

## Agricultural Development Project

Report Date : October, 2002

Field Survey : August 2001

### 1 . Project Profile and Japan's ODA Loan



Location Map of the Project



A Cashew nut Farmer in West Nusa Tenggara

#### 1.1 Background

The agriculture sector's share of the Indonesian economy had been decreasing, from 45% of GDP in 1970 to 18% in 1992. However, it still accounts for 54% of employment and 12% of exports, and in the rural economy, especially on islands other than Java, agriculture is important as a means to alleviate poverty. In Repelita V (The Fifth 5-year National Development Plan: 1989-1993), the government of Indonesia set a target growth rate of 3.6% for agricultural GDP and, in addition, placed priority on reducing the disparity in economic power between Java and the other islands.

The government made efforts to achieve greater integration by combining the construction/rehabilitation of irrigation and drainage infrastructure, with institutional support. This project was required to increase agricultural productivity and efficiency on a sustainable basis.

#### 1.2 Objectives

To contribute to economic and social development in rural areas through: 1) SSID (Small Scale Irrigation Development) in Central Sulawesi, 2) land development, 3) rehabilitation of collection and production roads in NES (Nucleus Estate and Smallholder) sites, 4) establishment of Smallholders group processing, 5) estate crops development in special areas and 6) construction of fish landing places in Eastern Indonesia, and thereby alleviate poverty.

#### 1.3 Project Scope

The project was formed as a Sector Loan<sup>1)</sup> consisting of the following six components.

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<sup>1)</sup> Sector Loan (SL) is a multi-project loan derived from Sector Program Loan (SPL) which had been provided to a corresponding Ministry originally for the purpose of commodity loan. SPL was actually provided to the agriculture sector in the late 1980's and assessed as effective in improving international accounts. However, it was turned to be reduced in 1990's after recovering the international account, while SPL performed well in meeting possible contingency, mobility, impact, etc. Under these circumstances, the possibility of SL scheme, in a form of multi-project loan, was proposed and studied under the Special Assistance for Project Implementation (SAPI) in 1992-1993, in which the Project was originally formed. The Project was a sort of trial scheme and assessed as successful, so that SL scheme was established as Project Type Sector Loan (PTSL), currently being undertaken in a form of sector assistance.

- 1) **SSID (Small Scale Irrigation Development) in Central Sulawesi**  
-Construction and improvement of irrigation schemes in Central Sulawesi
- 2) **Land Development**  
-Development of paddy field
- 3) **Rehabilitation of Collection and Production Roads of Nucleus Estate and Smallholder Development**  
-Rehabilitation of roads in NES sites
- 4) **Establishment of Smallholders Group Processing**  
-Construction of Smallholders group processing centers
- 5) **Estate Crops Development in Special Areas**  
-Providing farmers in marginal areas with farm inputs for estate crops development
- 6) **Fish Landing Development**  
-Construction of fish landing places in Eastern Indonesia
- 7) **Consulting Services**

#### 1.4 Borrower / Executing Agency

**(Borrower)**

The Government of the Republic of Indonesia

**(General Coordination)**

BAPPENAS (National Development Planning Board)

**(Executing Agencies)**

**<For Project Scope 1 and 2<sup>2)</sup> above>**

Directorate General of Water Resources Development (DGWRD) Ministry of Public Works\*  
\*(Currently Ministry of Settlement and Regional Infrastructure)

**<For Project Scope 3 through 6 above>**

Directorate General of Food Crops and Horticulture (DGFCH), Directorate General of Estates (DGE) and Directorate General of Fishery (DGF)\* Ministry of Agriculture  
\*(DGF became independent Ministry as Ministry of Marine Affairs and Fisheries)

#### 1.5 Outline of Loan Agreement

Loan Amount	6,718 million yen
Loan Disbursed Amount	6,397 million yen
Exchange of Notes	October, 1993
Loan Agreement	November, 1993
Terms and Conditions	
-Interest Rate	2.6% p.a.
-Repayment Period (Grace Period)	30 years (10 years)
-Procurement	General Untied (Partially Untied for Consulting Services)
Final Disbursement Date	December, 1999

<sup>2)</sup> Originally, the Land Development component was to be executed by DGFCH, but this responsibility was handed over to DGWRD in 1994 after the loan agreement, in accordance with the guidance of the President. It was understood that irrigation system development and land development, which were initially to be carried out by two ministries, would be integrated under the Ministry of Public Works in order to achieve smooth implementation of the Land Development component. According to the consultants monitoring report, coordination meetings at DGWRD, MPW, were held periodically and attended by relevant staff from the Directorate of Regional Implementation, the Directorate of Program Planning and the Directorate of Technical Guidance, the DGWRD, and by the Project Manager of MOA and the consultant, in order to discuss and share findings. Corrective measures agreed upon in such meetings were then communicated to regional project officers by the Directorate of Regional Implementation.

## 2 . Results and Evaluation

### 2.1 Relevance

The project objective -- to contribute to economic and social development in rural areas – has not yet been achieved. As seen in Table 1 below, the agriculture sector's GDP was 16.7 % in 2000, lower than in 1992, when the government set its annual growth target for the sector. Furthermore, most project areas, including Sumatera, Sulawesi and other islands beyond Java, are still less developed in terms of "Per Capita GDP" than the Java area (see Table 20).

**Table 1 : GDP by Industry (1997-2000)**

(million Rupiahs)

<b>Industry</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Agriculture, Livestock, Forestry & Fishery	64,468.0 (14.9 %)	63,609.5 (16.9 %)	65,339.1 (17.2 %)	66,431.5 (16.7 %)
GDP (Total)	433,245.9 (100 %)	376,374.9 (100 %)	379,557.7 (100 %)	397,666.3 (100 %)

Note : At constant 1993 market prices. Figures in parentheses represent percentage of total GDP.

Given this situation, it is clear that the agriculture activities of Indonesia still need to be improved/strengthened through sector-wise development . It can be concluded that the project was relevant at the time of this evaluation. A follow-up project, namely Agricultural Development Project (II), is currently ongoing.

#### ***Remarks on the Composition of this Evaluation Report***

*Since the project consists of six development components and a consulting service, and two agencies were/are in charge of implementation (see section 1.4 above), evaluation criteria, i.e., Efficiency, Effectiveness, Impacts and Sustainability, will be discussed separately for each component. It is hoped that, as a result, it will be easier to understand the distinct features of each component.*

## 2.2. SSID (Small Scale Irrigation Development) in Central Sulawesi

### 2.2.1 Efficiency

#### (1) Project Scope

The SSID component was implemented by the provincial irrigation office in association with the agricultural office of Central Sulawesi Province, under the coordination of the BAPPEDA (Provincial Development and Planning Agency), and supervised by the Directorate General of Water Resources Development, the Ministry of Public Works.

**Figure 1 : Location of SSID [Central Sulawesi]**



Originally, this component was supposed to cover 56 irrigation sub-projects and a total estimated area of 21,267 ha including the proposed land development area of 7,583 ha. As the result of several revisions, the actual implementation plan for the component consisted of 55 irrigation schemes<sup>3)</sup> and the irrigation area was set at 22,942 ha, of which 17,610 ha was planned for implementation. As for the land development, an area of 7,026 ha out of the 17,610 ha was planned, of which 5,776 ha was for detail design, while 1,250 ha was for actual development (see Table 2).

**Table 2 : Scope of Works on SSID**

<b>&lt;Irrigation Scheme&gt;</b>		
<b>Name of District</b>	<b>Original Plan</b>	<b>Actual</b>
Donggala	14 schemes ( 5,260 ha)	13 schemes ( 4,135 ha)
Parigi	8 schemes ( 3,445 ha)	8 schemes ( 2,548 ha)
Poso	7 schemes ( 2,352 ha)	9 schemes ( 2,207 ha)
Luwuk Banggai	8 schemes ( 3,055 ha)	7 schemes ( 1,861 ha)
Toli Toli	7 schemes ( 2,814 ha)	8 schemes ( 4,028 ha)
Kolonedale	12 schemes ( 4,341 ha)	10 schemes ( 2,831 ha)
Total	56 schemes (21,267 ha)	55 schemes (17,610 ha)

<sup>3)</sup> Of which 54 were completed by January 1998, according to the consultant's report on Phase I.

