Thailand

Ex-Post Evaluation of Japanese Technical Cooperation Project

"Agricultural Statistics and Economic Analysis Development Project"

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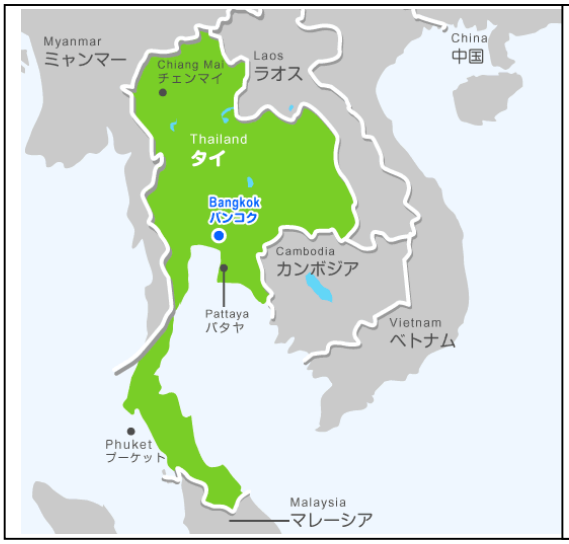
0. Summary

The objectives of the project were to develop human resources for agricultural statistics and economic analysis in Thailand and to assist ASEAN member countries to develop their human resources in agricultural statistics. Relevance of the project is high since development policies of the Government of Thailand emphasized improving agricultural statistics, Thailand had development needs to improve capacity for data collection and analyses of agricultural statistics, and ASEAN member countries had development needs to be assisted in developing their human resources in agricultural statistics. Japan's ODA policies also had priorities in assisting agricultural policies and promoting accurate food and agricultural statistics. Effectiveness and impact of the project are fair since the capacity to collect and analyze data in Thailand was enhanced as planned but assisting ASEAN member countries to develop human resource development was not achieved because of inadequate English proficiency of OAE (Office of Agricultural Economics) staff. Efficiency of the project is high since the budget and period was within the plan. Sustainability of the project is fair since the project achievements in agricultural statistics for Thailand continue to be used. The contribution to human resource development for ASEAN member countries is not sufficient. In light of the above, this project is evaluated to be highly satisfactory.

1. Project Description



(Project Location)

(Rice field in Thailand)

1.1 Background

The Government of Thailand used agricultural statistics provided by OAE and the results of analyses of the statistical data as the basic information for the formulation and implementation of agricultural policies. Prior this project, the accuracy of the result of the economic analysis was inadequate and the publication of the results took more than one year, which was inadequate for making and implementing agricultural policies that required timely statistical data and the results of analyses.

ASEAN member countries needed to develop human resources in agricultural statistics, and ASEAN + 3 (China, Japan, South Korea) Agricultural Ministerial Meeting in April 2001 requested the research be undertaken on food problems and food security information system. In response to this, it was expected that ASEAN Food Security Information and Training Center (AFSIT Center) be established within OAE to manage ASEAN Food Security Information System (AFSIS)[1] and to promote human resource development in agricultural statistics to contribute to agricultural development and food security in ASEAN member countries.

These circumstances required OAE train their staff to acquire knowledge and skills to collect and analyze agricultural information, and improve their organizations for data collection and analyses in Thailand, and have the capability to develop agricultural statistics and economic analyses so that they can disseminate these knowledge and skills to ASEAN member countries. With this background, the Government of Thailand made the request to the Government of Japan for the technical cooperation to develop capacities in agricultural statistics and economic analyses.

1.2 Project Outline

The main components of the project are to enhance the organization of OAE to improve statistical information and economic analyses, and to enhance the capability to assist human resource development in agricultural statistics of ASEAN member countries. The sequence of these components are; 1) to develop human resources in agricultural survey and the computer system, and to improve the organization for data collection in

[1] AFSIS is being developed as a mechanism to collect and share information of demand and supply of agricultural food products among 13 countries that include ASEAN member countries, China, South Korea, and Japan (ASEAN + 3) through constructing an information network system among those countries, and human resource development of officials responsible for agricultural statistics in ASEAN member countries.

order to improve the quality of statistical information, 2) to enhance OAE staff skills in economic analysis, and actually analyze the data of improved quality for agricultural policies of the Government of Thailand, and 3) to train officials responsible in agricultural statistics in ASEAN member countries to teach them the methods of agricultural statistics and economic analyses that OAE staff learned in the project to. This project was funded by the trust fund of the Japanese Ministry of Agriculture, Forestry, and Fisheries, and was also assistance to the training component of the AFSIS project that aimed to develop human resources and construct networks to collect and share information of food security for ASEAN member countries.

