272	97%

- The total cost of laboratory consumables (including reagents) should not exceed 30% of the subtotal of the budget without these costs: $X/62,000 - X < 0.3 \rightarrow X < 15070 \rightarrow X = 5000$ USD/year
- Budget for each year should be spent more than 80%.
- Note that the amounts of budget and expenses for each activity were quite different, which is due to the differences between the amount in contract for the project and regulation in account system at PL.

Objectives

Activities to attain the main objective



Have CL obtain OIE reference laboratory (status) → a main objective



What happens after reaching the main objective ? (Outcomes)

In our project,

1. Enhance the technical abilities of CL staff through training at PL
2. Improve the research capacity and diagnostic techniques at CL.
3. Implement diagnostic techniques that have been transferred to CL
4. Establish a collaborative network between CL and PL, and laboratories in other Asian countries
5. Have CL obtain OIE reference laboratory status



(Outcomes expected)



Increase in the production and the import/ export of carp in Indonesia

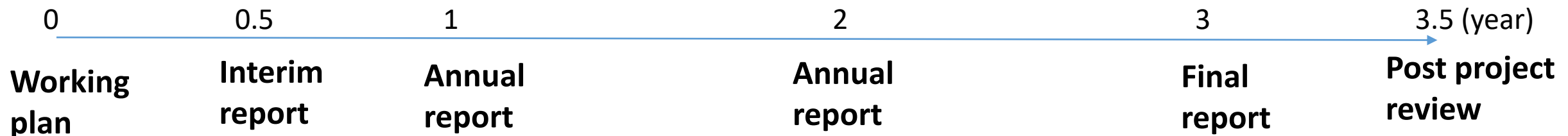
Notes when working plan is prepared

- PL should understand CL's abilities in both equipment and human resources when work plan is prepared.
- Number of activities through the project should be based on manpower to use for the project by both laboratories.
- Number of activities in the first year should be not much.
- Period of training sessions for CL staff should be dependent on situations of accommodation or food supply for the CL staff.

Technical and financial reporting schedule

The Parent Institute should –after agreement with the Candidate Laboratory- submit the following technical and financial reports to the OIE central Bureau.

- PL has all responsibilities for financial management as well as technical matters.
- PL should manage all budget during the project is going.



Work plan for three years	
Terms	Activities
First year (2014/11/1- 2015/10/31)	1) Dispatch of a PL expert to CL
	/Inspect and evaluate the quality of equipment and human
	/Suggest and improve diagnostic systems at CL
	/Design a KHV surveillance study in Indonesia
	2) Collect scientific papers on KHV
Second year (2015/11/1- 2016/10/31)	3) Hold training sessions at PL (for two CL staff)
	1) Dispatch of a PL expert to CL
	/Evaluate the quality of equipment and human
	/Evaluate the surveillance program
	2) Organize a ring test for KHV diagnosis between CL and PL
Third year (2016/11/1- 2017/10/31)	3) Hold training sessions at PL (for two CL staff)
	4) Convene a workshop on KHV at CL
	1) Dispatch of two PL experts to CL
	/Perform a final evaluation
	/Compile a report for the three-year project
Third year (2016/11/1- 2017/10/31)	/Discuss subsequent cooperation programs and initiatives
	2) Organize a ring test for KHV diagnosis between CL and PL
	3) Hold a training session at PL (for two CL staff)
	4) Convene an international workshop on KHV at CL

Problems met in two year activities

- ➔ -Limited time
- Severe traffic jam
- Long period to prepare passport /visa for CL staff
- ➔ - Cultural differences (religious restriction of food, necessary places for praying and washing feet)
- ➔ -Long period to pass custom for samples
- ➔ -Payment for workshop with Indonesian currency
- Cancel of presentation

A Lesson learned from experiences of OIE twining project is that PL and CL need to understand each other in not only their level of human resources but also cultures of each country for continuous good relationship during 3 years.

Evaluation of the quality of the equipment and human resources at the FHL, MCFADC Sukabumi in February 2015 and May 2016.

