For a better tomorrow for all

Japan International Cooperation Agency

EX-POST EVALUATION STUDY ON AGRICULTURAL STATISTIC TECHNOLOGY IMPROVEMENT AND TRAINING

FINAL REPORT

MARCH 2005

PT. INDOKOEI INTERNATIONAL
Engineering and Management Consultant

INO
JR
04-04

Executive Summary

<table>
<tr><td colspan="3">I. Outline of the Project</td></tr>
<tr><td colspan="2">Country: Indonesia</td><td>Project title: The Agricultural Statistic Technology Improvement and Training Project</td></tr>
<tr><td colspan="2">Issue/Sector:
Agriculture and Rural Development</td><td>Cooperation scheme:
Project-type Technical Cooperation</td></tr>
<tr><td colspan="2">Division in charge:</td><td>Total cost:
731 million Yen</td></tr>
<tr><td rowspan="2">Period of Cooperation</td><td rowspan="2">R/D: 1994-1998 and 1999-2001</td><td>Partner Country’s Implementing Organization:
Center of Agricultural Data (CAD), Ministry of Agriculture</td></tr>
<tr><td>Supporting Organization in Japan:</td></tr>
<tr><td>Related Cooperation</td><td colspan="2"></td></tr>
</table>

1. Background of the Project

Agriculture is an important economic sector and providing largest employment in Indonesia. Greater rice import in the last 4 years (more than 4 million ton/year) make this sector needs more accurate data to estimate the need of demand rice annually. The project attempt to help CAD to be able providing accurate, reliable and timely correct data and information through the statistical technology improvement and training.

2. Project Overview

This technical cooperation project was implemented from 1994- 2001; CAD was the implementing agency in co-operation with Central Agency of Statistic (it was formerly Center Bureau of Statistic), Provincial, District and Sub-District Agricultural Extension Service.

(1) Overall Goal

Introducing new statistical methodology that is more effective and efficient in food crops and fisheries in the Ministry of Agriculture.

(2) Project Purpose

To improve the agricultural statistics activities in CAD (it is now become CADIN, Center of Data and Information)

(3) Outputs

a) Capability of statistics and Computer staffs are improved
b) Methodology of data collection of agricultural statistics is improved
c) Data processing methodology for statistics is improved
d) Computers are well utilized

(4) Inputs

Japanese side:

Long-term Expert	10	Equipment (approx)	630 million Yen
Short-term Expert	30	Local cost (approx)	101 million Yen
Trainees received	22	Others	Yen

Indonesia side:

Counterpart	60	Equipment	___	Local currency (___Yen)	
Land and Facilities	√	Local currency(___Yen)	Local Cost	___	Local currency (___Yen)
Others	___	Local currency(___Yen)			

II. Evaluation Team

Members of Evaluation Team	Soedjatmiko PhD	
Period of Evaluation	Day/Month/Year ~ Day/Month/Year 14 March 2005 ~ 31 March 2005	Type of Evaluation: Ex-post Evaluation Study

III. Result of Evaluation

1. Summary of Evaluation Result

(1) Impact

The overall goal of the project to introduce new statistical methodology that is more effective and efficient in food crops and fisheries in the Ministry of Agriculture is highly achieved. This can be seen from the improvement of statistics and computer staffs capability and methodology of data collection and processing of agricultural statistics.

The new method of yield estimate by "RC" or Rumpun/Hills Counting introduced by the Project had been accepted by most of project beneficiaries at central to sub-district level. The statistical processing models had been improved and resulted more speedy, accurate and reliable. The ex-trainees working conduct and perception including staffs at regional government had been changed after the project to more devotion to statistical mission compared to the previous monotonous working behavior.

The un-expected or negative impact is found out to be weak or can be neglected.

(2) Sustainability

The CAD (Center of Agricultural Data Information) Ministry of Agriculture is responsible for handling and developing the outcomes of the project. CAD is already developing new software by their own professional staff, such as WEB PUSDATIN, e-Learning program and MCBT (Multimedia Computer Based Training). More hardware's support for CAD activities are extended after the project. In view of institutional and outcomes, the sustainability of project is moderately high.

Trends of Human resource development and budget support are steadily increasing, also other institution request for training of new method (including for horticulture) are likely continuing to increase steadily.

2. Factors that have promoted project in the aspect of:

(1) Impact

The institutional capability and supporting management in view of human resource and infrastructure at the CAD are the main factors that have promoted the impacts of the project. Change of working culture of statistical staffs to be Responsibility, Timely Correct and Precision, and financial support from the central and regional government are also encourage the project impacts.

(2) Sustainability

Policy encouragement from Ministry of Agriculture had been significantly obtained, also with the increase of funding support. Appreciations of new yield estimate method and data processing system had been strongly indicated by almost all sub-sectors in the Ministry of Agriculture, Provincial and District Agricultural services. These two facts have promoted the sustainability of the project.

3. Factors that have inhibited project in the aspect of:

(1) Impact

As the socialization of the improved statistical method has not been intensively conducted in national wide, this inhibited the project impacts.

(2) Sustainability

Duty moving and retirement of capable human resources of statistical staffs, not matching of area survey frequency with regular decision maker monthly meeting are factors which has inhibited sustainability.-

4. Conclusion

The project impact and sustainability are, in fact, at level of high and moderately high, those are for improvement of statistics and computer staffs capability and methodology of data collection and processing of agricultural statistics. The most significant impact is that agricultural statistician had culturally been changed to devotion under "3T" motto and it is believed to be sustained. Further works are still required to get national consensus.

5. Recommendations

Based on the Evaluation Study, the following recommendations are suggested to the CAD to further improve the agricultural statistics technology:

a) Development of new area survey technique is needed to complement and verify the "eye estimate" quarterly in each year
b) Strengthening data processing and transfer electronically in the statistical system should be prioritized, where in fact CAD has modernized this activity triggered by the project.
c) CAD is confidence and trusted already by sub-sectors in MOA, more competent TOT and e-learning as the follow up of the project are recommended to be intensified.

6. Lessons Learned

The most important for the success of the project is to disseminate the project outcomes in national wide. More works toward establishment of national new consensus is needed, therefore more frequent forum, meeting, training, supervising are important media to socialize the good result of the project.

7. Follow-up Situation

The current CAD activity being done covers the continuation of routine and development programs and in addition:

o) CAD is in charge to facilitate the establishment of technology being used in Land Use Development Management Project (LUDM) of the Directorate General of Food Crops and to train agricultural statistician in 78 Districts (Kabupaten) in Java Island.

o) In cooperation with FAO to develop and strengthen agricultural statistic in two provinces, namely Banten and NTB (Nusa Tenggara Barat or Western of Southeast Island).