Overall Goal 1		Statistical information and methodology of economic analysis developed by AFSIT center are utilized by ASEAN member countries.
Overall Goal 2		Policies and programs for the agricultural sector are formulated and implemented by the MOAC in a more effective and efficient manner through accurate statistical information and economic analysis provided by the OAE
Project Objective		The OAE is strengthened as a central institution for statistical information and economic analysis for agricultural policy in Thailand and for supporting human resource development in the AFSIS
Output(s)	Output 1	Human resources of OAE are developed for data collection methodology, an information network system, and agricultural economic analysis including demand-supply forecasting to assist ASEAN member countries
	Output 2	Data collection methodology (mainly for major food crops that include rice, cassava, sugarcane, maize and soybean) in OAE and the 9 ROAEs is improved.
	Output 3	An information network system among OAE and 9 ROAEs is established and developed further.
	Output 4	Methodology of agricultural economic analysis is developed
	Output 5	Training capacity of OAE staff members is developed.
Inputs		Japanese Side: 3. Cumulative total: 19 Experts 9 long-term experts and 10 short-term experts 4. 60 trainees received (Thai side paid for air fare, allowance

	and accommodation for 27 trainees) 5. Cumulative total of technical exchange[2]: 19 staff 6. Equipment: 60 million yen for vehicles, computers and others Thai Side: 2. 73 Counterparts 3. Equipment: 60 million yen for vehicles, computers and others 4. Land and Facilities: Project office and utilities 5. Local Cost: about 290 million yen for expenses of survey, training and part of the expenses for training in Japan
Total cost	436.47 million yen
Period of Cooperation	July 16, 2003 – July 15, 2008
Implementing Agency	Office of Agricultural Economics (OAE), Ministry of Ministry of Agriculture and Cooperatives (MOAC)
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries
Related Projects	ASEAN Food Security Information System Project[3] (AFSIS project): Phase I (2003 – 2007) and Phase II (2008-2012)

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement of Overall Goal

OAE was about to have the budget and the adequate organizational arrangements for operating and sustaining the project achievements that included capacities to implement yield surveys by the crop-cutting survey method, area surveys, to maintain and operate the web based database system, and to assemble input-output (I/O) tables in the agriculture sector. OAE was also expected to contribute to efficient and effective policy making and implementation by MOAC as stated in the overall project goal.

The AFSIS project Phase II started its implementation with the objective of constructing ASEAN food security information system, and OAE was expected to

[2] It is an activity to assist the AFSIS project to share needed skills among ASEAN member countries. The project sends experts with needed skills to another ASEAN member country for providing trainings.

[3] The project budget is provided by the trust fund of the Japanese Ministry of Agriculture, Forestry and Fisheries.

continue to play the leading role in technical transfer to ASEAN member countries in agricultural statistics, economic analysis, and information network system. From the above, the terminal evaluation concluded that the overall project goal would be achieved.

1.3.2 Achievement of Project Objective

The project achieved the most objectives of the capacity development of OAE. This significantly contributed to improving the quality of statistical information that OAE submitted to policy sections in Thailand. As for training of OAE staff to be instructors for the training programs of the AFSIS project, they were occupied by other duties, and could not have sufficient experiences to become the trainers. Thus, the project could not fully achieve the objectives.

1.3.3 Recommendations

OAE should strengthen its organizational capacity to coordinate sections responsible for implementing surveys. OAE should review and organize yield survey by crop cutting method, area survey and interview survey that had been already implemented since before the project.

2. Outline of the Evaluation Study

2.1 External Evaluator

Keiichi Takaki, Foundation for Advanced Studies on International Development

2.2 Duration of Evaluation Study

Duration of the Study: November 2011 – January 2013

Duration of the Field Study: April 16–May 1, 2012 and June 30–July 7, 2012

2.3 Constraints during the Evaluation Study (if any)

none

3. Results of the Evaluation (Overall Rating: B[4])

3.1 Relevance (Rating: ③[4])

3.1.1 Relevance with the Development Plan of Thailand

The 9th National Economic and Social Development Plan (2000-2006) of the

[4] ③: High, ② Fair, ① Low

Government of Thailand stated, “In order to achieve good governance, it is necessary to improve efficiency and effectiveness of government functions by enhancing government capabilities and having adequate information network.” The strategic plan (2004-2008) formulated by MOAC emphasized “improving agricultural information networks and transmitting accurate agricultural information” so as to have efficient administration in the agricultural sector. The 10th National Economic and Social Development Plan (2007-2011) emphasized stable economy, rather than rapid economic growth, and actualizing prosperous society, for which “human resource development” was mentioned as one of the important strategies.

Thailand had the central role in food security in ASEAN, and she was expected to contribute to improving agricultural statistics in the region. The ASEAN + 3 Agricultural Ministerial Conference in April 2001 expressed that research on food issue and food security information system in East Asia should be conducted. It was expected to establish AFSIT center, within OAE of MOAC, that would become the managing organization of AFSIS to promote human resources in agricultural statistics for agricultural development and food security of ASEAN member countries, and it became one of the priorities of MOAC to assume this role.

For this purpose, the Government of Thailand intended MOAC to acquire refined skills of data collection and analyses, to improve their activities in agricultural statistics, and to develop agricultural statistical models to be disseminated to ASEAN member countries. From the above, it can be stated that this project is consistent with the development policies of Thailand.

3.1.2 Relevance with the Development Needs of Thailand

As Thai economy grew rapidly, supply and demand of agricultural commodities, productivity and cost of agriculture and the structure of food related industry changed rapidly. After joining WTO (World Trade Organization), the Government of Thailand intended to quickly reform domestic agricultural policies such as liberalizing international trade and reducing subsidies in the agricultural sector in order to follow the international trade rules set by WTO.