### <Land development>

Name of District	Original Plan	Actual	
		Detail Design	Implementation
Donggala	1,534 ha	340 ha	0 ha
Parigi	762 ha	210 ha	102 ha
Poso	682 ha	1,357 ha	186 ha
Luwuk Banggai	1,786 ha	1,324 ha	540 ha
Toli Toli	1,288 ha	901 ha	0 ha
Kolonedale	1,531 ha	1,644 ha	422 ha
Total	7,583 ha	5,776 ha	1,250 ha

During construction, it became necessary to decrease the implementation area for some sub-projects for the following reasons:

- Budgetary constraints
- Unstable river conditions (flooding, riverbed flow, width, sedimentation, etc.)
- Frequent damage to weirs owing to flooding
- Design modifications, in which almost all stone-, gabion- or concrete-plastered masonry weirs were changed to masonry fixed weirs
- Greater need for constructing a tertiary system
- Change of farmers' intentions for land development

#### (2) Implementation Schedule

The SSID component was originally scheduled for implementation from March 1994 to December 1997. Construction actually began in July 1995 and was completed in January 1998. Though commencement of construction was delayed by more than a year, the work was accelerated in order to meet the originally scheduled deadline.

#### (3) Project Cost

The total construction cost for this component was originally estimated to be 37,339 million Rupiahs, but was actually 49,807 million Rupiahs, a 30% overrun. Notwithstanding the overrun, the total loan disbursement for this component was closed at 2,871 million Yen - within the original estimate of 3,060 million Yen. This discrepancy was caused by two factors: the facts that 1) the local currency portion of this component comprised more than 50 % of the total budget, and that 2) the Japanese Yen strengthened against the Indonesia Rupiah after the commencement of construction. For this reason, the government did not need to provide additional governmental funds to cover the total cost-overrun, which were mainly attributable to the revision/modification of the scope of works.

### 2.2.2 Effectiveness

#### (1) Agricultural Performance

The performance of the SSID component is considered positive in terms of paddies cropped, cropping intensity and paddy productivity, even though the actual records have not reached either original or revised target levels, as shown in Table 3 below.

**Table 3: Performance in Paddy Cropping**

Indicators	Original Plan	Revised Plan*	Actual in 1994** [Before Project]	Actual in 2000** [After Project]
Wet Season Paddy	21,267 ha	17,610 ha	10,431 ha	16,048 ha
Dry Season Paddy	17,014 ha	14,088 ha	8,344 ha	12,838 ha
Total	38,281 ha	31,698 ha	18,775 ha	28,886 ha
Cropping Intensity	200 %	180 %	---	164 %***
Productivity	4.5-5.0 t/ha/season	4.5 t/ha/season	2.5-2.6 t/ha/season	3.4-3.6 t/ha/season

Note : \* Original plan was modified on the basis of actual scope of works

\*\* Data provided by the Central Sulawesi Irrigation Project Office

\*\*\* Total cropping area in 2000 / Total cropping area in the original plan

According to the Head of the Central Sulawesi Irrigation Project Office, possible reasons for the lower-than-planned performance are: 1) insufficient participation by farmers in the formation of WUAs (Water Users Association), and 2) noxious insects and a shortage of fertilizer. To cope with this situation, the office recognizes the need to strengthen supervision of WUAs, but it has not yet taken concrete action.

### 2.2.3 Impacts

#### (1) Environmental Impacts

The sub-project sites are located mostly in a forested areas that have been designated for “transition use” by the Ministry of Forestry. In addition, in compliance with government guidelines, Environmental Impact Assessments was carried out for sub-project areas of more than 500 ha, and no considerable negative impacts have been reported by the Provincial Irrigation Office.

#### (2) Impacts on Economy

There was no economic analysis of this component at the time of project appraisal, although the project consultant estimated EIRR in January 1998, when the component was completed. For the calculation, the consultant took the estimated paddy increase as the incremental benefit and applied the actual economic project cost. EIRR for all the sub-projects under the SSID component was 20.9 %, or 1.11 in terms of Benefit-Cost Ratio. This figure indicates convincingly that the SSID component is successful economically. The high EIRR may be attributed to cost-savings in the project implementation stage.

### 2.2.4 Sustainability

#### (1) Operation and Maintenance

After completion of the SSID component, the central government handed over the administration of the facilities (i.e., weir construction/rehabilitation, irrigation dam, main/secondary canals) to each Kabupaten, the second level of local government under each Province. The facilities are currently maintained by the irrigation office, part of the public works division of Kabupaten governments. The O&M of tertiary canals are the responsibility of the farmers groups, namely the WUAs.

#### (2) Technical Capacity and Financial Status

Since no informative data on technical capacity or financial status were obtained during the field survey, these aspects cannot be assessed objectively. However, observations made during site inspections on some of the sub-projects indicate that the maintenance efforts made by the local government are sufficient.

### (3) Current Status of the Project Facilities

The Evaluation mission visited several sub-project sites in July 2001 to inspect the condition of the irrigation facilities constructed/rehabilitated in the SSID component. These sub-project sites cover both new construction and rehabilitation of pre-existing irrigation schemes. In general, the facilities were found to be in good condition (see Table 4 below).

**Table 4 : Summary of Site Inspection on SSID**

<b>Location</b>	Napuwasa in Poso District (Bendung Halulai)
<b>Type of Works</b>	New Weir Construction & Land Development
<b>Observations</b>	<ul style="list-style-type: none"> <li>- Originally constructed in 1996/97 under the SSID component</li> <li>- Rehabilitated in 1997 with governmental funds, after severe flooding damage</li> <li>- Still in good condition, but insufficient O&amp;M because the Cabang Dinas (Local Gov, Office in charge) was destroyed in 1999 during a violent religious conflict in Poso</li> <li>- Surrounding farmers have doubled paddy harvest on average</li> </ul>
<b>Location</b>	Tonggoa in Donggara District
<b>Type of Works</b>	Weir Rehabilitation, Check Dam Construction (against flood) and Slope Protection
<b>Observations</b>	<ul style="list-style-type: none"> <li>- Completed in 1995/96, and still in good condition</li> <li>- For the purpose of improving irrigation scheme and flood control</li> </ul>
<b>Location</b>	Paneki in Donggara District
<b>Type of Works</b>	Dam Rehabilitation and Canal Lining
<b>Observations</b>	<ul style="list-style-type: none"> <li>- Paddy &amp; Paddy or Paddy &amp; Palawija</li> <li>- Good condition</li> </ul>
<b>Location</b>	Wera in Donggara District
<b>Type of Works</b>	New Dam Construction
<b>Observations</b>	- Now under rehabilitation of the regulatory box by local government (Kabupaten) fund

According to the Project Manager of the Central Sulawesi Irrigation Project, annual productivity in the surrounding area could yield 2 to 3 times the current amount of paddy harvests. Many sub-projects are located in the District of Poso, where religious conflict is common; O&M activities there have been insufficient in recent years because the local government office in charge of O&M was burnt down intentionally. The irrigation facility itself is still new and robust. Therefore, the immediate re-establishment of the O&M organization of Poso District is strongly recommended.

#### **(4) Toward Sustainability**

It is difficult to picture the sustainability of this component overall, because of limited information/data. However, it can be said that the local government (Kabupaten level) can manage the O&M activities, including small rehabilitation, using its own resources, as was observed in the most recent site inspections. Local governments have rehabilitated or are now rehabilitating facilities as required, when the scale of construction is small enough to be covered by their own funds.