EX-POST EVALUATION STUDY
ON
AGRICULTURAL STATISTICS TECHNOLOGY IMPROVEMENT AND TRAINING PROJECT

FINAL REPORT

Contents

List of Tables

List of Figures

List of Annexes

CHAPTER I
INTRODUCTION

1.1 General

The Government of the Republic of Indonesia with the assistance of the Government of Japan has implemented the Agricultural Statistic Technology Improvement and Training at Center of Agricultural Data (CAD) in the Ministry of Agriculture (MOA) in cooperation with Central Agency of Statistic (CAS).

The project was started in October 1994 for 5 years time and was extended until September 30, 2001. Based on the joint evaluation team composed by Japan evaluation team organized by JICA and Indonesia evaluation team that conducted on July 29, 1999, the project had been extended and continues by follow up of the project until 2001.

To support and improve the project benefit achieved by CAD where the project terminated on September 1999, the government of the Republic of Indonesia implemented extended project and this program was started on October 1, 1999.

The project extension was carried out from October 1, 1999 until September 30, 2001.

In order to improve self reviewing process and accountability to general public, therefore the ex-post evaluation study is conducted for the agricultural statistic technology improvement and training.

1.2 Purpose of Ex-Post Evaluation Study

The main purposes of ex-post evaluation study are as follows:

- To assess the current situation of past project mainly from the impact and sustainability point of views;
- To draw lesson learned and recommendation; and
- To feed back to the improvement of the future JICA project management, at the same time to increase accountability to stakeholder and general public.

The evaluation is expected to verify the important issues relating to the impact of the project and sustainability of the project.

1.3 Scope of the Study

In order to achieve the objective mention above, the study shall cover the following items:

a) Collect and review document relating to the project;

b) Identification of major question and key informants for the study;

c) Collecting background data needed for evaluation analysis;

d) Field observation of project side by means of discussions, interviews with key informant and field investigation;

e) Analysis of collected data including result of interviews; and

f) Formulate lessons learned and recommendation to improve future JICA projects and at the same time to increase accountability to the stakeholder.

1.4 The Study Team and Study Period

The ex-post evaluation study has been implemented for five past technical cooperation projects where the position of all project at the stage of more than three years after the end of cooperation period. The projects are as follows:

Table 1.1 List of JICA Project

Name of JICA Project	Period	Project Site
Dairy Technology Improvement Project	1998-2002	Bandung
The Agricultural Statistics Technology Improvement & Training Project	1994-2001	Jakarta
Irrigation Engineering Service Center Project	1994-1999	Bekasi
Integrated Agricultural and Rural Development Project in Southeast Sulawesi Province	1991-1996 2000-2001	Kendari
Project for Improvement of District Services in South Sulawesi	1997-2002	South Sulawesi Province

For undertaking evaluation of the projects as listed above, the study team was consisted of six expert, covering team leader, expert in charge of dairy, agricultural economic, irrigation, rural development and public Health. The study team member is listed below.

Table 1.2 Lists of Study Team Members

Name	Position	Project
Hadiono S	Team Leader	Integrated Agricultural and Rural Development Project
Soedjasmiran Prodjodihardjo	Dairy Specialist	Dairy Technology Improvement Project
Soedjatmiko	Agriculture Economist	The Agricultural Statistics Technology Improvement and Training Project
Besar Hatmaya	Irrigation Engineering Specialist	Irrigation Engineering Service Center Project
Arief Effendi	Rural Development Specialist	Integrated Agricultural and Rural Development Project
Tugiyo	Public Health Specialist	Project for Improvement of District Services in South Sulawesi

The study period was three weeks from 2nd week of March until the end of March 2005. The schedule of the Study was as follows:

- 1st week : Preliminary meeting and preparation of Study
- 2nd week : Field visits, observation and interviews
- 3rd week : Analysis and drafting of report, submission of draft final report.

CHAPTER II
METHOD OF EVALUATION STUDY

Time given for the evaluation study is considerably short; therefore effective method is prerequisite to accomplish the study goals. The project impacts after more than 3 years from the end of cooperation will be studied which will be focused mainly on project impact itself and its sustainability.

There are four categories of stage in the project system, namely (i) overall goal, (ii) project purpose, (iii) outputs, and (iv) inputs. The study will particularly undertake data and information assessments of the first two categories that are overall goal and project performance impacts and their sustainability. In this regards, the multiplying effects and indirect impact will also be studied.

Reference and desk studies of related documents are conducted to familiarize and get in-depth understanding of the project design, objectives, project key factors, parameters and its operation. These are important to develop questionnaires as handy means for interviewing key beneficiaries and persons involved in the project.

Both qualitative and quantitative data and information are proportionally assessed. In anticipation of unavailability of quantitative data, scoring method by professionals or competent persons will be undertaken to get more reliable degree of impression in transferring qualitative to quantitative ones.

List of persons interviewed are attached in Annex-1. Number of visits are made to the past project locations and interviewing competent persons who involved in the project.

In the first step, the project impact will be evaluated from the overall goals achievement, and verified its expected and unexpected, direct and indirect, positive and negative changes in technical, socio economic, cultural and perception, institutional capacity building, environment aspects as a result of the project operation or intervention.

The sustainability of positive impact after the completion of the project is viewed from the continuation trend of maintaining project benefit. Study will involve institutional strengthening, technology transfer, application of new technique, condition and maintenance of equipment and other hardware infrastructure procured by the project, supporting development and maintenance of budgets, human resource capability and competency. Sustainable analysis will also cover possible existence of factor, which may constrain the continuation of project benefit after project termination.

The data and information analysis end up by condensing them in one single table to ease in catch up the over all goal.

The relevant source of impact and sustainable data and information are:

a) CAD (Center of Agricultural Data and Information) Ministry of Agriculture (MOA) in Jakarta;

b) Central Agency of Statistic (formerly was Central Bureau of Statistic) in Jakarta;

c) Provincial Agricultural Extension Services of West Java in Bandung;

d) District and Sub-District Agricultural Extension Services in Sukabumi, West Java;

e) District and Sub-District Fishery Extension Services in Sukabumi; and

f) Retired Sub-District Agricultural Extension Agent. Who formerly involved in the project.