For these reasons, MOAC needed to formulate and implement appropriate policies in agriculture and other relevant economic sectors, for which it became necessary and essential that OAE provide MOAC with accurate and reliable agricultural data and results of data analyses. From the above, it can be stated that development needs of

Thailand and the objective of this project is highly consistent.

ASEAN member countries needed assistance to develop their human resources in agricultural statistics and economic analyses for food security. This project was to assist human resource development in agricultural statistics in ASEAN member countries. Thus, it can be stated that it was consistent with development needs of ASEAN member countries.

3.1.3 Relevance with Japan's ODA Policy

Japan's Medium-Term Policy on ODA described in ODA white paper 2002 had a priority in capacity development of government officials as a part of human resource development and intellectual support. It also had a priority in enhancing information network system and supporting networking as a part of assistance in IT sector.

Japan's ODA policies had a priority to assist Asian countries and had implemented projects that emphasized poverty alleviation through economic growth, human resource development, and institutional development as her development strategy. Furthermore, JICA's country program for Thailand in 2002 had its priority in assisting agricultural policies and promoting the provision of accurate food and agricultural statistics and information.

Japan's ODA white paper 2002 stated her policies in contributing to reducing inequality among ASEAN member countries, strengthening cooperation with ASEAN member countries, and the linkage with regional cooperation. From the above, it can be said that Japan's development policies were highly consistent with this project.

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

3.2 Effectiveness and Impact (Rating: ②)

3.2.1 Project Outputs

3.2.1.1 Project Output

1) Output 1: Human resources of OAE are developed for data collection methodology, an information network system, and agricultural economic analysis including demand-supply forecasting to assist ASEAN member countries

1) Indicator 1:

OAE has the numbers of staff members who can be instructors at AFSIS training courses for data collection methodology, four staff members; for data processing and information network system, five staff members; and economic analysis, four staff members.

OAE staff members were trained by Japanese experts for acquiring technical skills and had experiences of lecturing and presenting in AFSIS training programs, workshops, international conferences, on-site instructions. As the result, the project recognized 10 OAE staff members as the AFSIS trainers. Its details that include the percentages of the numbers of recognized trainers vis-à-vis the target numbers are as below:

1. Five instructors in data collection methodology (the target was four, and the percentage of the achievement was 125%),
2. Two instructors in data processing and information network system (the target was five, and the percentage of the achievement was 40%), and
3. Three instructors in economic analysis (the target was four, the percentage of the achievement was 75%.)

The reasons of not achieving the target were that they were occupied with other duties and could not have sufficient experiences and others.

2) Output 2: Data collection methodology (mainly for major food crops that include rice, cassava, sugarcane, maize and soybean) in OAE and the 9 ROAEs is improved.

Output 2 aimed to improve the organization of OAE for the data collection. At OAE, Agricultural Information Center is responsible for training OAE staff responsible for collecting data of main commodities, and for operating and maintaining facilities for the information network. The regional office of agricultural economics (ROAE) is OAE's regional office and is responsible for the nation-wide data collection and entry

Prior to the project implementation, OAE was using survey manuals that included data collection instructions and questionnaires. Their updates were once in four to five years, and did not take into account changes in the reality of agricultural production, and this made the accuracy of data and efficiency in data collection inadequate. The reason why the update of the manuals was once in four to five years was that, according to an OAE staff member, OAE staff did not have skills to update the computer programs for data entries, and had no budget for ordering external agents to

update them every year.

The project changed the data entry programs from excel based to web based, and trained OAE staff so that they can update them every year. Since then, the manuals have been updated every year.

The procedure to update the survey manuals entails 1) reviewing the manuals of the previous year, 2) updating the contents as necessary, 3) pretesting with the revised manuals, and 4) revising them as necessary the result of the pretest and finalizing it.

After the finalization of the manuals, OAE trains the trainers of all ROAEs in Bangkok so that responsible sections and staff will be familiar with the contents of the manuals. After the training in Bangkok, they return to each ROAE and train their staff in charge of the data collection and entry. By this arrangement, data collection and data entries had become effective and efficient. The achievements of indicators for Output 2 are as below.

1) Indicator 1:
The production survey is conducted during the harvest time of each major food crops by July 2007.

By the project implementation, yield surveys (survey on production amount per area unit) were conducted for the five major food crops during the harvest periods before the project completion of July 2007. Thus, Indicator 1 was achieved.

2) Indicator 2:
Reliable statistical survey results on the production of major food crops are available within four months after the survey.

Due to the introduction of the web based data entry and processing system, the results of the yield surveys of the major food crops except maize and soybeans of the dry season became available within three months in the fourth year of the project implementation. Thus, Indicator 2 was achieved during the project implementation.

3) Indicator 3:
The precision of sample survey estimates of major food crop yield is no more than 5% (regional level) and 3%(national level), respectively.

The yield survey of the five major commodities in the fourth year achieved the goal of less than 3% at the national level, although some regions did not achieve the goal of less than 5%.

From the above, it can be stated that the data collection of the five major commodities was improved, and OAE established the organizational arrangements to collect and enter accurate data efficiently before the project completion. Output 2 was achieved.