## 2.3 Land Development

### 2.3.1 Efficiency

#### (1) Project Scope

During implementation of the Land Development component (hereafter referred to as LD) the regional PRIS (Provincial Irrigation Service) proposed several rounds of site selection revisions and changes to the scope of works. Scope modifications included farm road construction, tertiary canal system development (without land development), secondary canal system development, tertiary canal lining and rehabilitation. Most of the additional scopes were applied to existing developed land that required such infrastructure to improve land utilization.

**Figure 2 : Location of Land Development**



Table 5 summarizes the original and actual scope of works in the Land Development component. It was realized mostly as planned in terms of area, while the total number of sub-project sites increased after field-checks, which were carried out by the Directorate of Technical Guidance, Directorate of Regional Implementation Guidance and Land Development Monitoring Team (DGWRD), and assisted by the consulting team.

**Table 5 : Scope of Works on Land Development**

Area	Original Plan	Actual (as of May 1998)
DI Aceh	514 ha	514 ha
North Sumatra	700 ha	700 ha
Lampung	2,500 ha	2,300 ha
East Kalimantan	800 ha	800 ha
Central Kalimantan	100 ha	600 ha
South Kalimantan	3,000 ha	3,346 ha
Central Sulawesi	800 ha	978 ha
East Nusa Tenggara	600 ha	0 ha
Maluku	3,000 ha	3,000 ha
Total	12,014 ha (41 locations)	12,238 ha (51 locations)

Source : Final Report for Monitoring Sub-Project, Land Development IP-404 under DGWRD (May, 1998)

Notes : Land development in East Nusa Tenggara was dropped and reallocated to Central Kalimantan

## **(2) Implementation Schedule**

As mentioned previously, originally the MOA was to implement this component, but responsibility for implementation was transferred to the MPW in 1994. It took two years, from 1994 to 1996, to complete the handover. According to the monitoring manager of the MOA, the transfer was held up for two main reasons, as follows:

- i) There were internal reorganizations within both ministries in 1994, and it was difficult to access related documents at the time of transfer.
- ii) The DGWRD of the MPW and the PRIS of the MOA were not familiar with “Sawah (paddy)” construction on farmers’ land, which required cautious treatment with regard to socio-cultural and economic aspects.

Unfortunately, no official record of the implementation schedule was available. However, it can be assumed that the project was completed no less than 2 years after the originally scheduled date in 1998.

Despite the remarkable delay in implementation, the following factors likely facilitated successful land development implementation in terms of land development activities, according to an overall assessment of the component in Preliminary Project Terminal Evaluation (Case Study of the two irrigation schemes, i.e., Irrigation Scheme Padang Mahondang, in North Sumatera and Irrigation Scheme Selok Api Darat, in East Kalimantan), which was carried out by the PLB (Land Clearing and Leveling) Monitoring Team in association with the project consultant in 1997 and 1998.

Participation by village authorities and Agricultural Extension Officials in the planning and implementation of land development activities

Farmer participation in land clearing, land leveling and farm road rehabilitation and construction

Site selection with good access to markets for agricultural produce

Average land holdings that were not too large for family labor capacity

Willingness and participation of local contractors in the implementation of land development works

## **(3) Project Cost**

The actual project cost of this component was 23,883 <sup>4)</sup> million Rupiahs, which is about equal to the original estimate of 23,709 million Rupiahs.

### **2.3.2 Effectiveness**

#### **(1) Paddy Area and Production**

Table 6 presents data on paddy area in 1993 (before project) and 2000 (after project), which show that, generally, paddy area has increased, except in the case of Maluku.

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<sup>4)</sup> On the basis of the contract amount excluding VAT, quoted from the project document.

**Table 6 : Paddy Area (Ha)**

	1993 at the time of Project Appraisal	2000	Increase/Decrease
D.I. Aceh	323,589	329,695	6,106 (101.9%)
North Sumatra	754,569	826,780	72,211 (109.6%)
Lampung	433,078	496,879	63,801 (114.7%)
East Nusa Tenggara	143,578	173,591	30,013 (120.9%)
Central Kalimantan	151,812	160,238	8,426 (105.6%)
South Kalimantan	395,646	427,236	31,590 (108.0%)
East Kalimantan	110,157	136,037	25,880 (123.5%)
Central Sulawesi	145,426	156,576	11,150 (107.7%)
Maluku	20,413	14,573	-5,840 (71.4%)

source: National Statistics Bureau

Table 7 shows data for paddy production by province, for provinces where the land development component was implemented. Except for Maluku, all showed in increase in paddy production. A possible cause of the decrease in Maluku is the unstable security condition there, which has compelled hundreds of thousands of people, including farmers, to flee the province.

**Table 7 : Paddy Production (x 1,000 ton)**

	1993 as of Project Appraisal	2000 at Present	Increase/Decrease
D.I. Aceh	1,300	1,379	79 (106.1%)
North Sumatra	2,918	3,442	524 (117.9%)
Lampung	1,647	1,947	300 (118.2%)
East Nusa Tenggara	382	453	71 (118.6%)
Central Kalimantan	314	358	44 (114.0%)
South Kalimantan	1,138	1,315	177 (115.5%)
East Kalimantan	255	392	137 (153.7%)
Central Sulawesi	463	560	98 (121.1%)
Maluku	51	36	-16 (69.3%)

source: National Statistics Bureau

## (2) Land Utilization Performance

It is not easy to assess, based on the above data alone, the extent to which the land development component contributes to general increases in paddy area and production in these provinces. Following the Case Study, it can be estimated that roughly 4,000 to 5,000 ha of the total land completed under the component (not including Maluku ) is currently used in paddy production.

### **2.3.3 Impacts**

#### **(1) Impacts on the Environment**

No serious negative impact has been reported by DGWRD.

#### **(2) Impacts on Society**

Since the land development component was implemented primarily in areas that are not well suited for paddy cultivation (i.e., submerged/swampy land or dry upland), people were generally willing to provide land for improvement/development. Consequently, no serious problems in land-acquisition or resettlement arose during implementation.

### **2.3.4 Sustainability**

#### **(1) Operation and Maintenance**

After completion of the component, the responsibility for O&M of the irrigation facilities (tertiary canals) was assigned to each WUA (Water Users Association). However, no data regarding the present status of O&M were available at the time of project evaluation.

It was reported in the Case Study that during project implementation, relations between farmers and the local government in charge were good. At that time, establishment of WUAs was still at an early stage. The Case Study suggested that the establishment and utilization of WUAs was necessary to support the further maintenance of irrigation and drainage systems in the area, which indicates that O&M activities by farmers are still in need of improvement.

#### **(2) Toward the Sustainability**

As stated in “Effectiveness”, this land development component was successfully completed and contributes to increasing paddy production in the target provinces outside Java. However, there are no appropriate monitoring data showing the current situation on each developed land, so it is not easy to assess paddy production performance or WUA activities at the individual project level. In order to attain project sustainability, project monitoring activities such as those conducted in the Case Study should be conducted periodically.

## 2.4 Rehabilitation of Collection and Production Roads of Nucleus<sup>5)</sup> Estate and Smallholder (NES) Development

### 2.4.1 Efficiency

#### (1) Project Scope

This component, Collection and Production Roads of NES, was originally planned for 6 provinces, namely DI. Aceh, North Sumatera, Riau, Jambi, South Sumatera and West Kalimantan, covering a total length of 905 km (collection roads = 562 km, production roads = 343 km). It was subsequently actualized in the same 6 provinces, over a total length of 941 km (collection roads = 583 km, production roads = 358 km), that is, mostly as planned.