CHAPTER III
FINDING, ANALYSIS AND EVALUATION RESULT

3.1 Data and Information Finding

(1) Yield Estimate Method

The introduction of new method of yield estimate by "RC" or Rumpun/Hills Counting had been significantly accepted by most of project beneficiaries at central to sub-District level. The advantages of RC are that:

a) The Physical equipment (spring type scale and measuring tape) is more practical, not bulky and light in its weight. Therefore mobility is much better, particularly in hilly and stepped rice field. This situation is more advantage for female statistician. The work becomes more productive.

b) Yield sampling using RC method is quicker than "Ubinan" sampling, since the later technique needs more time to set up "ubinan" operation.

c) Old method or "ubinan" sampling is well understood to be more accurate where the grade of scale is up to 0.5 gram and it can measure more weight than spring scale. On the other hand the spring scale is predicted needs more frequent calibration due to the shorter spring endurance.

d) Counting rice hill number is more convenience although it is best apply only for regularly order of rice hill distance or area. The old "ubinan" method is still well adopted for uneven or scattered rice hills density.

e) RC-method is also superior to the old technique if it is used for horticulture and secondary crop yield sampling, for example for chili crop, soy bean, corn, etc.

f) It is concluded from field trial inference that there is no significant difference of both methods in term of yield estimate result (see Reference no. 13).

The consultant found out that there is available a more compact spring scale compared to the project procured one. This compact spring scale has more advantages that are: (i) the weighing spring and measuring tape are build in one single equipment (ii) The spring is stronger in the sense of its endurance (less frequent calibration), (iii) easier to calibrate (due to the available "adjusting not" at its back side) (iv) it can weigh up to 22 kg compared to only 7 kg of weighing rice yield of the project procured one. The two have the same weight.

The all level beneficiaries at central, district and sub district agreed upon those above qualitative comparisons and demanded three things:

a) Yield sampling using "RC" is requested to gradually be extended and used or applied as new method nation wide;

b) Improve the project weighing spring endurance; and

c) The new technique is also applied to horticulture and secondary crop.

These simple requests may bring consequence of:

a) National consensus since yield estimate is under CAS responsibility;

b) Changing field sampling format (hard copy) from "ubinan" to RC format;

c) The change will need new investment for new equipment being procured and more training is needed; and

d) Extra activities to monitor and evaluate the progress of transition period from old method to new one (particularly in data collection and processing at district and national levels); this means extra budget should be made available to pay the cost for the better technique.

3.2 Area Survey

The total production in a certain region is calculated by net harvested area multiply by yield per unit of area and multiplies by correction factors that are locally specific.

The prevailing harvested area estimate is done monthly by "eye estimate" proxy over a certain block of rice area. The "eye estimate" is supported by benchmark references, example: irrigation map, village rice land base map / registry. This technique is practical and mainly depends on empirical knowledge at specific "desa" or village. Eye estimate model has long history, it begun to be used since the Dutch Occupation era (before the year 1935).

The new area survey method being introduced by the project, is done quarterly (once in four months), that is relevant to the peak of each harvested or planting season.

A systematic rice field and household blocking are selected using CAS population census area blocking as reference. There are randomly assigned 7 households within selected block of area to be interviewed with regard to planting and harvested area of their rice land.

Result of these two techniques were compared each other. It was found out that there was no significant difference between the two (see Reference no. 12).

The project beneficiaries at sub district level (Mantan, Agricultural Extension Agents) are more comfortable to practice eye estimate for harvested area proxy instead of using new survey (interview) technique.

The reason behind this comparative conclusion is as the following:

a) Eye estimate proxy takes much less time and convenience.

b) Household interview survey is more complicated, due to uncertain availability of household head at the time of defined interview.

c) Eye estimate is more flexible (time wise) to comply monthly used of area estimate statistic either at district or provincial decision meeting.

d) Field test report indicates that there is no difference of both estimate results.

e) Beneficiaries at sub district and provincial levels feel that household interview result is worth to verify eye estimate proxy.

3.3 Data Processing

Data processing system covers:

- Statistical processing models
- Presentation in the form of hard copy and electronic media
- Transfer of processed data, distribution, periodical statistical book and periodical publication and news letter
- Information technological software
- Information technological hardware's; computer, electronic network, configuration in particular
- Multimedia for interactive public service and the use of internet world wide web (www)
- Data management system.

(1) Statistical Processing Models

Statistical processing models had been improved and resulted more speedy, accurate and reliable ones. Starting in the year 2002 on wards, CAD is able to published improved statistical year book for agriculture regularly (see picture or Figure 3.1). The improved data processing technique can serve the need of high level planning and decision making in the MOA at appropriate time with the most recent and accurate information and data.

(2) Presentation in the Form of Hard Copy and Electronic Media

Regular or periodical news letter and statistical year book, electronic form of yearly statistics are now available for public. This is possible because of software, hardware, information technology, budget support and more importantly competent human resource is available readily at CAD (see Table 3.1 and Figure 3.1 and 3.2).

Table 3.1 Human Resource at CAD 1994, 2001, 2005

Occupation	1994		2001		2005	
	Number	%	Number	%	Number	%
Structural Position	19	15.57	8	8.16	7	6.80
Professionals	22	18.03	30	30.61	31	30.10
Administration and Supporting Staff	81	66.40	60	61.22	65	63.10
Total	122	100	98	100	103	100
Foreign Experts	5		-		0	
Japanese Trainee	13		-		5	

Figure 3.1 Series of Statistical Year Books Published by Center of Agricultural Data (2001, 2002, 2003, 2004)

Figure 3.2 Examples of CAD Self Made Software's needed by Units in MOA and for Public Service

(3) Transfer of Data from Sub-District - District - Province and to Central

Governments are still using conventional technique that is by currier, and fax respectively. This data transfer should, actually, be transfer using internet for a more effective way. The vertical data transfer system using internet has not satisfactorily been implemented. Institutional capability, supporting management (finance, infrastructure, human resource) are already in favor at CAD; however at the same time, it is understood that those institutional capability and management support are not evenly the same in their capacity over the entirely regional in the country, in particular after the enforcement of regional autonomy act and partly also caused by some region have no sufficient professionals.

(4) Information Technological Software

CAD is already developing new software by own professional staff:

a) WEB PUSDATIN, agricultural statistical information that can be accessed by internet browsing. The assessment is free of charge and it is specifically made available for public;

b) e–Learning program for distance learning about new statistical technique introduced by the project; and

c) MCBT or Multimedia Computer Based Training, a CD – ROM to respond effectively to the mounting requests from other units in MOA about new statistical methodology (see Figure 3.2).