3) Output 3: An information network system among OAE and nine ROAEs is established and developed further.

Output 3 aimed at constructing and improving the information network among OAE and ROAEs. Prior to the project implementation, OAE and ROAEs were already networked. At the time of the data collection, data were entered in the computers at ROAEs and transmitted to OAE. Output 3 concerned constructing and enhancing the network system. The project introduced the web based data entry and processing system, and OAE introduced the frame relay system[5] with its own budget. This made the network fast and reliable, and the data processing time was substantially reduced. The achievements of the indicators of Output 3 are as below.

1) Indicator 1:
Time period required for data input and processing at ROAE and OAE for production surveys of major food crops is shortened by 50% compared with that of 2003.

Prior to the project implementation, data entries and processing entailed OAE sending the data entry programs to ROAEs by email, and each ROAE entering the data and sending them by email. OAE combined all the data sent from each ROAE. These steps involved complicated processes and were not efficient.

The project changed the processes. ROAE staff members download the data entry programs by the intranet faster and more stable than before. The data entry staff enter the data, their supervisors check and verify them, and transmit them to OAE. Data entry staff of ROAEs at Chonburi and Nakorn-Rachasima said, “Since the data entry program was changed from excel based to web based, the data entry interface is

[5] It is one type of the packet transmission system. It divides data into small packets and speeds up the data transmission.

simpler and easier to use." Another ROAE staff said, "Previously, the connection was by dial-up, and was not stably connected. Even when it was connected, the network speed was slow and the transmission of the data took time."

The system for data collection became more efficient, and the time periods of data entry and processing were shortened by 72.0% for major rice, 81.3% for cassava, and 66.7% for soybeans of the rainy season. These were well above the target of 50%. On the one hand, the time periods for the data entry and processing were only shortened by 41.7% for second rice, 44.4% for soybeans of dry season, and it was lengthened by 16.7% for maize. This was because although the data collection system was developed for these commodities, ROAEs were occupied with other task at the same time and did not achieve the target.

Mid-term evaluation recommended constructing the database to annually accumulate the data. In response to this recommendation, the data processing program was developed to accumulate the results of yield surveys for multiple years, and the graph function to monitor and check the data was also developed.

As for the evaluation of the achievement of Indicator 1, the average percentage of the shortened time periods for data collection and processing was 48.2%. Thus, it can be stated that Indicator 1 was mostly achieved.

2) Indicator 2:
Web sites are newly established in 9 ROAEs, through which regional statistics are available to the public.

By February 2005, all the ROAEs opened their websites, and have been updating the information and engage themselves in publicity activity as recommended by the mid-term evaluation. Thus, Indicator 2 was achieved

From the above, Indicators 1 and 2 demonstrated that the information network among OAE and 9 ROAEs were constructed and improved. Thus, the project mostly achieved Output 3.

3) Output 4: Methodology of agricultural economic analysis is developed.

Indicator 1:

To publish more than two reports of economic analyses that are supervised by OAE.

The project improved the accuracy of data, which made economic analyses more important policy instruments. Four reports of economic analyses were published in the first and the second year of the project implementation, seven reports in the third year, and 6 reports in the fourth year. Thus, Indicator 1 was achieved.

Indicator 2:
The submission of the reports of input output (I/O) table of the agricultural sector (to be updated every five year), macro economic model, commodity demand-supply model (to be renewed every year) to OAE.

During the project implementation, the I/O table of the agricultural sector was submitted once in the second year and twice from the second to the fourth year. The report of macro economic model was submitted once, and the reports of commodity demand-supply model were submitted twice. Thus, Indicator 2 was achieved.

Indicator 3:
A workshop is held for presenting the analyses of Indicator 2, with more than one hundred participants from the public and private sector at least once a year.

During the project implementation, nine workshops and seminars were held with more than 100 participants for each workshop and seminar. Thus, Indicator 3 was achieved.

From the above, each indicator was achieved, and Output 4 was achieved.

5) Output 5: Training capacity of OAE staff members is developed.

In order to sustain the project achievements, the project aimed to improve the training capacities of OAE in the following areas.

In the area of data collection, OAE had to improve its training capacity because they revise the survey manuals every year, and OAE had to organize trainings for their staff responsible for data collection and data entry every year. In the area of data processing and information network system, OAE had to train their staff so that they can maintain and operate the information networks. In the area of economic analysis, OAE had to

train their staff because it became more important policy instruments. The achievements of Output 5 were as below.

Indicator 1:
To organize eight training programs for OAE and ROAE staff in the area of statistical survey, data processing and information network system, and economic analyses with three hundred participants.

As Table 1 shows, ten to twenty-three training programs were organized in each year, and the numbers of participants since the 2nd year were above the goal of 300 from 337 to 677. Thus, Indicator 1 is achieved.

Table 1. Organized Training Programs

Year	The numbers of training programs	Total numbers of participants
1st year (July, 2004 - June 2005)	10	274
2nd year (July, 2005 - June 2006)	21	677
3rd year (July, 2006 - June 2007)	23	590
4th year (July, 2007 - June 2008)	12	337

Source：JICA documents

Indicator 2:
OAE has 15 staff members who can teach agricultural statistics and indicators to ROAE staff and each ROAE has 3 staff members who can teach survey methods to the surveyors.