**Figure 3 : Location of Collection & Production Roads of NES**



#### (2) Implementation Schedule

This component was implemented by PT. Perkenunan (state-owned estate corporation) under the supervision of the Directorate General of Estate, the Ministry of Agriculture, with support from Kanwil (regional office of MOA) and Dinas (provincial agriculture office). The component commenced as scheduled in November 1993 with the preparation of tender documents. All construction works were completed in July 1995, 10 months behind the original schedule. According to the consultant in charge of the project, the delay can be attributed to the following factors:

- The contractors didn't have sufficient heavy equipment, i.e. graders, pneumatic vibrators, rollers, etc., during project implementation. This situation sometimes led to ineffective project implementation.
- There was no flexibility in selecting construction materials and in setting the unit price per km for rehabilitation works. A standard unit price was applied to all locations, which is not practical for nationwide project implementation. Different unit prices reflecting local conditions, such as availability of pavement materials, distance materials must be transported, and availability of skilled manpower and heavy equipment, should have been used in order to

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<sup>5)</sup> "Nucleus" is an estate crop area, owned and operated by a private or state enterprise, that is situated in the center of the NES area and is developed (including construction and maintenance of roads, social infrastructure and factories) to process the products of both the enterprise and the Smallholders. "Plasma" is a complex of small estate crop areas owned by Smallholders surrounding the nucleus. While plasmas are developed by the government (construction of roads and social infrastructure), maintenance is the responsibility of the Smallholders. During the maturity period of the estate crop, the nucleus enterprise provides training, extension and assistance for the formation of farmers organizations.

maximize the efficiency of project implementation.

**(3) Project Cost**

Not available

**2.4.2 Effectiveness**

**(1) Improvement of Accessibility**

The project consultant conducted a socio-economic study on Phase I in 1997, which included a review study, “Impact of Road Construction on the Economic Growth,” covering the project area. Table 8 shows the degree to which accessibility, or “Inter-village Transportation”, improved at 6 villages in different provinces. The figures show clearly that the frequency of inter-village transportation increased after the road improvement/construction.

**Table 8: Improvement of Accessibility**

<b>Location (Province)</b>	<b>Before (trips/day)</b>	<b>After (trips/day)</b>
Cot Girek (DI. Aceh)	16	30
Padang Brahrang (North Sumatera)	n.a	24
Sei Buatan (Riau)	n.a	n.a
Sei Bahar (Jambi)	68	78
Talang Sawit (South Sumatera)	2	12
Ngabang (West Kalimantan)	n.a	1

Source : Socio Economic Study Report for Evaluation of Sub-Project of Production and Collection Roads for NES, January 1997

Notes : Number of samples is 11 in each location.

**(2) Increase of Farmer’s Income**

The same study also surveyed the aggregate monthly income of farmers. Table 9 indicates average incomes before and after the project. Values increased by 1.1 to 6.5 times the original level.

**Table 9: Average Farmer’s Income**

<b>Location (Province)</b>	<b>Before (Rp./month)</b>	<b>After (Rp./month)</b>
Cot Girek (DI. Aceh)	45,750 (50,050)	224,750 (224,750)
Padang Brahrang (North Sumatera)	357,500 (391,105)	425,000 (425,000)
Sei Buatan (Riau)	271,600 (297,130)	375,680 (375,680)
Sei Bahar (Jambi)	331,861 (363,055)	384,725 (384,725)
Talang Sawit (South Sumatera)	180,000 (196,920)	293,400 (293,400)
Ngabang (West Kalimantan)	20,500 (22,427)	132,750 (132,750)

Source : Same as Table 8

Notes : Incomes in parentheses are of substantial basis estimate as of 1995.

It is not easy to quantify how much rehabilitated roads contributed to the increase in farmers’ income because there are other external factors, such as use of irrigation facilities, availability of

low-interest agricultural credit and general reduction of fertilizer prices, that may contribute to economic growth either equally or disproportionately to the assumed effects of road rehabilitation. However, it can be said that without a serviceable road system, farmers would not have attained improvements in income to the extent than they have.

### 2.4.3 Impacts

#### (1) Impacts on FFB (Fruit Fresh Bunch of coconut) transportation

It was expected at the time of appraisal that transportation of FFB to NES factories would increase after road conditions improved. Table 10 shows that the amount of FFB transported has generally increased, as anticipated.

**Table 10: Transported Amount of FFB**

Location (Province)	Before (ton/month/ha)	After (ton/month/ha)	Remarks
Cot Girek (DI. Aceh)	1,346	3,927	
Padang Brahrang (North Sumatera)	1,330	1,394	
Sei Buatan (Riau)	3,037	2,915	long dry season
Sei Bahar (Jambi)	1,305	1,529	
Talang Sawit (South Sumatera)	2.42	6,226	
Ngabang (West Kalimantan)	4.34	465	lack of maintenance program

Source : Same as Table 8

#### (2) Environmental Impacts

There was no considerable negative impact reported by Ministry of Agriculture.

#### (3) Impacts on Society

Table 11 shows several indices that reflect the social impact of the project. In most cases, after the project, people were able to purchase such secondary needs as TVs, Parabola Antennas and Motorcycles, and to access health services by traveling between villages. From these indices, it can be inferred that the component contributed to improving people's living standards.

**Table 11: Social Impact**

Location (Province)	New House Building		Purchase of Secondary needs*		Health Service		Children Birth Hospital	
	Before	After	Before	After	Before	After	Before	After
Cot Girek (DI. Aceh)	0 %	10 %	1. -- 2. -- 3. --	1. 10% 2. 30% 3. 60%	available	available	--	available
Padang Brahrang (North Sumatera)	--	--	1. -- 2. -- 3. --	1. 10% 2. 50% 3. 60%	--	available	--	--
Sei Buatan (Riau)	--	15 %	1. -- 2. -- 3. --	1. 30% 2. 60% 3. 70%	--	available	--	--
Sei Bahar (Jambi)	0 %	15 %	1. -- 2. -- 3. --	1. 30% 2. 60% 3. 70%	--	available	--	--

Talang Sawit (South Sumatera)	--	--	1. --	1. 30%	--	available	--	available
			2. --	2. 60%				
			3. --	3. 70%				
Ngabang (West Kalimantan)	--	--	1. --	1. 5%	--	available	--	--
			2. --	2. 10%				
			3. --	3. 10%				

Source : Same as Table 8

Notes \* : 1 is Parabola Antenna, 2 is Motorcycle, 3 is Television Set

#### 2.4.4 Sustainability

##### (1) Operation and Maintenance

The collection and production roads are maintained by a KUD (Village Cooperation Unit), consisting of farmer volunteers at each NES farm. The condition of the roads, however, is not good. Insufficient maintenance, according to the current project consultant, is the result of the following factors:

- 1) Proper guidelines for road maintenance in Bahasa Indonesia were not provided to KUD.
- 2) Smallholding farmers do not pay much attention to daily O&M activity, such as grass-cutting, side-ditch-cleaning and pothole-filling.

##### (2) Toward Sustainability

This project component contributes to improving the living standards of local farmers to a certain extent, but there is a problem with sustainability. To cope with the prevailing insufficient O&M, KUDs should disseminate guidelines (in the local language) to smallholders. In addition, overloaded trucks are accelerating damage to rehabilitated roads; as the consultant suggests, truck loads should be limited to 5 to 8 tons/trip by the local government.



## 2.5 Establishment of Smallholders Group Processing

### 2.5.1 Efficiency

#### (1) Project Scope

This component originally planned for the establishment of Group Processing Units (GPUs) at 1,175 locations in 10 Provinces (see Figure 4); they were actually realized at 1,204 locations.

**Figure 4 : Location of Group Processing Units**



The GPUs are distributed by Province as summarized in Table 12. There were some changes in allocation on Sulawesi Island, though the balance of the component as a whole is largely maintained.

**Table 12: Comparison of Original Plan and Actual**

Province	Original Plan	Actual
North Sumatera	100	100
Riau	100	100
Jambi	100	100
Lampung	100	100
West Kalimantan	100	100
North Sulawesi	190	150
Central Sulawesi	100	125
South Sulawesi	100	104
Southeast Sulawesi	100	140
Maluku	185	185
Total	1,175	1,204

Source : Ministry of Agriculture

#### (2) Implementation Schedule

This component, implemented by the PIU (Project Implementation Unit) under the Directorate General of Estates, the Ministry of Agriculture, commenced, as scheduled, in November 1993 with the preparation of tender documents. All construction works were completed by July 1995, three months before the original target date of October 1995.