(5) Information Technological Hardware

More hardware's support for CAD activities are extended after project termination in 2001. Inventory about number and kinds of statistical computer and other support hardware are presented on Table 3.2.

The uses of 3 mini computers were absolute after project termination. It was caused by high maintenance cost and service technician were not readily available. Independent PC with high capacity is preferable and the number is sufficiently enough. The ratio of PC/number of professional and structural human resources at CAD is around 2.8 computers per person. Condition of vehicles (four and two wheelers) is well maintained. One four Wheel car and 10 motor cycles are added after the project termination.

(6) Multimedia for Interactive Public Service

It has been reported earlier that CAD has, now, self confidence in providing service at proper time and quality data to higher level and public data user with variety of agricultural and agribusiness data, information and other statistical needs. Multimedia developed by CAD professional staffs are conveniently browsed through internet see Figure 3.2. This software is also used for distance learning (e-learning) that is very useful instrument to extend new sampling technique introduced by the project. One can assess

easily at web-situs: http:\\www.deptan.go.id. This trend of development is seemed to be continued in the years to come.

Table 3.2 Supporting Computer Equipment and Vehicle (2000/2001 ~ 2004)

Statistical Equipment and Vehicles	2001	2004
1. PC	66	104
2. Mini Computer	3*)	0
3. Note Book	21	30
4. Printers	33	43
5. UPS	2	2
6. LCD Projector	4	9
7. Video Player	5	6
8. Camera	4	4
9. AC	4	7
10. Switch Tab	8	9
11. Vehicle : - 4 wheels	16	17
- 2 wheels	3	13

*) Year 2000

(7) Data Information Management System

The project introduced data management system that included new sampling techniques as it has been described at large previously. Institutional capacity building at CAD had embedded well, how ever CAD can not stay alone in the system. Overall, at national level, statistical data management is not clearly seen strong. Mobility of statistical staff continues (tour of duty), assurance of financial support at regional district are not clearly certain, it is remained questionable. The higher level decision maker of MOA had been pursuing the regional authorities to make available financial support each year for statistical activities.

3.4 Training Project

Numbers of trainees received by Japanese Government were 28 participants, they were trained in many different disciplines of statistics that regard to agricultural statistical policy, information, system, data processing, training of trainer, computer hard and software knowledge and skills. All of trainees returned to their previous occupations until for some years, and then some of them moved or changed to different position or status after transferring their skills at CAD (see Table 3.3). There is strong impression (due to many requests) that the skill they obtained from Japan is expected or wanted by other institutional units either at the central government or at regional government.

a) More than thirty nine percent (11 persons), who were trained in statistical policy, promoted to higher positions and also transferred to other unit in the Ministry, out side of CAD.

b) Almost eleven percent (3 persons) had been retired

c) Around fifty percent (14 peoples) remain to stay at CAD or at previous occupation until now.

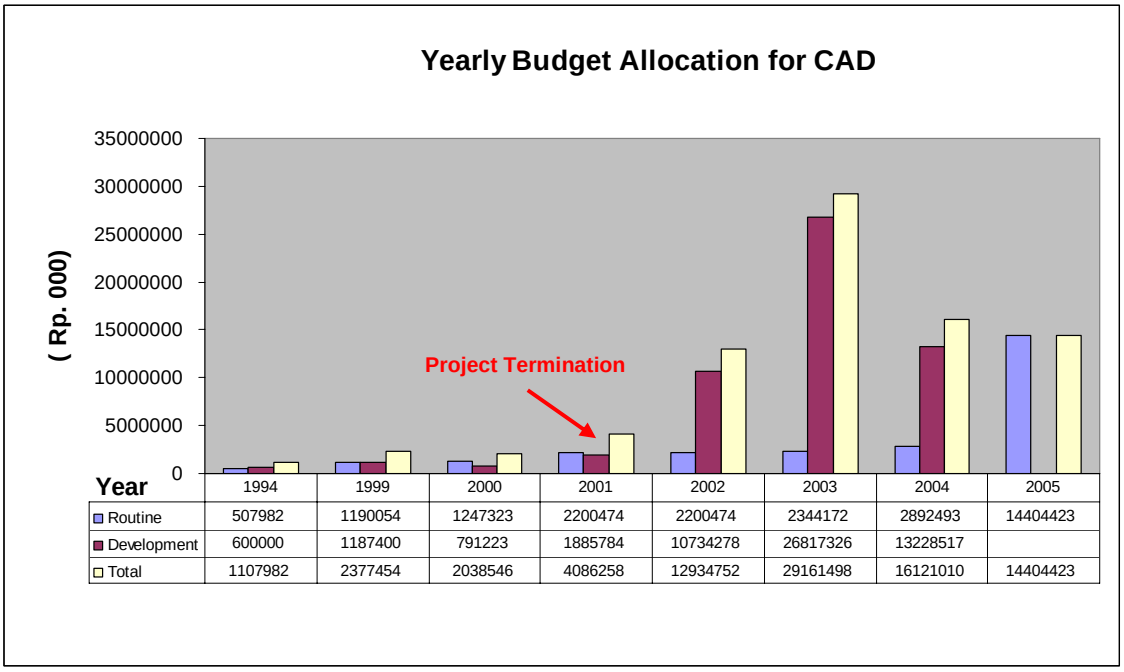
Table 3.3 List of Indonesian Counterparts Personnel Trained in Japan