OAE has 22 staff members who accumulated teaching experiences, and each ROAE has three or more staff members who can train their survey and data entry staff. Thus, Indicator 2 was achieved. From the above, each indicator was achieved, and Output 5 was achieved.

3.2.1.2 Achievement of Project Objectives
Project Objective: The OAE is strengthened as a central institution for statistical information and economic analysis for agricultural policy in Thailand and for supporting human resource development in the AFSIS

1) Indicator 1:

The statistical information and economic analysis officially issued by OAE are utilized by public and private organizations concerned.

Before the project completion, OAE published 33 reports, and some agricultural statistical information and economic analyses were used by National Economic and Social Development Board (NESDB), MOAC, FAO, AFSIS, universities, and research institutions. For example, NESDB used them as the basic data for preparing GDP, "I/O table," and "economic outlook." OAE established Agricultural Information Center as its one division responsible for overseeing the data collection of agricultural statistics of OAE, and was engaged with promoting publicity activities as recommended by the mid-term evaluation. From the above, Indicator 1 was achieved during the project implementation.

2) Indicator 2:

Percentage of AFSIS training courses instructed by OAE is not less than 50% of all AFSIS training courses.

As recommended by the mid-term evaluation, the project implemented technical exchange program with neighboring countries, and OAE staff demonstrated and lectured what they learned in the project in English. The percentage of OAE staff members who were the instructors in the AFSIS Training courses on data collection method, economic analysis, and data processing and information network system among all the instructors was 43%. Thus, Indicator 2 was not achieved.

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal

The project has two overall goals. I will describe them one by one.

1) Overall goal 1. Statistical information and methodology of economic analysis developed by AFSIT center are utilized by ASEAN member countries.

Indicator 1:

The AFSIS database is regularly updated and utilized in ASEAN member countries.

The purpose of the AFSIS database for food security of ASEAN member countries is to contribute to the formulation and implementation of agricultural policies of ASEAN

member countries. It is regularly updated more than once a year, and is always accessible for ASEAN member countries. In January 2008, the AFSIS project Phase II was started in order to further improve AFSIS information network system. The AFSIS database continued to be updated and used by ASEAN member countries. Table 1 indicates the access numbers to the database by countries and shows that it is accessed by ASEAN member countries that included the Philippines, Malaysia, Singapore, and Indonesia.

AFSIS project secretariat said that the purpose of the most accesses are for research and only few for policy making and implementation that are the intended main purposes of this database. Thus, the achievement of Indicator 1 is limited.

Table 1. Access Statistics of AFSIS Database
（June 2010 to February 2011）

Rank	Country	Access frequency
1	The United States	250
2	The Philippines	237
3	Japan	117
4	Malaysia	98
5	Singapore	82
6	Indonesia	72
7	Vietnam	28
8	China	23
9	Laos	23
10	South Korea	18
11	India	16
12	Australia	11
13	France	8
14	Italy	7
15	Cambodia	6

Source: AFSIS secretariat

Indicator 2:
OAE continues to provide assistance to ASEAN member countries in agricultural statistics/information and economic analysis

During the project implementation, OAE contributed to the AFSIS project through training courses and seminars. In Phase II of the AFSIS project, OAE was expected to continue to contribute to play the pivotal role to enhance agricultural statistics of ASEAN member countries.

After the project completion until the time of the ex-post evaluation, AFSIS project had four training programs for which only two instructors out of total eight were OAE staff members. This is 25% (2 out of 8) and is lower than during the project implementation that had 43%. OAE officials said that OAE staff do not have English proficiency sufficient for lecturing. Other instructors were university teachers and others, and the problem was that their training contents were mostly theoretical, and not so practical. Since not many OAE staff members can be instructors, OAE cannot transfer their accumulated capabilities in agricultural statistics to ASEAN member countries. Thus, the achievement of Indicator 2 is limited.

2) Overall goal 2. Policies and programs for the agricultural sector are formulated and implemented by the MOAC in a more effective and efficient manner through accurate statistical information and economic analysis provided by the OAE.

Indicator 1:
Improved survey system and economic analysis method continue to be used by OAE.

The project introduced the statistical survey system and economic analysis, and OAE already had the budgetary provision to use them for their routine work before the project completion. As described in the section of sustainability, OAE continue to use them, and regularly hold training programs on agricultural statistics and economic analyses in order to maintain the necessary skills and capacities. Thus, Indicator 1 was achieved.

Indicator 2:
Statistical data and analysis results are published periodically and referred to or used in documents prepared by MOAC.

At the time of the ex-post evaluation, OAE periodically publicize the statistical data and the results of analyses. During the project implementation, MOAC used analyses of I/O table of OAE for its policy making. After the project completion, data and

analyses of OAE are necessary for MOAC to make policies. For example, MOAC uses the forecast of rice production for calculating the budget for the income guarantee scheme for rice growing farmers to purchase rice from them. MOAC also uses the analyses of I/O table to examine the impact of the farmers' income guaranteed by the scheme on agriculture and other sectors. Thus, Indicator 2 was achieved.