#### (3) Project Cost

Data were not available

## 2.5.2 Effectiveness

### (1) Utilization of GPUs

Table 13 indicates the utilization status of the GPUs established by the project. Performance is not as good in Riau, Lampung and North Sulawesi as in the other Provinces.

**Table 13: Utilization of GPUs**

Province	Total	Utilized	Less or Not Utilized	Damaged
North Sumatera	100	98 (98%)	0 (0%)	2 (2%)
Riau	100	37 (37%)	63 (63%)	0 (0%)
Jambi	100	100 (100%)	0 (0%)	0 (0%)
Lampung	100	61 (61%)	39 (39%)	0 (0%)
West Kalimantan	100	100 (100%)	0 (0%)	0 (0%)
North Sulawesi	150	113 (75%)	36 (24%)	1 (1%)
Central Sulawesi	125	111 (89%)	0 (0%)	14 (11%)
South Sulawesi	104	104 (100%)	0 (0%)	0 (0%)
Southeast Sulawesi	140	140 (100%)	0 (0%)	0 (0%)
Maluku	185	167 (90%)	18 (10%)	0 (0%)
Total	1,204	1,031 (86%)	156 (13%)	17 (1%)

Source : Impact Evaluation of the ADP-I Project, November 1998

According to the project document, the major reason for non-utilization is that farmers would rather sell fresh fruit than copra (processed coconut), since the latter is more profitable in areas near big city markets, such as Jakarta. It is necessary to further investigate the reasons why farmers are not using the GPUs<sup>6</sup>.

## 2.5.3 Impacts

### (1) Impacts on Environment

Since each GPU was established in an existing coconut plantation area and was small in scale, no serious negative impact arose.

### (2) Impacts on Marketing

Performance data on marketing of coconut products are presented in Table 14. After the establishment of the GPUs, the sale of fresh fruits fell from 56% to 36%, while copra's share increased from 27% to 47%.

<sup>6</sup> A further detailed evaluation study is scheduled for 2002, as recommended by the project consultant of Phase II.

**Table 14: Marketing of Coconut Products**

	<b>Before</b>	<b>After</b>
Form of Product		
- Fresh fruit	56 %	36 %
- Fresh flesh	17 %	17 %
- Copra	27 %	47 %
Price of Copra	472 Rp/kg	624 Rp/kg

Source : Same as Table 13 (Value is of average in three province, i.e., Lampung, West Kalimantan and South Sulawesi)

The rise in the average price of copra, from 472 Rp/kg to 624 Rp/kg, suggests that the market for copra improved, making it suitable for the GPU. However, since copra prices tend to fluctuate, selling fresh coconut fruit is sometimes more profitable and stable than selling copra. This is why the farmers prefer to sell fresh fruit.

#### **2.5.4 Sustainability**

##### **(1) Operation and Maintenance**

The O&M of the GPU is to be managed by farmers groups, as stated in the DGE guidelines. Operational procedures should be decided by each group in meetings. The groups will decide the costs of operation and maintenance. If necessary, an operator can be hired and paid by the members of the group. As an alternative, the GPU can be operated by an individual farmer.

##### **(2) Technical Capacity of Farmer's Groups**

In relation to the management of GPUs by farmers groups, the Provincial and District Estate Crop Services have the following support roles:

The District Estate Crop Service, including the Project Implementation Unit (PIU), is responsible for technical guidance and agribusiness operation;

The Provincial Estate Crop Service is responsible for monitoring the operation of GPUs; and

The DGE is responsible for guiding aspects related to product quality.

However, the project consultant claims that farmers have not received appropriate guidance/instruction from the Provincial Estate Crop Service, and, as a result, the utilization of the GPU is lower than originally expected. It is necessary to provide the participating farmers sufficient guidance.

##### **(3) Toward Sustainability**

Most of the GPUs established in this component were utilized, but some have not been, and others have malfunctioned. To cope with this situation, the Provincial Estate Crop Services should pay greater attention to the efficient running of the GPUs and provide appropriate guidance, as mentioned above.

## 2.6 Estate Crop Development in Special Areas

### 2.6.1 Efficiency

#### (1) Project Scope

It was originally planned that Estate Crop Development would take place in 14 Provinces, namely DI. Aceh, North Sumatera, West Sumatera, Riau, Jambi, Lampung, South Kalimantan, East Kalimantan, North Sulawesi, Central Sulawesi, Bali, West Nusa Tenggara, East Nusa Tenggara and Maluku. These areas were slated for development, and the project was completed mostly as planned in terms of target area.

**Figure 5 : Location of Estate Crops Development**



Table 15 shows a comparison of the original and actual scope of works for this component. While the actual developed area is 10,610 ha, originally, development was planned over 16,250 ha, indicating that the realization ratio is only 65%. This low performance was caused by a shortage of funds, a situation that might have arisen during the course of implementation.

**Table 15: Comparison of the Original and Actual Scope of Works**

Province	Original Target (Ha)	Actual (Ha)
DI. Aceh	Rubber: 750	Cocoa: 550
North Sumatera	Rubber: 750 Candlenut: 500	Rubber: 400 Candlenut: 250
West Sumatera	Coffee: 250	Coffee: 350
Riau	Coconut: 500	Coconut: 450
Jambi	Rubber: 1,000	Rubber: 900
Lampung	Rubber: 500 Coconut: 500	Rubber: -- Coconut: 450
South Kalimantan	Coconut: 1,000	Coconut: 900
East Kalimantan	Coconut: 1,000	Coconut: 900
North Sulawesi	Coconut: 3,000	Coconut: 900
Central Sulawesi	Coconut: 3,000	Coconut: 900 Cashew: 300
Bali	Cashew: 1,000	Cashew: 1,110
West Nusa Tenggara	Cashew: 1,000	Cashew: 850
East Nusa Tenggara	Coffee: 500	Coffee: 500
Maluku	Cashew: 1,000	Cashew: 900
Sub-Total by Commodities	Cocoa: -- Rubber: 3,000 Candlenut: 500 Coffee: 750 Coconut: 9,000	Cocoa: 550 Rubber: 1,300 Candlenut: 250 Coffee: 850 Coconut: 4,500

	Cashew: 3,000	Cashew: 3,160
Total	16,250 ha	10,610 ha

Source : Original Scope of Works are quoted from the Project Appraisal

Actual Scope of Works are stated in the report of Estate Crops Development in Special Areas, Impact Evaluation of the ADP-I Project., November 1998

## (2) Implementation Schedule

This component was implemented by the PIM (Project Implementation Unit) under the DGE (Directorate General of Estate), the Ministry of Agriculture, and completed in 1995, as originally scheduled.

## (3) Project Cost

Not available

### 2.6.2 Effectiveness

#### (1) Estate Crops Plantings

Table 16 shows the actual conditions of the Estate Crop Planting Field as of November 1998, when a review study<sup>7)</sup> by the project consultant, presently in charge of the follow-on project, was undertaken. The component of Estate Crop Development was completed in 1995, and it was expected that it would be at least 5 years after the initial planting before farmers could begin significant harvesting. However, the data below only show field conditions as of 1998. Therefore, it is important to bear in mind that the data do not directly indicate the outcome of the component (harvest).

In some provinces, i.e. North Sumatera, West Sumatera, Central Sulawesi and West Nusa Tenggara, an appreciable portion of the developed land was already damaged before it could be harvested. According to a report written by the present project consultant, the factors contributing to the damaged land were poor maintenance and a shortage of adequate funds to ensure sufficient maintenance. In addition, drought and fires have played a significant part in the poor local conditions.