No.	Name of Traine	Occupation	Present status
1	Dr. Ato Suprapto, MS.	Director of CAD	Director General of BSP
2	Ir. Dewa Ngakan Cakrabawa	CAD	Stay at CAD
3	Ir.Hilma Maizir	DGFCH	Retired
4	Drs. Suroto Adi, MSc.	CAD	Director of Information Bureau State
5	Ir. Bambang Wahyudi, MSc.	DGF	Retired
6	Ir. Firna Varina	CAD	Provincial Agricultural Extension Service
7	Ir. Sri Dyah Retnowati	DGF	Head of DIP
8	Ir. Kusnandar	DGFCH	Retired
9	Dr. Tjuk Eko HB	CAD	Secretary of BPK Agency
10	Ir. Muhammad Tassim Billah	CAD	Stay at CAD
11	Muhammad Burhan Amin, S.Sos	CAD	Stay at CAD
12	Sri Indrastuti, BSc.	DGF	Stay at DGF
13	Ir. Gatut Sumbogodjati	DGFCH	Division Chief of Foreign Relation
14	Dr. Togar A. Napitupulu	Director of CAD	Director of Agribusiness
15	Ir. Andi Arnida	CAD	Directorate General of BP2HP
16	Ir. Wieta Barkah	CAD	Stay at CAD
17	Ir. Iwan Fortuna Malonda	CAD	Division Head of BKP
18	Ir. Retno Indah WBH	CAD	Division Head of BSP
19	Ir. Roch Widaningsih	CAD	Stay at CAD
20	Ir. Nanan Sunandi, MSc.	CBS	Head of CAS Banten Province
21	Dr. Choiril Maksum	CBS	Director General of BSP
22	Ir. Sumardjono, MSt.	DGFCH	Head of Finance Division
23	Ir. Poopy Farida	W.J.FC	Chief of Data & Information Section
24	Ir. Fatra Widjaja	DGFCH	OECF Project Leader
25	Ir. Yulianto M.A.	CBS	Stay at CAS
26	Ir. Joko Pratomo	CBS	Stay at CAS
27	Boedi Basuki	C.J.FC	Central Java Agricultural Extension Service
28	Ir. Deni Martono	E.J.CBS	Head of CAS Malang District

The returnees working conduct and perception including at regional government, had been changed after the project to more devotion to statistical mission compared to the previous monotonous working behavior. They felt more confidence and highly motivated by “3T” triggered by the way of working tempo of JICA experts while they were in Indonesia. (“3T”, Tanggung jawab, Tepat waktu, Teliti, means: Responsibility, Timely Correct and Precision).

This change of working culture had influenced their colleagues not only in their unit, but also colleagues out side or around their unit. The returnee participants are able to extend or selves developed on their professional, where by, a lot other units in the Ministry of Agriculture request to be trained by CAD professional on “extended” yield sampling method, which is not only for rice but also for horticulture and upland “palawija” or secondary crops. CAD responds favorable due to sufficient budget support after the project termination. The budget increase reached 300~700% annually between 2002 ~ 2005 (Figure 3.3). CAD in cooperation with CAS (Central Agency of Statistics) was able to train 56000 Mantis and Mantan all over the country (sub district Statistician and Agricultural Extension Agent) within 4 years time after project termination. This is a big surprising leap.

Figure 3.3 Budget Allocation for CAD during the Project Period and After Project Termination



Year	1994	1999	2000	2001	2002	2003	2004	2005
Routine	507982	1190054	1247323	2200474	2200474	2344172	2892493	14404423
Development	600000	1187400	791223	1885784	10734278	26817326	13228517	
Total	1107982	2377454	2038546	4086258	12934752	29161498	16121010	14404423

CAD plans to always refresh statistician staffs knowledge and skill through the periodical training program. This plan is for updating statistical technique and in anticipation of mobility of statistical staff. These are as a consequence of, partly, regional autonomy and duty touring of staffs.

3.5 Analysis

(1) Impact

The analysis of the project impact will be centered based upon the achievement of project purpose and overall goal.

a) Data and information finding are already clearly described the impact by qualitative way. Questions arise, “to what extend the assurance of positive or negative impact may happened”. In this regard, quantifying the descriptive is finding important and will be formulated through a combination of Delphi and SMART methods (see Table 3.4). (SMART is the abbreviation of Sample Multi Attribute Ranking Technique). These two methods have been widely used to evaluate many different large projects. Further more classification of the project analysis results is necessary to assure possible multiplying effect of the impact.

b) In line with those empirical hypotheses classification (see Table 3.5), the panel of competent professionals at CAD, Provincial and District + Sub District were established to score the degree of impact upon their relevant parameters as listed in Table 3.6.

Table 3.4 Summary of Analysis Results using SMART and Delphi Model

No.	ASTIT COMPONENTS	Impact Maximum Score : 100	Remarks	
1	Yield Estimate Sampling Survey	79.4	Very High	: 90 ~ 100
2	Area Estimate Survey	75.6	High	: 75 ~ 90
3	Data Processing Method	75.4	Medium-High	: 65 ~ 76
4	Training	78.4	Medium	: 55 ~ 65
	Average	**77.2**	Low	: 45 ~ 55
			Very Low	:< 45

Table 3.5 Empirical Hypotheses of Project Impact Classification

No	**Project Impact classification**	**Code**	**Description**
1	Very High Indicator : 90 ~ 100 (max score : 100)	VH	Achievement level or realization of the overall goal is very high. The project impacts are perfectly in effect, in the other words the positive project impact will sustain continuously with no further necessary assistance at all. This class is seldom happened.
2	High Indicator : 75 ~ 90	H	The project achievement has high impact. At this category, the project impact may still need up dated information on the subject matter and pursuance or supervisory to maintain its positive impact .
3	Medium - High Indicator : 65 ~ 75	MH	Medium - High; the project impact may remain stable, however this stage will not develop or extend to further strengthening itself with out assistance from outside in the sense of more human resource capacity building.
4	Medium Indicator : 55 ~65	M	Medium classification is the stage where the project achieved its purposed goal, but it has no significant impact due constrained by institutional policy environment and infrastructure.
5	Low Indicator : 45 ~ 55	L	Low classification, where the project impact is questionable, because constrained by reasons as cited in classification M and more importantly human resource capacity is lacking and has no motivation.
6	Very Low Indicator : < 45	VL	Very Low classification is the stage where the positive project impact is not clearly sensed; therefore the good result of project has no influence toward better situation.

Table 3.6 The Average of Weighted Value of Project Main Parameters for SMART Analysis Applied to Project Impact

Impact

Weight / Project Impact	YIELD		AREA SURVEY		DATA PROCESSING		TRAINING	
	Average	CV (%)	Average	CV (%)	Average	CV (%)	Average	CV (%)
Technical	0.21	20.23	0.19	30.43	0.18	20.52	0.17	31.43
Socio-Economic	0.13	24.19	0.15	26.46	0.13	26.49	0.14	32.23
Capacity Building	0.18	19.81	0.17	28.76	0.21	41.86	0.20	39.93
Perception	0.15	17.79	0.14	18.13	0.17	21.31	0.17	27.14
Culture	0.17	20.62	0.19	9.77	0.18	12.66	0.20	29.88
Environment	0.16	47.01	0.16	45.90	0.13	48.49	0.13	40.82
SUM / Average	1.00	24.94	1.00	26.58	1.00	28.56	1.00	33.57

c) Criteria weighted in the project impact analysis. Technology transfer has highest weighted value or most important on yield and area survey samplings. Capacity building has most weighted value on data processing and training program. Culture becomes the most important on area survey and training program.

d) Panel of Competent Professionals. The panel of competent professionals which consist of eight persons (most of them been trained in Japan) resulted impact indicators that can be viewed on Annex-2 and for detail scoring indicators can be found on Annex-3a and 3b.

e) The Impact:

- Impact of yield survey sampling has a very good impact at the score level of 79.4 out of maximum 100 points.
- Area survey impact also holds very good impact under 75.6 points of score.
- Similarly to area survey, data processing performs very good attribute at 75.4 point score.
- Training impact has high grade of very good classification at 78.4 points out of 100 maximum score

The over all project impacts can be said in a high level (please confirm with Table 3.4) that is at score 77.2 level.

f) The unexpected or negative of project impact is found out to be very weak or can be neglected (at score level of 48.65).