Items	2015			2016	
	Equipment	Human resources		Equipment	Human resources
Conventional PCR	○	○		○	◎
Real time PCR	○	△		◎	◎
Histopathology	○	NE		◎	○
ELISA	○	NE		◎	NE
Viral isolation	×	NE		◎	○
Experimental infection	○	NE		◎	○
Bacteriology	○	NE		○	NE

◎,excellent; ○, good; △, intermediate; ×, bad; NE, not evaluated

Advance: Preparation of equipment/facility for viral isolation

Suggestion:

- Lack of a washing place in electrophoresis room
- Lack of a small centrifuge for PCR tubes to spin-down in electrophoresis room



Two clean benches, an incubator and a microscope system in an isolate room



Electrophoresis room without a washing

Training sessions for CL staff at PL

Items	2015		2016		2017
	First	Second	Third	Forth	Fifth
Diagnostic techniques for KHV					
Conventional PCR	○	○			
Real time PCR			○		
Histopathology	○				
ELISA		○			
Cell culture/viral isolation				○	
Bioassay			○		
In-situ hybridization				○	
Diagnostic techniques for other diseases					○



Training sessions for CL staff at PL

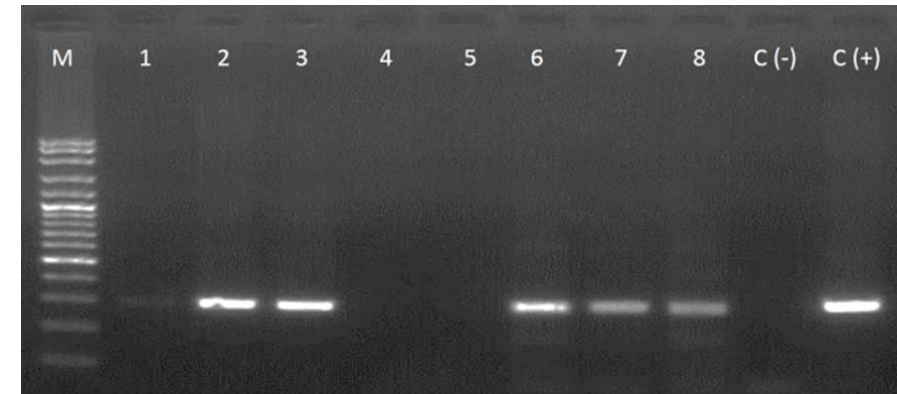
A ring test for KHV diagnosis between CL and PL

Samples: Ethanol fixed gill tissues with/without KHV infection (4 samples) and DNA extraction with/without KHV that were also prepared for national proficiency test in Japan.

Sending: by FedEx.

Result: Successfully gave correct answers for every samples.

Cf. 18/26 of prefectural staff (70%) gave correct answers.



Result of the ring test on KHV by CL

Workshop on KHV disease in Indonesia in 2016

A workshop on KHV disease was held in the MCFAS on 16th to 17th May, and total 58 participants including 7 guest speakers attended.

In discussion, 3 matters as follows were proposed.

- 1) Quality of ELISA kit produced in Indonesia will be evaluated in comparison to Japanese product (Ark Resources Ltd.)
- 2) The best condition of PCR for KHV will be discussed based on experiences in each Station in Indonesia.
- 3) Each Station will attempt to develop new cell lines to find the best cell line for producing KHV vaccine.



1) Keynote speakers	
Name	Institute/Station
Dr. Ir. Agus Priyono, M. Si	Directorate general of aquaculture, Ministry of Marine affair and Fisheries (MMAF)
Ir. Maskur, M.Si	Former Directorate general of aquaculture, MMAF
Dr. Yuasa Kei	National Research Institute of Aquaculture, Japan Fisheries and Education Agency
Dr. Sri Nuryati	Professor, Agriculture Institute, Bogor
Dr. Tauhid, M.Sc	Main Center for Freshwater Fisheries Research and development
Dr. Drh. Sri Murtini, M.Si	Professor, Agriculture Institute, Bogor

KHV surveillance in Indonesia: to zone private koi farms as KHV free area

<KHV-contaminated zone>

<KHV-free zone>



1) Cirata Lake



2) The broodstock station



3) Private koi farms



Use of vaccinated/immunized fish

Strategies

Keep fish and facilities free of KHV

Increase in
domestic production/consumption
of common carp

Final outcome expected

Increase in
International trades (Exportation/Importation)
of koi carp

Results of KHV surveillances in 2015 and 2016

Place	Fish	2015		2016			
		1st	2nd	1st	2nd	3rd	4th
Cirata lake							
MCFAD net cage	common carp (0-year old)	0/30	26/30	0/30	8/30	3/30	8/30
Private net cage	common carp (0-year old)	0/30	30/30	4/30	11/30	2/30	2/30
Broodstock station	common carp (broodstock)	19/30	14/30	16/30	0/30	5/30	1/30
Koi farms							
Private A in Cianjur	koi (0-year old)	0/30		0/30			
Private B in Sukabumi	koi (0-year old)	0/30		0/30			
Private C in Cianjur	koi (0-year old)			0/30			
Private D in Sukabumi	koi (0-year old)			0/30			



CL will prepare the list for KHV free koi farm that can export the fish
(This procedure is according to the Japanese koi farm association)