**Table 16: Condition of Estate Crop Field Plantings (as of Nov, 1998)**

Province	Area (Ha)	Condition of Field Plantings (Ha)				Production (kg/Ha)
		Good	Moderate	Less Good	Damaged	
DI. Aceh	Cocoa: 550	--	--	--	--	--
North Sumatera	Rubber: 400	167.0	76.5	56.0	100.5 (25.1%)	*
	Candlenut: 250	28.0	37.0	35.0	150.0 (60.0%)	*
West Sumatera	Coffee: 350	28.0	96.0	74.5	151.5 (43.3%)	--
Riau	Coconut: 450	--	--	--	--	--
Jambi	Rubber: 900	426.0	233.5	173.0	67.5 (7.5%)	*
Lampung	Rubber: --	--	--	--	--	--
	Coconut: 450	337.5	52.0	38.0	22.5 (5.0%)	*
South Kalimantan	Coconut: 900	--	--	--	--	--
East Kalimantan	Coconut: 900	--	384.7	515.3	--	*

<sup>7)</sup> This is the most recent review study (Impact Evaluation of the ADP-I Project).

North Sulawesi	Coconut: 900	--	--	--	--	*
Central Sulawesi	Coconut: 900	271.5	241.8	124.0	262.8 (29.2%)	*
	Cashew: 300	199.6	50.1	11.6	38.7 (12.9%)	*
Bali	Cashew: 1,110	500.0	200.0	310.0	100.0 (9.0%)	*
West Nusa Tenggara	Cashew: 850	567.6	48.8	62.5	171.2 (20.1%)	*
East Nusa Tenggara	Coffee: 500	500.0	--	--	--	--
Maluku	Cashew: 900	819.0	57.0	22.0	2.0 (0.2%)	*
Sub-Total by Commodities	Cocoa: 550 Rubber: 1,300 Candlenut: 250 Coffee: 850 Coconut: 4,500 Cashew: 3,160	* Not yet in production - Data is not available				
Total	10,610 ha					

Source : Estate Crops Development in Special Areas, Impact Evaluation of the ADP-I Project., Nov. 1998

### 2.6.3 Impacts

#### (1) Environmental Impacts

No problems have been reported by Ministry of Agriculture.

#### (2) Socio-Economic Impacts --- Cases in West Nusa Tenggara

For this evaluation, data from estates developed in West Nusa Tenggara, where 850 ha of cashew planting fields were developed under this component, are shown below to facilitate an easy understanding of the project's impact on farmers' economic conditions.

**Table 17: Land Conditions for Cashew Estate in West Nusa Tenggara(as of June, 2001)**

Kabupaten (District)	Kecamatan (Sub district)	Desa (Village)	Area (ha)	Land Condition (ha)			
				Fine	Fair	Worse	Abandoned
Dompu	Pekat	Sorinomo	247.00	218.50	14.25	11.75	2.50
		Pekat	78.00	68.25	4.75	4.25	0.75
		Nonga Miro	100.00	89.25	5.75	4.25	0.75
		<b>Sub Total</b>	<b>425.00</b>	<b>376.00</b>	<b>24.75</b>	<b>20.25</b>	<b>4.00</b>
Bima	Wera	Wora	61.60	26.15	8.35	10.35	16.75
		Sangiang	198.12	94.05	5.95	2.75	95.37
		Pai	125.58	69.43	4.30	15.10	36.75
		<b>Sub Total</b>	<b>385.30</b>	<b>189.63</b>	<b>18.60</b>	<b>28.20</b>	<b>148.87</b>
	Sape	Poja	39.70	2.00	5.40	14.00	18.30
<b>Sub Total</b>	<b>39.70</b>	<b>2.00</b>	<b>5.40</b>	<b>14.00</b>	<b>18.30</b>		
<b>Total</b>			<b>850.00</b>	<b>567.63</b>	<b>48.75</b>	<b>62.45</b>	<b>171.17</b>

Source : Dinas Perkebunan (Estate Crop Services), West Nusa Tenggara Province.

Table 17 above summarizes the actual land conditions for cashew estates in West Nusa Tenggara, as of June 2001. During the field survey, the evaluation mission visited two villages (three farmers) in the Province, namely "Surinomo Village, Sub-District of Pekat, Dompu District", and "Pai Village, Sub-District Wera, Bima District". Major findings from interviews with three farmers in two villages are summarized as follows:

Income level increased at a rate more than 10 times normal.

The number and quality of possessions, such as land/house, cows, trucks, etc. increased, which shows improvement of living standards.

These cases are not sufficient to make an overall assessment of the project impact, but it is possible to say that some farmers who introduced/expanded cashew plantation under this component improved their living standards in economic terms, though the extent of the improvement varies across farming households.

#### **2.6.4 Sustainability**

##### **(1) Operation and Maintenance**

After project completion, the O&M of each Estate Crop Field was managed directly by each farmer. Farmers have to care for their tree crops by applying adequate fertilizer and conducting sufficient pest and disease control.

##### **(2) Technical Capacity**

Since there are so many participating farmers in this component, it is not easy to estimate their technical capacity in O&M activities overall. However, farmers may suffer a common difficulty in implementing pest and disease control, which, according to the current project consultant

##### **(3) Toward Sustainability**

Since the component has just reached the initial stage of harvesting, the expected effect/impact has not been fully realized as of the time of this evaluation. However, observations at some sites indicate that this component is likely to contribute to regional agricultural development. Still, the Provincial Estate Crop Service (Dinas Perkebunan) or others concerned must provide sufficient and appropriate monitoring and guidance, as suggested by the current project consultant, since participating farmers seem to lack technical knowledge/skill in pest and disease control operations.

## 2.7 Fish Landing Place Development

### 2.7.1 Efficiency

#### (1) Project Scope

Fish Landing Place Development (FLP), construction of basic facilities, functional facilities, supporting facilities and provision of equipment and facilities were planned for three locations -- Palopo in South Sulawesi, Manado in North Sulawesi and Manokwari in Irian Jaya -- and were completed as originally planned.

**Figure 6 : Location of Fish Landing Place Development**



#### (2) Implementation Schedule

The FLP Development component was implemented by each Port Authority, established under the DGF (Directorate General of Fisheries), the Ministry of Agriculture. The planned and actual construction schedules are shown in Table 18. The FLP was completed as scheduled, except for work in Manado, which had no official record of the implementation schedule at the time of this evaluation.

**Table 18 : Original and Actual Schedule**

Location	Original Plan	Actual
Palopo, South Sulawesi	Apr. 1994 – May. 1995	Jul. 1994 – Aug. 1995
Manado, North Sulawesi	Apr. 1994 – Jul. 1995	No Information
Manokwari, Irian Jaya	Apr. 1994 – Jul. 1995	Jun. 1994 – Apr. 1995

Source : DGF

#### (3) Project Cost

Not available

### 2.7.2 Effectiveness

#### (1) Utilization of the FLPs

There are no quantitative data showing the current utilization status of the FLPs. However, based on a previous report on Manokwari produced by the project consultants in 1996 and a field survey in Palopo written by the evaluation mission in 2001, it can be said that the FLPs are not as well utilized as originally expected, especially at the Auction Hall. The following are summaries of observations made regarding facility utilization in both Manokwari and Palopo. There was,



unfortunately, no information about the FLP in Manado at the time of this evaluation.

**<FLP in Manokwari>**

The location of the fish market was moved to a new place about 8 km from the FLP, in June 1996, only one year after the FLP's completion. The move was a result of a BAPPEDA order, made for some political reason. The following are the activities of the FLP before and after the relocation.