Table 3.7 The Average of Unexpected and Negative Project Impact

	Impact
Yield	47.80
Area Survey	48.80
Data Processing	50.60
Training	47.40
Average	**48.65**

Source : Processed from Annex -3a and 3b

(2) Sustainability

The analysis of the project sustainability after the evaluation of ex-post project termination will be centered based upon the achievement of project purpose and overall goal.

a) Data and information finding are already clearly described the sustainability by qualitative way. Questions arise, "to what extend the assurance of sustainability may happened". As the same manner for project impact, quantifying the descriptive is finding important and will be formulated through a combination of Delphi and SMART methods (see Table 3.8).

b) In line with those empirical hypotheses classification (see Table 3.9), the panel of competent professionals at CAD, Provincial and District + Sub District were established to score the degree of sustainability upon their relevant parameters as listed in Table 3.10.

Table 3.8 Summary of Analysis Results using SMART and Delphi Model

No.	ASTIT COMPONENTS	Sustainability Maximum Score : 100	Remarks	
1	Yield Estimate Sampling Survey	71.6	Very High	: 90 ~ 100
2	Area Estimate Survey	71.8	High	: 75 ~ 90
3	Data Processing Method	71.8	Medium-High	: 65 ~ 76
4	Training	75.8	Medium	: 55 ~ 65
	Average	**72.75**	Low	: 45 ~ 55
			Very Low	:< 45

Table 3.9 Empirical Hypotheses of Project Sustainability Classification

No	Project Sustainability classification	Code	Future Description
1	Very High Indicator : 90 ~ 100 (max score : 100)	VH	Very high is as the state that the counterpart agency is maintaining the outcomes and services provided by the project perfectly, in the other words the outcomes will sustain continuously with no further necessary assistance at all. This class is seldom happened.
2	High Indicator : 75 ~ 90	H	The project achievement has high sustainability. At this category, the project sustainability may still need up dated information on the subject matter and pursuance or supervisory to maintain its outcomes sustainability.
3	Medium - High Indicator : 65 ~ 75	MH	Medium High; the project sustainability may remain stable, however this stage will not develop or extend to further strengthening itself with out assistance from outside in the sense of more human resource capacity building.
4	Medium Indicator : 55 ~65	M	Medium classification is the stage where the project achieved its purposed goal, but it has no significant possible sustainability due constrained by institutional policy environment and infrastructure.
5	Low Indicator : 45 ~ 55	L	Low classification, where the project sustainability is questionable, because constrained by reasons as cited in classification M and more importantly human resource capacity is lacking and has no motivation.
6	Very Low Indicator : < 45	VL	Very Low classification is the stage where the project sustainability is not clearly sensed; therefore the good result of project has no influence toward better situation.

Table 3.10 The Average of Weighted Value of Project Main Parameters for SMART Analysis Applied to Sustainability

Sustainability

Weight / Sustainability	YIELD		AREA SURVEY		DATA PROCESSING		TRAINING	
	Average	CV (%)	Average	CV (%)	Average	CV (%)	Average	CV (%)
Institutional Strengthening	0.23	21.09	0.23	24.09	0.18	29.61	0.20	24.74
Technology Transfer	0.23	28.46	0.23	27.43	0.28	13.74	0.25	17.30
Application of New Technique	0.22	26.69	0.21	23.27	0.19	27.99	0.19	26.48
Infrastructure Care	0.12	30.95	0.13	33.90	0.18	38.34	0.14	25.65
Budget	See figure							
HR. Development	0.20	10.80	0.20	9.79	0.18	26.45	0.22	20.84
SUM / Average	1.00	23.60	1.00	23.70	1.00	27.23	1.00	23.00

c) Criteria Weighted in the project sustainability. Most valuable activity in relation to project sustainability is technology transfer that has highest weighted score in all four project components; yield, area survey, data processing and training (Table 3.6 and 3.7). Institution strengthening holds higher weighted score on yield and area survey project component.

d) Panel of Competent Professionals. The panel of competent professionals which consist of eight persons (most of them been trained in Japan) resulted sustainability indicators that can be viewed on Annex-2 and for detail scoring indicators can be found on Annex-3a and 3b.

The over all project impacts can be said in a very good level (please confirm with Table 3.4) that is at score 77.2 level.

e) The Sustainability

- It is likely that yield and area estimate as well as data processing in a fairly good sustainability.

- Training is surely will be in very good sustainability.

f) The overall project sustainability is likely to be medium - high at the score closed to 73 out of 100 points. Table 3.8 indicates that the overall summation of project sustainability.

g) The panel member feels a bit hesitate about sustainability of good project impact; due to the score is 57.55 out of 100 (see Table 3.11).

Table 3.11 The Average of Unexpected and Negative Project Sustainability

	Sustainability
Yield	58.00
Area Survey	59.00
Data Processing	59.00
Training	53.60
Average	**57.55**

Source : Processed from Annex -3a and 3b

Figure 3.4 Panel of Competent CAD Staffs are on Works on SMART Analysis

CHAPTER IV
LESSON LEARNED

From the Lesson Learned, it can be drawn the overall conclusion as the following:

a) The project in general was able to change the conduct or culture and perception towards better working motivation on statistic, as results: institutional capacity building much improved application of agricultural statistic technology and method was improved; training program for ToT was also improved.

b) The project impact is at a level of very good and impact sustainability is likely to be fairly good. Mean while the unexpected and negative impact if exist, can be concluded as very week or considered of no negative impact (See Table 3.8).

c) The comprehensive implementation of project success at national level has not been clearly indicated.

