

## Simplified Ex-Post Evaluation for Technical Cooperation Project

Evaluator, Affiliation	Sawa Hasegawa Japan Development Service Co., Ltd.	Duration of Evaluation Study
Project Name	The Project for Improvement of Cattle Artificial Insemination Technology	January 2010 – December 2010

### I Project Outline

Country Name	The Socialist Republic of Vietnam			
Project Period	October 2000-October 2005			
Executing Agency	National Institute of Animal Husbandry (NIAH), Moncada Artificial Insemination Center (MAIC)			
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries			
Total Cost	632 million yen			
Related Projects (if any)	N.A			
Overall Goal	The productivity of milk and beef will be increased by improving cattle artificial insemination techniques.			
Project Objective(s)	Artificial insemination techniques for cattle will be improved through the use of straw semen.			
Output[s]	<ol style="list-style-type: none"> <li>1. AI technicians are trained and their skills are improved.</li> <li>2. Distribution method for frozen semen and AI recording management are improved.</li> <li>3. Production technique of straw typed frozen semen is improved.</li> <li>4. Feeding and management of sires are improved.</li> </ol>			
	Inputs (Japanese Side)		Inputs (Vietnamese Side)	
Experts	6 for Long term, 22 for Short term (at the time of terminal evaluation)	Staff allocated	44	
Equipments	157.5 million yen (at the time of terminal evaluation)	Equipments	Provided (the amount is unknown)	
Local Cost	65.6 million yen (at the time of terminal evaluation)	Local Cost	3,220 million dong (at the time of terminal evaluation)	
Trainees Received	30	Land etc provided	Project office, etc.	
Others		Others		

### II Result of the Evaluation

Summary of the evaluation
<p>The relevance of the project is high, and Project Outputs, Objective and Overall Goal set by the project have been largely achieved. The project operation was also implemented largely on schedule. Thus the project got the good results in terms of the relevance, effectiveness/impact and efficiency during its implementation, and so is the sustainability of the project after its completion, judging from the fact that its activities and impacts are generally well-sustained.</p> <p>In light of the above, this project is evaluated to be highly satisfactory.</p>

1 Relevance
<p>(1) Relevance with the Development Plan of Vietnam</p> <p>At the time of planning the project, Vietnam's "6th 5-Year Socio-Economic Development Plan (1996-2000)" set as its objective the growth in agricultural production with emphasis on the development of animal husbandry. The next national development plan of "10-Year Socio-Economic Development Strategy (2001-2010)" then recognized 'improvement of agricultural technology for the modernization of agriculture' as its target, and the "5-Year National Dairy Development Project," the 'increase in the number of dairy cattle' and 'increase in the quantity of milk production.' This way, the centrality of animal husbandry promotion to Vietnam's national development plans remained unchanged till the end of the project and was supported throughout the project period. Accordingly, the project can be evaluated to have been relevant with the development plan of Vietnam.</p> <p>(2) Relevance with the Development Needs of Vietnam</p> <p>At the time of planning the project, the introduction of technology to produce high-quality frozen semen was the highest priority for the breeding of indigenous cattle and for improved productivity of dairy cattle. Regardless of this situation, the Government's investment in artificial insemination system was insufficient, and the management of equipment and facilities inadequate. Besides, under the abovementioned National Dairy Development Project, the AI technicians belonging to the target group of this project were facing an urgent need to improve artificial insemination technology using straw typed frozen semen. The dissemination of insemination technology had been hampered by the inadequate level of knowledge and skills of both information delegate extension workers and practitioners. Such development needs in principle remained unchanged till the end of the project, and the demand for artificial insemination through straw typed frozen semen existed throughout the project implementation. From the situations above, the project can be evaluated to have met the development needs of Vietnam.</p>

### (3) Relevance with Japan's ODA Policy

At the time of planning the project, Japan's "Country Assistance Program for Vietnam" recognized 'agricultural and rural development' as one of the priority areas of its assistance, referring to the need for assistance to ensure improved agricultural productivity, increased food production, and market access to agricultural products. JICA's project execution policy for Vietnam also included the focus on the improvement and dissemination of technology in agriculture, forestry and fisheries, and the strengthening of focal academic institutions. The program and policy above remained unchanged till the end of the project and were supported throughout the project period. Accordingly, the project can be evaluated to have been relevant with Japan's ODA policy.

This project has been highly relevant with Vietnam's development plan, development needs, as well as Japan's ODA policy, therefore its relevance is high.

