

Indonesia

Rural Areas Infrastructure Development Project (3)

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Field Survey : Sep. 2007 - Mar. 2008

1. Project Profile and Japanese ODA Loan



Map of Project Area



Bridge Constructed by Local
Community Group
(West Nusa Tenggara Province)

1.1 Background

As the World Bank admired their performance as “The East Asian Miracle” in its research report in 1993, East Asian countries achieved rapid economic growth during the period from 1965 until the beginning of 1990s. Indonesia also successfully recorded a high rate of average annual economic growth of 7% within 20 years from 1976 to 1996. Being supported by such favorable economic circumstances, the number of population living in poverty in Indonesia reduced from the 50 million to 20 million levels and its poverty headcount ratio drastically dropped from 40% to 11%. However, the Asian Financial Crisis that widely attacked East Asian countries just after that prosperous period seriously damaged the Indonesian economy and depressed its Gross Domestic Product (GDP) in 1998 down to -13.7% against the previous year. Concurrent hyper-inflation and upsurge of unemployment rate swelled population in poverty up to the 50 million level and pulled the poverty ratio in the countryside back to 26%, which is almost equivalent to the level in the 1980s. These circumstances urged Indonesia to take emergency measures to tackle poverty as one of the most prioritized objectives in the country’s development policy.

1.2 Objective

To promote sustainable economic development and enhancement of self-reliant capacity of the regions involved by developing basic rural infrastructures; such as access infrastructure, water supply, sanitation and small-scale irrigation facilities, in 14 provinces (Nanggroe Aceh Derussalam <NAD>, North Sumatra, West Sumatra, Riau, Jambi, South Sumatra, Bengkulu, Lampung, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, South Sulawesi and West Nusa Tenggara <NTB>), and thereby contributing to the poverty alleviation in Indonesia.

1.3 Borrower/Executing Agency : Government of Indonesia / (Coordinating Agencies) Deputy for Regional Development and Local Autonomy, National Development Planning Agency (BAPPENAS), Ministry of Finance, (Executing Agencies) Directorate General (D.G.) of Human Settlement, Ministry of Public Works, D.G. of Regional Development, D.G. of Community Empowerment, Ministry of Home Affairs

1.4 Outline of Loan Agreement

Loan Amount/Disbursed Amount	20,039 million yen/19,906 million yen
Exchange of Notes/Loan Agreement	March 2001 / July 2001
Terms and Conditions - Interest Rate - Repayment Period - Grace Period - Procurement	1.8% (Consulting Service 0.75%) , 30 years (Consulting Service 40 years) 10 years General Untied (Consulting Service Bilateral Tied)
Final Disbursement Date	October 2005
Main Contractors (over 1 billion yen)	N/A
Consulting Services (over 100 million yen)	Pacific Consultants International (Japan), PT. Mitrapacific Consulindo International (Indonesia)

Feasibility Study(F/S), etc.	N/A
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2. Evaluation Result (Rating: A)

2.1 Relevance (Rating: a)

2.1.1 Relevance at the Time of Appraisal

The Indonesian Government has focused its development efforts on dual goals to attain “economic growth” and “equal distribution of national wealth” since the Third Five Year National Development Plan (REPELITA III, 1979~1983), however, the rapid economic growth until the mid-1990s brought increasing income differentials among people as well as regional economic disparity. To cope with this serious issue, the government put stronger emphasis on redressing the gaps and poverty reduction since the 5th Five Year National Development Plan (REPELITA V, 1989~1993), and launched the Integrated Area Development Program and other related programs which directly target the low-income group living in poverty. Aiming at the quantified targets to reduce the number of population in absolute poverty from 25.9 million (13.7% of the total population) in 1993 to 12 million (6%) by 1999, the government accelerated its steps for poverty alleviation in succeeding REPELITA VI, 1994~1999. The government started programs to implement the policy specifically targeting villages officially identified as a “backward village (desa tertinggal)”¹ by the Central Bureau of Statistics (BPS: Badan Pusat Statistik). They were inherited by the new national development plan, PROPENAS (2000~2004), which replaced REPELITA under the Wahid regime emerged after the withdrawal of the former president Suharto in 2000. Along a series of the policy measures above, the government started the programs of “INPRES Desa Tertinggal: Presidential Instruction for Backward Villages” and basic infrastructure development of backward villages in 1994. The preceding “Rural Infrastructure Development Projects Phase 1 and 2” were to implement the latter scheme focusing on potential villages by developing access infrastructures (road, jetty, etc.), simple water supply and sanitary facilities. Covering approximately 11,000 villages which account for 17% of the total villages of Indonesia and 40% of the total backward villages, the projects contributed toward the economic activation and income increase in the regions involved. This Project, its Third phase introduced small-scale irrigation facilities