3.2.2.2 Other Impacts

Project has unexpected impact. Prior to the project, ROAEs only collected information and data from farmers for area surveys. Since during the project implementation, ROAE provided farmers who were survey respondents with information and data such as the result of yield survey that has the scientific base. Such information was useful for farmers, and farmers had better impression of and trusted ROAEs more than before. Because of this, farmers are more cooperative when they are respondents of the survey. At the time of the ex-post evaluation, the similar impact is still present.

3.2.3 Summary of effectiveness and impact

The project improved capacities of OAE in statistical information and economic analyses and they are used in the agricultural policies of Thailand. For example, improved accuracy of rice production forecast is used for calculating the budget for income guarantee scheme for rice growing farmers, and I/O table is used for examining the impact of the income guarantee scheme on agriculture and other sectors. On the one hand, OAE's contribution to human resource development in agricultural statistics of ASEAN member countries through the AFSIS project is limited since OAE did not achieve the goal of lecturing at more than half of the training programs. Thus, this project has achieved some objectives, but has not sufficiently achieved other objectives, and therefore its effectiveness is fair.

3.3 Efficiency (Rating: ③)

3.3.1 Inputs

Inputs	Plan	Actual Performance
(1) Experts	Four long-term experts (chief advisor, project coordination/training, data collection/information network system, agricultural statistical survey) Two short-term experts (as necessary)	Cumulative total: nine long-term experts (chief advisor, project coordination/training, agricultural statistical survey, data analysis, information network system, assembling and analyzing agricultural input output table, macro economic model) Cumulative total: 10 Short-Term experts Total inputs of experts: 259MM
(2)Trainees received	About three trainees in a year (agricultural statistics as necessary)	Cumulative total: 60 trainees (Thai side paid for air fare, allowance and accommodation for 27 trainees) Cumulative total of technical exchange: 19
(3) Equipment	Computers, vehicles, equipment for crop cutting survey and others	Vehicles, computers for about 60 million yen
Total Project Cost	640 million yen	436.47 million yen

3.3.1.1 Elements of Inputs

Planned inputs were four long-term experts (chief advisor, project coordination/training, data collection/information network system, and agricultural statistics, and two short-term experts as needed. The actual inputs were more than the plan with the accumulated total of nine long-term experts (chief advisor, project coordination/training, agricultural statistics, data analysis, information network system, assembling and analyses of agricultural I/O table, macro economic model), and the

cumulative total of 10 short-term experts. The reason why more experts were input than the plan was that experts in agricultural I/O table, macro economic model were added so that OAE staff can analyze the data of which accuracy was improved by the project so that their outcomes are used for agricultural policies. As described in the section of effectiveness, the results of the economic analyses are used for agricultural policies, and this justified the additional experts. Despite these additions, the total project cost was within the plan.

3.3.1.2 Project Cost

The planned project cost was 640 million yen whereas the actual expenditure was 436.47 million yen (68.2%), which was lower than planned.

3.3.1.3 Period of Cooperation

The period of cooperation was from July 16, 2003 to July 15, 2008, which was same as the plan.

The inputs were appropriate for producing outputs and achieving the project objective, and both project cost and period of cooperation were within the plan, therefore efficiency of the project is high.

3.4 Sustainability (Rating: ②)

3.4.1 Related Policy towards the Project

The 10th National Economic and Social Development Plan (2007-2011) being implemented at the time of the project completion emphasized stable economy rather than rapid economic grow, and actualizing prosperous society. Based on the idea of sufficient economy, it emphasized promoting sustainable agriculture by reducing the risk of changing prices, increasing the value of agricultural commodities, for which the integration of knowledge of local communities and agricultural experts, the adjustment of production systems and the expansion of agricultural land were considered to be necessary. In order to implement these policies, human resource development in agricultural statistics and economic analysis were considered to be important. The current 11th National Economic and Social Development Plan (2012-2016) aims to meet the international standard of the database in the agricultural sector by integrating the databases owned by various government organizations in the sector.

The AFSIS Project Phase II implemented training programs on the data analysis on

food self-sufficiency and others, and the forecast of production, consumption, import and export of rice and maize. After the completion of the Phase II in 2012, under the consideration are whether it will become an international organization from 2013, whether they will continue the activities of the AFSIS projects, whether the financial source will be from ASEAN + 3 cooperation fund among others, and ASEAN + 3 Ministerial meeting in September 2012 meeting were to approve the outcomes of these considerations. After the AFSIS project becomes an international organization, OAE is expected to contribute to human resource development of ASEAN member countries.

From the above, although the contribution to AFSIS is not yet clear, the sustainability of this project with respect to Thai policy is high.

3.4.2 Institutional and Operational Aspects of the Implementing Agency

The responsibilities of OAE are to analyze agricultural development policies, data collection and analyses of agricultural commodities, research on economic and social situations, analyses of economic development of sectors related to agricultural policies, and monitoring and evaluation of agricultural policies and programs. In order to fulfill these responsibilities, OAE has Office of the Secretary, Centre for Project and Program Evaluation, Centre for Agricultural Information, Bureau of Agricultural Economic Research, Bureau of Agricultural Development and Policy and Planning, and ROAEs. The specific tasks of these sections are summarized in Table 2.