CHAPTER V
RECOMMENDATION

The over all project achievement, impact and sustainability are significantly good at institutional level. Therefore it is recommended that:

a) Further cooperation is needed to persuade the implementation at national level through strategic cooperation approach;

b) ToT program should be continued and strengthened to secure more competent and professional ToT; and

c) Cooperation in technology and its transfer of effective data and information flow and distribution at national level is still needed to complement the already success of invested project achievement.

In response to the above recommendation, mutual approach towards follow up cooperation should be conducted.

ANNEX 1
List of People Met and Interviewed

Annex-1. List of People Met and Interviewed

I. Center of Data and Information, Ministry of Agriculture:

1.	Edi Abdurachman	Director
2.	Harisno	Head of Data and Information
3.	Yasid Taufik	Head of Horticulture & Estate Crop
4.	Dewa Ngakan Cakrabawa	Head of Food Crop & Cattle
5.	Bayu Mulyana	Head of Information System
6.	Hani Mulyani	Statistic Functional
7.	Leli Nuryati	Statistic Functional
8.	Wieta B. Konalasari	Statistic Functional
9.	Sabarela	Statistic Functional
10.	Burhan Amin	Computer Functional

II. Agricultural Extension Service, West Java:

11.	Poopy Farida	Head of Provincial Statistical Division
12.	Dedi Suharyadi	Head of Program Division, Sukabumi
13.	Yuyun	Sub District Agricultural Extension
14.	Ace	Retired Sub District Extension Service
15.	Ahmad	Sub District Agric. Extension Agent
16.	Maman	Agric. Extension Service Sukabumi
17.	Cece A.P.	Sukabumi District Fishery
18.	Asep	Head of Administration, Sukabumi District Fishery
19.	Eko Budiman	Fishery Statistical Division Sukabumi

III. Central Agency of Statistic:

21. Selamet Sutomo	Director, Agricultural Statistic Bureau
22. Kecuk Suharyanto	Division Head of Food Crop Statistic
23. Bambang Wijayanto	Head of Agric. Stat. Evaluation Section

ANNEX 2
List of Competent Panel

Annex-2. List of Competent Panel

No.	Name	Initial	Occupation
1	Yasid Taufik	YT	Head of Horticulture & Estate Crop
2	Dewa Ngakan Cakrabawa	DN	Head of Food crop & Cattle
3	Bayu Mulyana	BM	Head of Information System
4	Hani Mulyani	HM	Statistic Functional
5	Leli Nuryati	LN	Statistic Functional
6	Wieta B. Konalasari	WB	Statistic Functional
7	Sabarela	SB	Statistic Functional
8	Burhan Amin	BA	Computer Functional

ANNEX 3

Annex 3a Scores of Project Impact

Annex 3b Scores of Project Sustainability

Annex-3a Scores of Project Impact

No.	Criteria for Evaluation	Expected, Direct, Indirect, Positive			Unexpected, Negative	
		Average	CV (%)		Average	CV (%)
I	**Yield Survey Estimate**	Maximum Score : 5.00				
1	Technical	4.19	8.89		2.44	17.12
2	Socio Economics	3.75	7.13		2.50	18.52
3	Capacity Building	3.81	8.40		2.25	20.57
4	Perception	3.94	14.30		2.50	23.90
5	Culture	4.09	13.83		2.31	19.81
6	Environment	4.03	17.04		2.31	34.55
	Average	**3.97**	**11.60**		**2.39**	**22.41**
II	**Area Survey**					
1	Technical	3.94	8.82	2.31	19.81	
2	Socio Economics	3.72	10.44	2.50	15.12	
3	Capacity Building	3.84	10.96	2.50	28.28	
4	Perception	3.63	11.06	2.44	31.85	
5	Culture	4.03	17.04	2.31	34.55	
6	Environment	3.50	10.80	2.56	33.70	
	Average	**3.78**	**11.52**	**2.44**	**27.22**	
III	**Data Processing**					
1	Technical	3.94	13.89	2.69	19.73	
2	Socio Economics	3.72	12.67	2.38	18.66	
3	Capacity Building	3.94	15.08	2.5	23.9	
4	Perception	3.81	13	2.63	16.88	
5	Culture	3.72	12.67	2.31	28.16	
6	Environment	3.5	13.23	2.69	17.04	
	Average	**3.77**	**13.42**	**2.53**	**20.73**	
IV.	**Training**					
1	Technical	4.28	6.58	2.31	25.68	
2	Socio Economics	3.84	8.47	2.5	23.9	
3	Capacity Building	4.22	10.71	2.31	16.09	
4	Perception	3.84	13.44	2.38	18.66	
5	Culture	3.94	13.03	2.19	34.42	
6	Environment	3.38	17.71	2.5	21.38	
	Average	**3.92**	**11.66**	**2.37**	**23.36**	

Annex-3b Scores of Project Sustainability

No.	Criteria for Evaluation	Factors Securing Sustainability		Factors Constraining Sustainability	
		Average	**CV (%)**	**Average**	**CV (%)**
I	**Yield Survey Estimate**				
1	Human Resource Development	3.71	16.56	2.75	25.71
2	Application of New Technology	3.56	19.97	2.88	29.03
3	Transfer of New Technology	3.75	18.70	3.00	25.20
4	Institutional Strengthening	3.79	13.40	3.00	25.20
5	Infra Structure Care	3.10	21.34	2.88	39.16
6	Budget Support				
	Average	**3.58**	**17.99**	**2.90**	**28.86**
II	**Area Survey**				
1	Human Resource Development	3.83	15.34	2.88	22.29
2	Application of New Technology	3.50	26.53	3.25	27.27
3	Transfer of New Technology	3.69	21.89	2.88	22.29
4	Institutional Strengthening	3.81	15.36	3.00	17.82
5	Infra Structure Care	3.13	15.87	2.88	43.35
6	Budget Support				
	Average	**3.59**	**19.00**	**2.98**	**26.60**
III.	**Data Processing**				
1	Human Resource Development	3.75	17.24	3.13	20.51
2	Application of New Technology	3.65	19.08	2.88	22.29
3	Transfer of New Technology	3.58	24.41	3.00	25.20
4	Institutional Strengthening	3.77	16.43	2.63	28.34
5	Infra Structure Care	3.21	19.01	3.13	26.70
6	Budget Support				
	Average	**3.59**	**19.23**	**2.95**	**24.61**
IV.	**Training**				
1	Human Resource Development	3.88	15.93	2.50	30.24
2	Application of New Technology	3.79	19.68	2.75	25.71
3	Transfer of New Technology	4.17	11.44	2.75	32.23
4	Institutional Strengthening	3.69	16.05	2.63	28.34
5	Infra Structure Care	3.40	17.79	2.75	25.71
6	Budget Support				
	Average	**3.79**	**16.18**	**2.68**	**28.45**

Factors securing Sustainability include: good development plan, increase work quality, strengthening competency, factors enhancing, good indirect or multiplying effects, other factors enhancing and securing sustainability

Factors constraining Sustainability are the apposite or antagonistic to the factors securing sustainability.