## 2 Effectiveness / Impact

### (1) Achievement of Project Outputs and Project Objective

The original PDM lacked the clarity in its description on the content of initial project plan. The revision of PDM was thus proposed during the mid-term evaluation of the project in March 2003, and the revisions were carried out twice during the project implementation. The first revision corrected the unclear description of project activities, whose main ideas Vietnamese counterparts had difficulties understanding. The second revision changed the wording of some output indicators which did not reflect the real situation in the country. These revisions contributed to better clarifying the objectives and activities of the project, and to deepen Vietnamese counterparts' understanding on the project.

The achievement level of each Project Output is as follows.

As for Output 1, follow-up training to AI technicians was conducted 8 times, to retrain 199 technicians in selected areas (5 provinces in the North and 4 in the South) and 12 from other provinces. 28 of these training participants joined an advanced training course. 11 different manuals and 21 textbooks were created for this follow-up training. Noted should be that the method of retraining AI technicians used by the project was incorporated in the National Dairy Development Project, under which further 480 technicians out of 1700 in whole Vietnam received retraining.

As for Output 2, the semen motility examination were carried out in 7 provinces (3 in the North and 4 in the South), whose result proved the motility rate of frozen semen in 3 Northern provinces to be over 40% on average (according to a sample test). The motility rate of those in 4 Southern provinces was around 30%, with some differentials identified among various samples. It was conjectured that the poorer result in the South than in the North could be explained by the South's distance from the Tu Son Artificial Insemination Center, causing the frozen semen to reduce its motility in the process of transportation and storage. Further, the monitoring survey of distributed semen quality undertaken by the field staff, succeeded in collecting necessary information using the method of recording artificial insemination and pregnancy tests, demonstrating the usefulness of the artificial insemination recording method and other formats introduced by the project.

Another output to note is the introduction of a database program for the storage, distribution, and management of frozen semen at the Tu Son Artificial Insemination Center in September 2004. The frozen semen produced at MAIC will be all delivered to the Tu Son Artificial Insemination Center which centralizes the nation-wide distribution of the semen. The data is updated daily by the staff in charge at the Tu Son Center, with which to create monthly reports. In addition, the method of managing the artificial insemination record and related materials (including insemination record books and other relevant equipment) was adopted in the National Dairy Development Project, and were utilized by the AI technicians of 29 provinces.

As for Output 3, the production of straw typed frozen semen of dairy cattle accounted as much as 91% at MAIC. Furthermore, the quality test in 2004 in the production process of straw typed frozen semen resulted in 96.4% of the semen to pass the test, a distinct improvement from 66% in 2002. In addition, all the data on the production and distribution of frozen semen produced at MAIC is now managed by a computer system where records are updated daily. To have such a system in place contributed to the improvement of production technology and of the management method.

As for Output 4, the rate of sire bulls used for semen processing increased from 50% at the beginning of the project, to 83%. Disposal rate of collected semen decreased from 60% in 2000 to 18% in 2004. In addition, regular health checkups were carried out to compile and record the data on semen collection, weights, heights and chest sizes to monitor and manage respective bulls. The formulation and utilization of a feeding program was also promoted for bulls bred at MAIC.

The project can be evaluated to have almost achieved Project Outputs since the indicator set under each Output was basically achieved.

In terms of the achievement level of Project Objective: 1) In the areas selected for the project, pellet-type was more prevalent in 2000 and straw-type was used less for artificial insemination of dairy cattle. By 2004, the prevalence of straw typed frozen semen was 95%; 2) In order to utilize the artificial insemination system improved by the project, and to utilize the artificial insemination data collected through artificial insemination recording method introduced by the project, NIAH initiated impregnation monitoring by types of bulls and by the work of each AI technician; 3) In the areas selected for the project, the average frequency in which each trained AI technician uses frozen semen increased from 342 times in 2002 to 410 in 2003, and so did the number of impregnated bulls. The improvement of fertility of dairy cattle in the same areas could not be confirmed, due to the lack of basic data relating to artificial insemination information at the time of the project commencement. Accordingly, the project can be evaluated to have almost achieved Project Objective since most indicators set under the Objective were basically achieved.

### (2) Achievement of Overall Goal, Intended and Unintended Impacts

In terms of the achievement level of Overall Goal, it should be noted that the amount of milk production of 10,583 tons at the initiation of the project in 2000 increased to 22,809 tons by the time of the terminal evaluation, and to 40,587 in 2008. The number of dairy cattle saw the increase from 5,809 in 2000, 15,845 in 2004, and 19,112 in 2008. The annual milk yield per cow increased from 3,634 kilos in 2000 to 3,959 kilos in 2004 (the data for 2008 unavailable). Furthermore, the insemination with straw typed frozen semen was adopted at all provinces. For these results, it is fair to assess that the project offered certain contribution to the achievement of Overall Goal.