¹ There were 20,633 villages that were identified as “Desa Tertinggal,” which accounts for 31% of the total number of 65,554 villages throughout Indonesia in 1994.

as a new component and strengthened involvement of local people from the preparation stage. The Project was thus important from the viewpoint of promoting self-sustaining regional development through basic village infrastructure improvement with strengthened people's participation.

2.1.2 Relevance at the Time of Ex-post Evaluation

The "Medium-Term National Development Plan (Rencana Pembangunan Jangka Menengah Nasional : RPJM-N) <2004~2009>" specifies four objectives as follows for achieving the "Social Peace (Kesejahteraan Masyarakat)" of the Indonesian nation which is one of the prioritized agenda for national development during the plan period.

- (1) Reduction of poverty and unemployment
- (2) Alleviation of economic and social disparities among regions
- (3) Human resource development
- (4) Strengthening of infrastructural development support

RPJM-N Chapter 16 on poverty reduction stresses the importance of development promotion by means of improving basic infrastructures including electricity, water-supply and access facilities (roads, etc.). The significance of rural infrastructure development is also emphasized in Chapter 13 (Decentralization and Regional Autonomy), Chapter 26 (Regional Development) and Chapter 33 (Infrastructure Development) from the respective standpoints. The government work plan (RKP: Rencana Kerja Pemerintah) of BAPPENAS in 2007 declares that the poverty reduction is one of the most prioritized development goals and promotes rural poor people's access to food, education, and basic infrastructures such as water supply and sanitary facilities.

The discussions with local people and governments in the field survey of the ex-post evaluation also indicate high need for infrastructure development and capacity strengthening for autonomous program implementation and operation through direct participation.

Thus, the Project corresponds to the national and other relevant development plans of Indonesia both at the times of appraisal and ex-post evaluation, and remains to be highly relevant.

2.2 Efficiency (Rating: a)

2.2.1 Output

The rural infrastructures developed under the Project are listed in the table

below. Rural villages involved amount to 8,060.

Table 1 : Infrastructures Developed by Type of Facility

Output	Planned Quantity		Actual Output		
			Quantity		Number of Villages Involved
1. Access Infrastructure					
(1) Road	11,940m		11,934m		3,704
(2) Bridge	70,909m		3,677bridges 70,850m		1,846
(3) Jetty	472 units		471 units		244
2. Water Supply Facilities					
(1) Water Pipe	1,097km		1,097km		816
(2) Other Facilities	4,031units		4,064 units		
3. Sanitary Facilities (MCK ²)	1,970units		1,968 units		469
4. Small-Scale Irrigation					
(1) Irrigation canals and drainage	1,423km	23,625 ha	1,423km	23,625 ha	981
(2) Other Irrigation Facilities	353 units		349 units		

This Project is financed under the scheme of Project Type Sector Loan (PTSL)³ in which small-sized works are taken as sub-projects in accordance with the local needs. The “Planned Quantity” in the Table 1 above was fixed during the selection of sub-projects in Project implementation. In addition to the physical components, the Project also provided training for capacity building of local communities and governments to enable them to plan, implement, operate and maintain the sub-projects by themselves. The construction works were executed by local contractors (KSO <Kerjasama Operasional> Method) or by local communities (OMS <Organisasi Masyarakat Setempat> Method), and the fact that OMS increased from 4,447 cases (at the time of Project commencement in 2001) to

² Mandi, Cuci, Kakus: Indigenous Indonesian complex facilities comprising a set of “bath (mandi),” “washhouse (cuci)” and “toilet (kakus).”