Most OAE staff members that were trained by the project are assigned to Centre for Agricultural Information and Bureau of Agricultural Development and Policy and Planning, and are responsible for agricultural statistics, economic analysis, and management of information network, and they continue to use the achievements of the project. About the relationship with AFSIS project, Secretary General of OAE directly supervises the AFSIS project manager.

Table 2：Sections and functions of OAE

Sections	Functions
Office of the Secretary	・Finance and accounting, and general affairs
Centre for Project and Program Evaluation	・To plan , implement and evaluate agricultural policies ・To supervise project implementation
Centre for Agricultural Information	・To oversee data collection and processing to be submitted to MOAC ・To register private firms related to agriculture ・To apply Geographical Information System (GIS) to agricultural development plans ・To manage and operate information network system for agricultural statistics and information at MOAC ・Periodicals： Survey Report (22 types、annual)、Agricultural Fundamentals (annual)、Foreign Trade Statistics（annual）
Bureau of Agricultural Economic Research	・To research on production, market, price and demand of agricultural products and commodities ・To research on social and economic conditions of farmers ・Periodicals：Agricultural Economics Magazine（monthly） Weekly news（weekly）
Bureau of Agricultural Development and Policy and Planning	・To make policy recommendations on agricultural development on national and international levels ・To formulate master-plans of agricultural development program ・To make policy recommendations for budgetary allocation ・To monitor budgetary expenditure for agricultural development programs ・Periodicals：Agricultural economic Outlook（annual）、 Agricultural Economic Situation and Trend（quarterly）
ROAE Regional Office of Agricultural Economics	・Research and survey of agricultural commodities of assigned region ・To conduct survey for data collection ・To monitor and evaluate project implementation in the assigned region ・To formulate development plans and strategies of the assigned area ・The number of ROAEs was nine at the time of the project implementation, and now it is eleven. The new two ROAE offices have the benefits of the project achievements in organizational arrangements for the data collection and networking with OAE.

Source：OAE

At each ROAE, Director heads the organization with the sections of Administration, Agricultural Information, Agricultural Plan, and Research and Evaluation. Agricultural Information Data is responsible for data collection and entry. ROAEs in Chonburi have six data collection staff and three data entry staff, and that in Nakorn-Rachasima had ten data collection staff and three data entry staff.

The information network constructed during the project implementation is operational at present without problems although it may be slow when the network is busy. Servers at OAE and ROAE have back-up batteries that can shutdown down the system without damaging the programs and losing the entered data when the electric outage happens. Some computers for data entry have back-up batteries at some ROAEs. Other computers without the back-up batteries automatically save the data and they do not lose entered data. The network security is sufficient since the firewall was strengthened, and users are limited to those with passwords

The ROAEs continue to use the data entry programs introduced by the project. They make some modifications of the data entry programs every year as the questionnaires are revised. They ensure the security of the entered data by assigning passwords unique for each data entry staff and requiring to enter them to use the data entry programs.

Information Technology Division of Agricultural Information Center purchase all new computers, do the necessary setup and install them at each ROAE. Each ROAE has staff members specialized in computers and are responsible for the daily maintenance and management of the computers.

From the above, OAE has the appropriate structure to ensure the sustainability of the project. OAE improved coordination among its sections in charge of surveys as recommended by the terminal evaluation.

3.4.3 Technical Aspects of the Implementing Agency

On the technical aspects of the agricultural statistics, each ROAE has staff with necessary skills of data collection and data entry. To ensure the efficient operation of data collection and entry, OAE implement trainings for the staff, for which OAE and ROAEs have staff that can implement the necessary trainings.

The data collected in 2011 maintains the level of accuracy achieved during the project as follows. For cassava, it was from 2 to 3% at the regional level, and 1.81% at the national level. For soybeans, it was 8 to 4% at the regional level, and 2.76% at the national level. For maize, it was from 2 to 1 % at the regional level, and 0.8% at the national level. For major rice, it was from 0.75% to 2.05%, and 0.62% at the national level. For second rice, it was 0.90% to 2.05% at the regional level, and 0.69% at the national level.

As for the time periods from the data collection to the end with necessary corrections made and ready to use in 2011 were four months for second rice, five months for major rice, three months for both soybeans and maize. It was six months for cassava because cassava has the longer range of harvesting periods than other products, and this affected the time period for the data collection. The time periods for the data collection were mostly similar to during the project implementation, and has maintained the similar level of efficiency. From the above, it can be stated that OAE has the necessary technical capability in agricultural statistics after the project implementation.

As for the management and the operation of the network system, OAE and each ROAE have staff specialized in computer programming or other computer fields. One ROAE staff responsible for the data entry operation said that she can always enter data without any problems, and has no problem in the network for transmitting the data. Thus, OAE has necessary technical capability for management and operation of the network system.