Some other indirect effects of this project have also been reported as follows. Yet no negative impact on natural environment through the project has been reported so far.

- The ear tag cattle identification system introduced by the project contributed to the increase in the price of earmarked cattle.
- Income of AI technicians increased after the retraining by the project as compared to before, because the additional training rendered the trainees both the knowledge and equipment (on lease), thereby enhancing the credibility of the technicians' skills.
- An International Dairy Farming Workshop was organized, to familiarize with the systems and measures adopted in Thailand and Indonesia – two countries of the Southeast Asia region with advanced dairy farming – and to utilize those for the development of Vietnam's dairy farming system. The workshop received participation of 150 people from Vietnam, Thailand and Indonesia.

This project has largely achieved its objectives, therefore its effectiveness is high.

### 3 Efficiency

#### (1) Outputs

As mentioned in (1) of "Effectiveness / Impact," the project achieved the expected Project Outputs.

#### (2) Elements of Inputs

The inputs of the project are shown in "Project Outline." The implementation of the project experienced some delay in its planned activities, as a result of the delay in the dispatch of a successor chief advisor, which created the absence of experts for 6 months. Part of the project activities was also disrupted, since the budget to be incurred by the Vietnamese government was not disbursed by the Ministry of Agriculture and Rural Development, causing the shortage of financing for training and for counterparts' travel. Regardless of such disruptions, Project Objective was achieved in the end. Judging from the terminal evaluation which analyzes that inputs other than above had been "effectively converted to outputs in terms of quality, quantity and timing," it is unlikely that the above issues affected the results of compiled overall achievements.

#### (3) Period of Cooperation, Project Cost

The actual period of cooperation was 5 years against planned 5 years, exactly as planned (100% of planned period). The actual project cost was 632 million yen, which could not be compared to the planned budget, due to the lack of information on the planned amount.

The inputs are appropriate for producing outputs and achieving the project objective, therefore efficiency of the project is high.

### 4 Sustainability

#### (1) Related Policy towards the Project

No policy change was observed in the area of animal husbandry promotion in Vietnam, and the policies continued to support animal husbandry. Vietnam's current "5-Year National Dairy Development Project (2006~2010)" aims at increasing the number of dairy cattle and continues to support its implementation by each province. The "Livestock Development Strategy to 2020 (2008)" formulated by the Ministry of Agriculture and Rural Development mentions the increase in the number of dairy cattle to 500,000 by 2020. Likewise, the same target areas referred to in the "5-Year National Dairy Development Project (2001~2005)" are also identified as target areas in the "5-Year National Dairy Development Project (2006~2010)," underpinning the sustainability of policies to back up the project.

#### (2) Institutional and Operational Aspects of the Executing Agency

Responses to the provided questionnaire indicate that the executing agency, NIAH's departments in charge of cattle artificial insemination techniques has further strengthened its implementation system than at the time of project implementation. No major challenge was identified in terms of the number of staff and of the decision-making process, to enable nationwide dissemination of the project's techniques to utilize straw typed frozen semen.

#### (3) Technical Aspects of the Executing Agency

Some of the NIAH staff who worked at the time of project implementation continue to assume responsibilities in the same department. Since the questionnaire respondents stated that the knowledge and skills gained from the project are being inherited to new incumbents, no difficulty is foreseen in sustaining counterparts' skills.

#### (4) Financial Aspects of the Executing Agency

Judging from the filled questionnaires, budget allocation from Ministry of Agriculture and Rural Development has been sufficient, and no major concern are so far recognized in disseminating and sustaining the cattle artificial insemination techniques in straw typed.

#### (5) Continuity of Effectiveness and Impact

The textbooks and manuals made by the project continue to be utilized even after the project. Measures have been taken to disseminate skills and techniques to the AI technicians living in the parts of target areas which are in short of equipment to maintain the quality of frozen semen and of liquid nitrogen. The network is in place to deliver the straw typed frozen semen produced at MAIC to AI technicians nationwide, while maintaining the semen safe and hygienic. As a consequence, the distribution amount of the frozen semen produced by MAIC is seeing an increase. Some reports stated that no major concerns had been found on the use and management of the provided equipment.

No major problems have been observed in the policy background, the structural, technical, financial aspects of the executing agency, therefore sustainability of the project effects is high.