ANNEX 4
Project Design Matrix for the Agricultural Statistics Technology Improvement and Training Project

Annex 4. Project Design Matrix for the Agricultural Statistics Technology Improvement and Training Project

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPSION
I. OVERALL GOAL To conduct the agricultural statistical activities in MOA effectively and efficiently	Activities and efficiency of agricultural statistic in general at certain period since completion of the Project	Result of joint post-Project evaluation conducted by the dispatched JICA study team or JICA Indonesia office and Indonesian side	1) Application technology of agricultural statistics to policy making process is improved. 2) Telecommunication system in Indonesia is improved.
II. PROJECT PURPOSE To improve the agricultural statistical activities the Center of Agricultural Data	Project achievement at certain period since completion of the Project 1) CAD's activities, reliability on statistical data, the timely of publication (announcement) 2) Contents of statistical methodology improved by Indonesian side 3) Contents of statistical staff training and the number of trainees	Result of joint post-Project evaluation conducted by the dispatched JICA study team or JICA Indonesia office and Indonesian side	1) Sufficient budget for agricultural statistics works is secured 2) Necessary equipment for agricultural statistics works are introduced

ANNEX 5
Tables of the Result of Trial Survey

Annex-5 Tables of the Result of Trial Survey

Table. The Result of Trial Survey Which Was Conducted in Java on May – Augt 2000 (Sept. Survey), and the Difference With SP Data (Paddy Harvested Area)

Province	Sampling Survey (Hectare)	CV	SP Survey (Hectare)	Difference	
				Absolute	%
1	2	3	4	5 = 4 – 2	6=5/2x 100
West Java	751.765	7.0	743.891	- 7.874	- 1.0
Central Java	608.086	6.8	616.705	8.619	1.4
East Java	430.146	6.8	540.965	110.819	25.8
Total	**1.789.997**	**4.1**	**1.901.561**	**111.564**	**6.2**

Table. The Result of Trial Survey Which Was Conducted in Java on Sept – Dec 2000 (Survey Jan. 2001), and the Difference With SP Data (Paddy Harvested Area)

Province	Sampling Survey (Hectare)	CV	SP Survey (Hectare)	Difference	
				Absolute	%
1	2	3	4	5 = 4 – 2	6=5/2x 100
West Java	451.748	12.5	381.605	- 70.143	- 15.5
Central Java	224.933	11.6	220.948	- 3.985	- 1.8
East Java	158.276	11.2	225.128	66.852	42.2
Total	**834.957**	**8.2**	**827.681**	**- 7.276**	**- 0.9**

Table. The Result of Trial Survey Which Was Conducted in Java on Jan – April 2001 (May Survey), and the Difference With SP Data (Paddy Harvested Area)

Province	Sampling Survey (Hectare)	CV	SP Survey (Hectare)	Difference	
				Absolute	%
1	2	3	4	5 = 4 – 2	6=5/2x 100
West Java	742.341	4.9	872.579	130.238	17.5
Central Java	664.457	3.9	757.386	92.929	14.0
East Java	759.504	4.4	862.902	103.398	13.6
Total	**2.166.302**	**2.6**	**2.492.867**	**326.565**	**15.1**

Table. The Result of Trial Survey Which Was Conducted in Java on May 2000 - April 2001, and the Difference With SP Data (Paddy Harvested Area)

Province	Sampling Survey (Hectare)	CV	SP Survey (Hectare)	Difference	
				Absolute	%
1	2	3	4	5 = 4 – 2	6=5/2x 100
West Java	1.945.854	4.9	1.998.075	52.221	2.7
Central Java	1.497.476	3.9	1.595.039	97.563	6.5
East Java	1.347.926	4.4	1.628.995	281.069	20.9
Total	**4.791.256**	**2.6**	**5.222.109**	**430.853**	**9.0**

REFERENCES

1. Agricultural Statistics 2004, Ministry of Agriculture

2. Wonorjo Multipurpose Dam Project: Questionnaire for Post Evaluation Data collection Survey 2004 on JBIC-financed Projects (PEDAC Survey 2004).

3. Agricultural Statistical Technology Improvement and Training Project (ATA 448), a project document of technical report, Center of Agricultural Data and Information (CAD) Ministry of Agriculture, 2004.

4. Ex-Post Evaluation for ODA Loan Projects, 2000 (Summary), Project Development Department, Japan Bank International Cooperation, March 2001.

5. ASTIT 2001, Harvested Area Survey Activity Questionnaire Format, Sukabumi Agricultural Extension Service, March 2001.

6. Minute of Understanding, The Japanese Project Consultation Team and The Authorities Concerned of The Government of Indonesia on The Japanese Technical Cooperation for the Follow up Program of Agricultural Statistical Technology Improvement and Training, 2001, a document.

7. Guiding Framework for Evaluation: Rural Poverty Impact, Sustainability, Effectiveness, Innovations and Replicable. 1994

8. Minute of Understanding on Japanese Technical Cooperation for The Agricultural Statistical Technology Improvement and Training Project in The Republic of Indonesia, 1994 and 1999 (a document).

9. Social Economic Study (Project Benefit Monitoring and Evaluation) for Tulung Agung Drainage Project Package II. Final Report. Departemen Pendidikan dan Kebudayaan Universitas Brawijaya, Pusat Studi Lingkungan Hidup. February, 1988

10. The Impact Study of Southern Sumatera Trunk Road. The Overseas Economic Cooperation Fund, Japan. , March 1987

11. Social Economic Study (Project Benefit Monitoring and Evaluation) for Tulung Agung Drainage Project. Benchmark Survey. Brawijaya University Malang, September 1981.

12. ASTIT 2001. Area Survey. National Seminar. Methodology on Rice Production Statistic. Survei Luas Panen Padi Sawah Di Jawa Barat, Jawa Tengah, Jawa Timur. September 2001

13. ASTIT 2001. Yield Survey. National Seminar. Methodology on Rice Production Statistic. Paddy Production Estimation. September.