Capabilities in economic analysis and its use are as follows. The project substantially improved the accuracy of data collected every year, and improved capacities in agricultural economic analysis. The collected data and results of data analyses became necessary for the formulation and implementation of agricultural policies in Thailand. For example, the Government of Thailand started the income guarantee scheme for rice growing farmers by purchasing their rice in October 2011, and they calculate its budget based on the forecast derived from the production data collected by crop-cutting survey that was introduced by this project. They use outcomes of the analyses of the I/O table in determining the rice price of the income guarantee scheme for rice growing farmers by drawing scenarios of different impact on the agricultural and other sectors. Another example was that in making policy decision to promote organic agriculture, they used the I/O table and simulated

production cost of organic agriculture.

In order to maintain these skills and capabilities, OAE implements trainings by itself. In the area of agricultural statistics, they organize training on data collection and data entry every year. In the area of information network system, they organize trainings on data processing, and operation and maintenance of networks about 10 times (one-two days for each), for which 80% of the instructors are OAE staff, and others are university lecturers. In the area of economic analysis, they implement trainings on econometrics and other subjects at least once a year. Their lecturers are OAE staff and university lecturers.

From the above, the counterpart has sufficient technical capability on agricultural statistics and analyses in their domestic role. However, their contribution to AFSIS is not sufficient because of the inadequate English proficiency, although they have technical capability in agricultural statistics and analyses.

3.4.4 Financial Aspects of the Implementing Agency

The actual expenditures from 2008 to 2011 by OAE for the data collection and processing are as in Table 3 for training, purchasing fuel for transporting the survey staff and other purposes. Fuel for the transportation of survey staff can be expensive because of recent increase of the oil prices, and the budget may not be sufficient. However, ROAEs use budget allocated to other activities, and have not affected the quality of collected data. From the above, OAE has adequate budget after the project implementation, and the project is sustainable in the financial aspects.

As described in the section of institutional and operational aspects of the implementing agency, it is under consideration whether AFSIS continues to exist as an international organization, and whether its budget is going to be funded from ASEAN + 3 cooperation fund.

Table 3 : Actual expenditure for data collection and processing

Expenditure for data collection and processing, and operation and maintenance of information network at OAE（unit：Baht）	
2008	62,709,400
2009	81,714,300
2010	62,493,500
2011	84,808,500
Total	291,725,700

Source：OAE

3.4.5 Continuity of Effectiveness

The data collection and data entry by crop cutting survey introduced by the project continue to be part of the routine work. As recommended by the terminal evaluation, yield survey by crop cutting survey, area survey, interview survey, and other surveys are systematically reviewed and organized as OAE reviews and revises the survey manuals every year.

OAE continues to use web based data entry programs that were introduced by the project and modify them as they revise questionnaires. OAE continues to maintain and operate the network constructed during the project without problems as described in the section of sustainability in the technical aspects.

Since the shortened period for the data collection and processing, and the accuracy of the data are maintained, the effect actualized by the project in the area of collection and processing is sustained. The effect in the area of economic analysis is maintained since OAE regularly publishes the outcomes of economic analysis by periodicals and they are used for policy formulation and implementation.

From the above, no major problems have been observed in the policy, structural, technical, and financial aspects of the executing agency in their domestic role. However, as for the contribution to the human resource development in agricultural statistics for ASEAN member countries for the construction of AFSIS, the percentage by which OAE staff lectured for the AFSIS training programs is lower than the expectation at the time of the project implementation. Thus, the sustainability of the effect of the project is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The objectives of the project were to develop human resources for agricultural statistics and economic analysis in Thailand and to assist ASEAN member countries to develop their human resources in agricultural statistics. Relevance of the project is high since development policies of the Government of Thailand emphasized improving agricultural statistics, Thailand had development needs to improve capacity for data collection and analyses of agricultural statistics, and ASEAN member countries had development needs to be assisted in developing their human resources in agricultural statistics. Japan's ODA policies also had priorities in assisting agricultural policies and promoting accurate food and agricultural statistics. Effectiveness and impact of the project are fair since the capacity to collect and analyze data in Thailand was enhanced as planned but assisting ASEAN member countries to develop human resource development was not achieved because of inadequate English proficiency of OAE staff. Efficiency of the project is high since the budget and period was within the plan. Sustainability of the project is fair since the project achievements in agricultural statistics for Thailand continue to be used. The contribution to human resource development for ASEAN member countries is not sufficient. In light of the above, this project is evaluated to be highly satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

As the result of the project implementation, OAE succeeded in improving accuracy of the agricultural statistics and capabilities in economic analyses. After the project completion, the OAE staff members have accumulated experiences in data collection and analyses every year. In order to transfer these technical capabilities to ASEAN member countries, it is recommended that OAE staff improve English proficiency.

4.2.2 Recommendations to JICA

None

5.3 Lessons Learned

The contribution to the human resource development in agricultural statistics of ASEAN member countries was not sustainable. It was because the necessary skillset was not adequately understood. Although OAE staff members have capabilities in data collection and analyses, they do not have English capability sufficient to give lectures in English, and their contribution to human resource development of ASEAN

is limited. In order to use the skills transferred by the project and to meet the project objective, it is necessary to confirm the necessary skillset adequate for the objective and take the following actions; (1) assisting organizations and people with such skillset, (2) requesting staff assignment with sufficient skillset, and (3) taking appropriate measures during the project implementation if the assignment of the staff with necessary skills being not made.