³ A type of project loan which collectively finances multiple small-scale sub-projects in a specific sector, while the other ordinary loans fund a single larger-scale project.

7,486 cases (in 2003) indicates the effect of the capacity building above⁴.

The number of man-month of consulting services was 2,136MM, 25% increase from the originally planned 1,710 MM, to deal with two kinds of programs⁵ to train local communities and governments added to the original scope to meet the necessity identified during the Project implementation.



Tertiary irrigation canal (South Sulawesi) & bridge (West Nusa Tenggara) under construction by local communities

2.2.2 Period

Under the initial plan, the project period was from July 2001 to May 2004 (35 months), but the actual project period was from July 2001 to September 2005 (51 months), which turned out 46% longer than planned. This is due to the extension of the implementation period to perform two additional training programs above added to the original Project scope. The delay of project completion is excluded from the evaluation of the project period because the original scope was completed within the schedule.

2.2.3 Project Cost

Planned project cost was 23,576 million yen (of which Japanese ODA loan was 20,039 million yen), and the total project cost at the time of ex-post evaluation

⁴ In the succeeding Rural Infrastructure Development Project (phase 4) now under preparation, all the sub-projects are supposed to be implemented by means of OMS.

⁵ (1) "Pilot Institutional Training" for leaders on sub-project planning and formulation in 4 pilot Kabupatens (Districts)
(2) Short-term "Sustainability Training" on operation and maintenance after completion in all the Kecamatans (Sub-districts) involved in the Project.

was 23,728 million yen (of which Japanese ODA loan was 19,906 million yen), 0.6% more than planned. This is due to the nominal expansion of the yen-converted rupiah currency portion applying the exchange rate 4% higher than the one applied at the cost estimation in the Project appraisal, and to the additional consulting services cost brought by the additional training programs.

Both the project period and cost are almost within the initial plan, and therefore the efficiency of this project is judged to be extremely high.

2.3 Effectiveness (Rating: a)

2.3.1 Effectiveness Measurement by Operation and Effect Indicators

The Project consists of an enormous numbers of small-scale sub-projects scattered in total of more than 8,000 villages in 14 Kabupatens, which makes it difficult to set individual quantitative targets of relevant operation and effect indicators for each sub-project. Therefore, JBIC and BAPPENAS reached an agreement upon signing the loan agreement to jointly evaluate the Project performance two years and seven years after the Project completion based on predetermined 14 relevant indicators of village potentiality statistics (PODES: Potensi Desa) compiled by BPS. The actual figures of 14 indicators were once collected in 2002, however, consistent and meaningful comparison of these indicators became unable afterward because BPS changed indicator items of PODES⁶. To make up for this methodological deficiency, the ex-post evaluation study took a micro approach by conducting a beneficiary survey in four provinces; namely, Jambi (Sumatra Island), South Sulawesi (Sulawesi Island), West Kalimantan (Kalimantan Island) and West Nusa Tenggara (Lombok Island) Provinces⁷.

2.3.2 Result of Beneficiary Survey

The beneficiary survey consists of two types of interviews; namely, (1) Focused Group Discussion (FGD) inviting key persons who have been or are being directly involved in the planning, implementation, operation and maintenance of the sub-projects and (2) separate interviews to individual beneficiaries. Therefore the analysis of the survey results below is based on the information obtained from both. The numbers of respondents classified by provinces and sorts of facilities developed are shown in the following table. Although the majority of the

⁶ See 3. Conclusion, Lessons Learned and Recommendations

⁷ A wider beneficiary survey was conducted as a part of the consulting services in the Project under the scheme of "In-depth Evaluation Study." The survey interviewed 280 respondents in all 14 provinces by comparing the results with the baseline data collected in 2000 beforehand, and reached similar conclusion as this ex-post evaluation beneficiary survey. This evaluation report refers to the results of the In-depth Evaluation Study as needed basis.