**Table 19: Activities of the FLP Manokwari before and after the relocation**

Before fish market moved	After fish market moved
<ul style="list-style-type: none"> <li>- Daily landing was about 5 tons, which was unloaded from about 35 units of fishing fleet.</li> <li>- Fishermen unloaded their catch directly to the fish market from coast behind the fish market.</li> <li>- Traders bought the fish directly from the fishermen without auctioning.</li> <li>- There was no auction system, and small boats did not use the wharf constructed under the Project.</li> <li>- There were about 80 traders every day. Some of them were roving traders from other sub-districts.</li> <li>- There were two large fisheries firms always called in the FLP to load fresh water or just to take shelter against the wave.</li> <li>- There was KUD, but it was inactive.</li> </ul>	<ul style="list-style-type: none"> <li>- No more activities in the FLP, since most of the fishermen and fish traders have to move their activities to the new market.</li> <li>- However, large fleets still moor in the FLP.</li> <li>- Daily landings remain 0.5 tons which is unloaded by 3 units of fleets, and it is bought by 4 traders everyday.</li> <li>- Service activity of the FLP is very limited and there no record any kept anymore, since there is no local regulation of the FLP and no rehand-over of the FLP.</li> <li>- There is no systematic record for mooring of the large fleets.</li> <li>- The FLP is still under the Project.</li> <li>- There was KUD, but it was inactive.</li> </ul>

It seems that there was no plan or coordination between the MOA and the Local Government on what should be done after completion of the FLP construction.

**<FLP in Palopo>**

Although the Auction Hall doesn't function as originally planned, the fishermen and fish traders do conduct their daily transactions in the FLP. The following are observations made during the field survey in 2001.

- The fishermen and the traders have not accepted the new Auction system yet, since it is unfamiliar.
- The FLP were not used at all during the first year after completion, because there was no guidance or training at that time. Currently the FLP is utilized as a fish-landing site, not as an auction site.

**(2) Amount of Fish Landing**

Data are not available due to an inappropriate data collection/entry system.

### **2.7.3 Impacts**

#### **(1) Environmental Impacts**

No serious negative impact has been observed by the evaluation team during the site survey of Palopo.

#### **(2) Impacts on Society**

There were no serious problems concerning land acquisition or resettlement during project implementation.

### **2.7.4 Sustainability**

#### **(1) Operation and Maintenance**

Under the original plan, the Port Authority and the KUD (Village Cooperative) were to be in charge of the O&M activities. In actuality, the KUD does not function as a responsible body, because:

Status of the FLP and the KUD's responsibilities are not clear. This situation should be officially remedied as soon as possible through the enactment of an appropriate Local Regulation.

The Auction system has not functioned at all since project completion; the customary marketing system (direct transaction between fishermen and fish trader) remains in place. This situation suggests that fishermen or the KUD have no idea how to run the auction system as a fee/charge-based system.

#### **(2) Toward Sustainability**

As discussed above, a local regulation for the FLP should be established as soon as possible in order to clarify use of the FLP. Managerial functions would be supported by this regulation. The local government should be active in creating such regulations for making the FLP sustainable. In addition, the dissemination of information to fishermen/traders is necessary for the purpose of promoting the auction system and is best undertaken simultaneously with the establishment of regulations in order to maximize the synchronous effectiveness of both management and utilization functions.

## 2.8 Overall Evaluation

Table 20 indicates per capita GRDP by province from 1996 to 1999. In general, economic status did not improve during this period, and a stagnation can be seen after 1997, when the economic crisis hit the country. However, in some provinces, i.e., West Sumatera, Riau, West Kalimantan, where parts of the project were implemented, the GRDP rose above the national average in certain years. Since each project component is not big enough to bring significant impact to a region, the degree to which the project has contributed to improving the regional economy cannot be assessed. However, as seen from this evaluation, the living standard of many beneficiaries (such farmers as in West Nusa Tenggara) improved after the project.

**Table 20: Per Capita Gross Regional Domestic Product w/o Oil & Gas (1996-1999)**

(Rupiahs)

Province	Component Category					1996	1997	1998	1999
	A	B	C	D	E				
<b>SUMATRA</b>						<b>1,712,346</b>	<b>1,788,530</b>	<b>1,619,534</b>	<b>1,625,548</b>
1 Aceh Special District	O	O		O		1,656,906	1,715,696	1,589,337	1,527,419
2 North Sumatra	O	O	O	O		2,130,123	2,250,437	1,980,025	2,009,130
3 West Sumatra				O		1,847,146	1,931,079	1,795,439	1,809,095
4 Riau		O	O	O		1,923,734	2,020,292	1,911,314	1,918,719
5 Jambi		O	O	O		1,372,119	1,394,009	1,246,896	1,257,669
6 South Sumatra		O				1,636,817	1,702,893	1,520,362	1,511,013
7 Bengkulu						1,301,149	1,316,983	1,212,165	1,209,546
8 Lampung	O		O	O		1,089,560	1,123,015	1,034,159	1,050,391
<b>JAVA</b>						<b>2,071,484</b>	<b>2,138,805</b>	<b>1,758,911</b>	<b>1,763,301</b>
9 DKI Jakarta						7,998,277	8,393,272	6,914,252	6,813,901
10 West Java						1,620,751	1,666,552	1,325,505	1,341,760
11 Central Java						1,338,350	1,369,195	1,168,591	1,204,950
12 DI Yogyakarta						1,686,733	1,734,402	1,528,329	1,568,182
13 East Java						1,834,546	1,898,058	1,580,162	1,578,460
<b>JAVA &amp; BALI</b>						<b>2,079,775</b>	<b>2,148,147</b>	<b>1,774,568</b>	<b>1,778,523</b>
14 Bali						2,399,413	2,508,160	2,377,722	2,364,761
<b>KALIMANTAN</b>						<b>2,706,883</b>	<b>2,821,661</b>	<b>2,638,783</b>	<b>2,647,126</b>
15 West Kalimantan		O	O			1,907,627	2,020,390	1,896,126	1,918,235
16 Central Kalimantan	O					2,495,991	2,584,054	2,342,622	2,278,000
17 South Kalimantan	O					2,112,147	2,177,027	2,006,967	2,010,393
18 East Kalimantan	O			O		4,919,364	5,095,237	4,821,379	4,844,109
<b>SULAWESI</b>						<b>1,237,498</b>	<b>1,276,246</b>	<b>1,197,014</b>	<b>1,220,616</b>
19 North Sulawesi			O	O	O	1,336,714	1,389,866	1,338,907	1,396,224
20 Central Sulawesi	O		O	O		1,159,873	1,191,040	1,121,786	1,130,886
21 South Sulawesi			O		O	1,274,997	1,314,788	1,225,062	1,247,261
22 Southeast Sulawesi			O			986,974	1,010,564	925,699	922,865
<b>OTHERS</b>						<b>1,407,900</b>	<b>1,468,796</b>	<b>1,493,097</b>	<b>1,396,109</b>
23 West Nusa Tenggara				O		882,413	916,783	871,403	881,404
24 East Nusa Tenggara	O			O		736,942	763,660	728,821	734,687
25 Maluku	O		O	O		1,549,856	1,594,809	1,490,127	1,080,522
26 Irian Jaya					O	3,558,181	3,731,718	4,103,667	3,889,851
27 East Timor						805,992	820,803	785,949	--
<b>ALL PROVINCES (average)</b>						<b>1,938,460</b>	<b>2,008,187</b>	<b>1,731,048</b>	<b>1,731,285</b>

Note : At constant 1993 market prices by province

Category of the component implemented in the Project (IP-404)

A : SSID (Small Scale Irrigation Development) in Central Sulawesi, and Land Development

B : Rehabilitation of Collection and Production Roads of Nucleus Estate and Smallholder Development

C : Establishment of Smallholders Group Processing

D : Estate Crops Development in Special Areas

### **3 . Lessons Learned**

#### **Local resources should be utilized flexibly to make project implementation efficient.**

As stated in 2.4 Rehabilitation of Collection Road and Production Roads of Nucleus Estate and Smallholder Development, for this type of nationwide, scattered project, unit prices in procuring such local resources as construction materials, manpower and heavy equipment should be set in a flexible manner in order to take advantage of actual local market conditions. This will promote maximum utilization of project funds and more practical implementation.