Provinces involved in this project are located in Sumatra (8 provinces) and Kalimantan (4 provinces) Islands, samples were taken from four islands evenly to enable regional comparison of difference which inherently reflects indigenous culture and behavior especially under this kind of local-based project. Moreover, while field visit was very difficult as almost all facilities developed under the project are located in remote areas, the visited sites were evenly selected according to types of facilities within physically accessible areas.

Table 2 : Numbers of Respondents by Province and Facility
(Unit: persons)

Province \ Facility	Access Infrastructure			Irrigation	Water Supply	Sanitation	Total
	Road	Bridge	Jetty				
South Sulawesi (Sulawesi Island)	8			7			15
West Nusa Tenggara (Lombok Island) ⁸		9			6		15
Jambi (Sumatra Island)	8					7	15
West Kalimantan (Kalimantan Island)			9	7			16
Total	16	9	9	14	6	7	61

1. Access Infrastructures (South Sulawesi, West Nusa Tenggara, Jambi and West Kalimantan Provinces)

(1) Access time reduction to key life and activity spots (Roads and Bridges)

The study picked up seven key spots which are generally important for people's daily life, and asked local residents who utilize the access facilities about the change of access time to the nearest spots after the Project.

⁸ The beneficiary survey in West Nusa Tenggara Province asked people about the effect and impact of the bridge, but small roads on both sides of the bridge were also improved.

Table 3 : Access Time Reduction to Key Life Spots

Key Life Spots	Access Time (Minutes)		Access Time Reduction in Average
	Before Project	After Project	
Asphalt Road	22	10	55%
Shopping Market	44	24	45%
Terminal ⁹	29	14	52%
Clinic	22	14	36%
Village Office	23	15	35%
Kecamatan Office	46	31	33%
School	14	10	29%

The beneficiaries answered that the access time was reduced by quarter up to half overall, which shows remarkable improvement in mobility and convenience in their daily life activities. In addition, 37% (South Sulawesi), 89% (West Nusa Tenggara) and 50% (Jambi) of the beneficiaries told the number of merchants calling to the villages increased after the Project. The jetty sub-project in West Kalimantan is only improvement of an existing facility with upgraded material, therefore no significant effect on access time reduction was reported. However, it enabled passengers to load bigger and heavier goods onto the ships thanks to the strengthened jetty.



Ferryboat Passengers on Improved Jetty in West Kalimantan

Strengthened Jetty enabled transport of motorbikes, which considerably enhanced people's mobility¹⁰.

(2) Indirect Effect

The realized reduction of the access time as the direct project effect enabled smoother transportation and communication within the region benefited.

⁹ Terminal for local public transportation like ojek (motorbike), mini bus, etc..

¹⁰ Previously, passengers had to walk to their ultimate destinations after getting off the ships, but they can travel to their destinations by motorbikes now.

Additional questions were given regarding the indirect effect on income, education, health and activation of community socialization and the result is shown in the table below.

Table 4 : Other Indirect Effect

Question	Percentage of Positive Answers		
	South Sulawesi	West Nusa Tenggara	Jambi
Income Increase after Project	88%	100%	100%
Positive Relation of Income Increase with Access Facilities Developed	100%	78%	100%
Income Increase from Diversified Income Source	49%	22%	63%
Improvement of Children Education	75%	89%	50%
Improvement of Family Health	100%	100%	13%
Increased Opportunities for Social Activities	75%	100%	88%

The effect on income increase is noticeable. In three provinces surveyed where improved roads and bridges successfully activated people's transport by reducing access time to key spots, most of the respondents affirmed benefit of the Project on their income increase. In addition, the people in two provinces having the roads developed mentioned diversified income sources as one of the main causes for their income increase. Positive impacts on improvement of education and health were achieved by realized easier access to schools and clinics, and more frequent visits of outer-village doctors and nurses are also recognized as influential factors. Additionally, the increased social activities promoted by the people's collaborative participation in the project implementation is also significant.