#### **A project monitoring system should be established/improved.**

Since the project consists of a number of sub-projects with sites scattered all over the country, it is difficult to establish a centralized project monitoring system. Even if one were implemented, it would not function properly because data are not organized to provide evaluative indicators promptly as required. Under the current decentralization of the government, a monitoring system for this type of the project should be arranged at the provincial level, taking into consideration each government’s capability and staff needs.

#### **The partnership between farmers and the local government should be strengthened, and clear role-sharing among stakeholders should be established.**

This project includes new production and marketing schemes for Indonesia’s agriculture sector , i.e., Estate Crop Development, Establishment of Group Processing Units and Fish landing Place Development. It has been observed through this evaluation that, as for introducing new production/marketing schemes, farmers have limited knowledge in technical skill areas as well as in operation issues. It is necessary to establish a legal environment, if so required, to define the role-sharing responsibilities for the O&M activities among stakeholders, namely the Central Government, the Local Government and the Beneficiaries (farmers), based on mutual understandings reached and established before starting the project.

### Comparison of Original and Actual Scope

Item	Plan	Actual
<b>(1) Project Scope (Summary)</b>		
1. Small Scale Irrigation Development in Central Sulawesi	21,267 ha (56 sites in Central Sulawesi)	17,610 ha (55 sites)
2. Land Development	12,014 ha (9 provinces, 41 sites)	12,238 ha (9 provinces, 51 sites)
3. Rehabilitation of Collection and Production Roads of Nucleus Estates and Smallholder Development	905 km (6 provinces) (Palm Oil Estate)	941 km (6 provinces) (Palm Oil Estate)
4. Establishment of Smallholder Group Processing	1,175 sites (10 provinces)	1,204 sites (10 provinces)
5. Estate Crops Development in Special Areas	16,250 ha (14 provinces, 30 sites)	10,610 ha (14 provinces, 30 sites)
6. Fish Landing Development	3 ports (Palopo, Manado, Manokwari)	as planned
7. Consulting Services for Monitoring and Evaluation	N.A	N.A
<b>(2) Implementation Schedule</b>		
1. Loan Agreement	Oct. 1993	Nov. 1993
2. Selection of Consultant	Jul. 1993 – Jun. 1994	Nov. 1994 – Jul. 1995
3. Main Works	Apr. 1994 – Mar. 1995	Nov. 1995 – Jan. 1996
3-1. SSID in Central Sulawesi		
-Consulting Services	Jul. 1994 – Dec. 1997	Jan. 1994 – Oct. 1997
-Preparatory Works	Apr. 1994 – Mar. 1995	Jul. 1995
-Civil Works	Jan. 1995 – Dec. 1997	Jul. 1995 – Jan. 1998
-Procurement of Equipment	Jan. 1995 – Dec. 1996	
-Land Acquisition	Jan. 1995 – Dec. 1996	
3-2. Land Development		
-Tendering & Contracts for Survey & Design	Jan. 1994 – Mar. 1994	Sep. 1994 – Nov. 1996
-Survey, Investigation and Design	Apr. 1994 – Sep. 1994	
-Implementation of Environmental Study (AMDAL)	Apr. 1994 – Jun. 1994	
-Tendering & Contracts for Civil Works	Oct. 1994 – Dec. 1994	
-Civil Works	Jan. 1995 – Jun. 1995	
-Consulting Services for	Jul. 1994 – Dec. 1995	

Monitoring -Consulting Services for Evaluation and Preparation of Next Proposal	Jul. 1994 – Dec. 1994	
3-3. Rehabilitation of Collection Roads of Nucleus Estate and Smallholder Development		
-Design & Preparation of Tender Documents	Nov. 1993 – Jan. 1994	as original
-Procurement of Civil Works	Feb. 1994 – Apr. 1994	ditto
-Civil Works	May 1994 – Oct. 1994	Mar 1994 – July. 1995
-Consulting Services for Monitoring	Jul. 1994 – Jan. 1995	May 1995 – Aug. 1996
-Consulting Services for Evaluation	Nov. 1995 – Feb. 1996	Sep. 1996
3-4. Establishment of Smallholders Group Processing		
-Survey, Design and Preparation of Tender Document	Nov. 1993 – Jan. 1994	Nov. 1993 – Jan. 1994
-Procurement for Civil Works	1) Feb. 1994 – Apr. 1994 2) Feb. 1995 – Apr. 1995	Feb. 1994 – Apr. 1995
-Civil Works	1) May 1994 – Oct. 1994 2) May 1995 – Oct. 1995	Mar. 1994 – Jul. 1995
-Consulting Services for Monitoring	Jul. 1994 – Oct. 1995	May. 1995 – Aug. 1996
-Consulting Services for Evaluation	May 1996 – Aug. 1996	Sep. 1996
3-5. Estate Crops Development in Special Areas		
-Socio-Economic Survey before Implementation	1) Feb. 1994 – Mar. 1994 2) Feb. 1995 – Mar. 1995	N.A N.A
-Procurement and Distribution of Farm Inputs	1) Jun. 1994 – Mar. 1995 2) Jun 1995 – Mar. 1996	N.A N.A
-Field Development	1) Oct. 1994 – Feb. 1995 2) Oct. 1995 – Feb. 1996	N.A N.A
-Consulting Services for Monitoring	Jul. 1994 – May 1996	
-Consulting Services for Evaluation	May 1996 – Aug. 1996	N.A
3-6. Fish Landing Development		
-Tendering and Contracts for Civil Works	Nov. 1993 – Mar. 1994	N.A
-Construction of Fish Landing Place		
--PPI Palopo	Apr. 1994 – May 1995	Jul. 1994 – Aug. 1995
--PPI Manado	Apr. 1994 – Jul. 1995	N.A
--PPI Manokwari	Apr. 1994 – Jul. 1995	Jun. 1994 – Apr. 1995
-Consulting Services for Monitoring	Jul. 1994 – Dec. 1995	N.A

8. Completion	Dec. 1997 (SSID in Central Sulawesi) Aug. 1996 (other agricultural projects)	Jan. 1998  N.A
(3) Project Cost  Foreign currency Local currency  Total ODA loan portion Exchange Rate	1,508 million yen 6,396 million yen (108,409 million Rp) 7,904 million yen 6,718 million yen 1Rp. = 0.059 yen (as of Apr. 1993)	N.A N.A  N.A 6,397 million yen N.A

## **Independent Evaluator's Opinion on the Agricultural Development Project**

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The objective of this Agricultural Development Project (ADP) realized through its six project components generally aimed at promoting economic and social development in rural areas is still very relevant with current priority of the national development policy of the country.

As far as project efficiency is concerned, the target set under ADP was satisfactorily met but that of the ECD component, which could actualize 65% only of the targeted output. Completion date itself was generally good, while there was a delay in Land development component due to area expansion. However, financial efficiency was measurable only for several components due to poor availability of the project financial data.

Summarizing the ADP effectiveness, it could be generally said that the project was very effective in providing the short-term gain of the project in the form of physical improvement of agricultural performance. However, to come up with better income and welfare effectiveness, local participation and socio-economic preparation should have been better accommodated in the project appraisal and implementation.

In general it could be generalized that there were no serious negative impacts connected with the implementation of the ADP. However, at the positive side, it must be admitted that short-term impact could be well provided by the project although JBIC has to realize that the long-term impacts would be very dependent upon the post project monitoring and management.

ADP planning and appraisal were criticized by independent evaluator as too generalized and very construction-based, accompanied by minimum socio-institutional development. Due to this fact, therefore, locality consideration, the level of local participation, post production O&M, and commercial performance of the ADP could be generally said as very poor and needs to be improved. Intervention strategies towards the enhancement of sustainability prospect are urgently required.

The ADP planning and appraisal were also proven to have limited capacity in providing necessary guideline and consideration for the post-project management in ensuring the sustainability performance of the project. This must be perceived as the responsibility of both the borrower and the lender involved in this project.