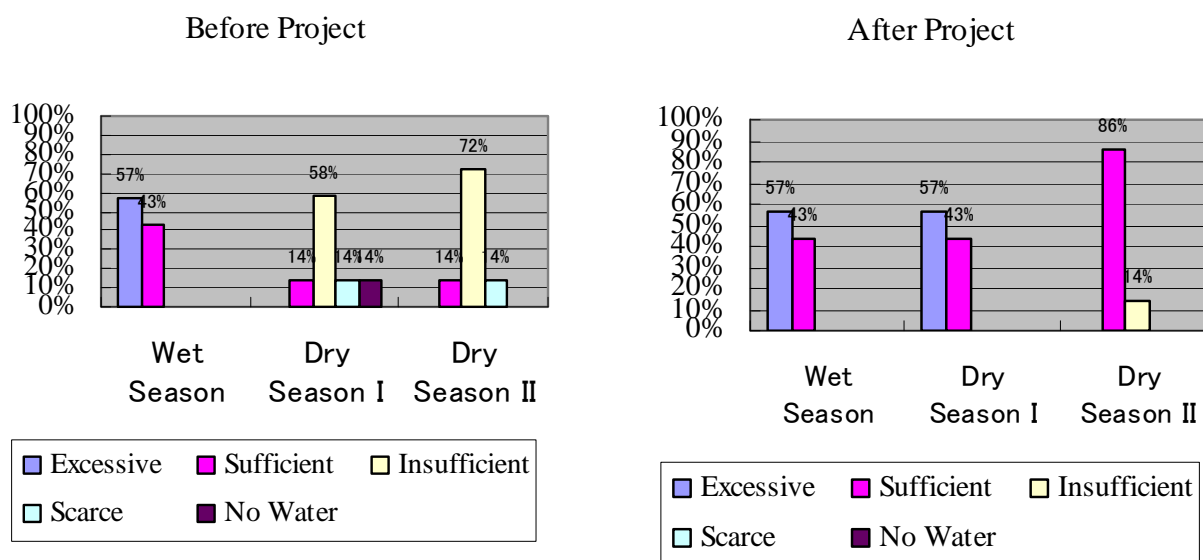
2. Small Irrigation Facilities (South Sulawesi, West Kalimantan Provinces)

(1) Improvement in Water Sufficiency for Agriculture

A year in Indonesia consists of (1) a wet season from October to March, (2) the first dry season from April to June and (3) the second dry season from July to September. The following graph illustrates a summary of beneficiary answers on

the extent of sufficiency of total agricultural water available, rainfall and irrigation water inclusive. The small-scale irrigation sub-project in South Sulawesi improved tertiary canals which distribute irrigation water to the farm fields with concrete lining, and it remarkably improved the water sufficiency in dry seasons¹¹.

Figure 1: Change of Water Sufficiency for Agriculture



(2) Change of Cropping Pattern

Indonesian agriculture is characterized in general as multiple cropping to plant rice and palawija (non-rice crop planted between the rice seasons) on the same farmland. The next table summarizes answers of beneficiary farmers in South Sulawesi on the change of cropping pattern after the Project. No change occurred among double-rice-cropping farms, whereas some multiple cropping farms planting rice and palawija once a year became able to crop rice twice a year after the Project.

¹¹ This beneficiary survey on the water sufficiency interviewed only a limited number of seven farm households whose tertiary irrigation canals were improved. Since their answers tend to be influenced by their subjective judgement, the result is often inconsistent, for instance, no farmer complained on “no water during the second dry season” and the percentage of those who answered “excessive” in the first dry season is the same as the answers for the wet season. However, the overall trend indicates remarkable improvement in sufficiency of agricultural water in general.

Table 5 : Change of Cropping Pattern

Cropping Pattern	Before Project	After Project
Rice 1		
Rice 1 + Palawija 1	14%	
Rice 2	14%	14%
Rice 2 + Palawija 1	72%	86%

(3) Rice Production Increase

The response from the beneficiary farmers in South Sulawesi indicates an increase in unit rice yield by 23% in the wet season and 30% in the dry seasons, while no conspicuous change regarding agricultural water sufficiency and cropping pattern was found in West Kalimantan where the sub-project was to rehabilitate drainage canals. 40% of the farmers there mentioned yield increase after the Project, but 40% recognize no change and 20% experienced decrease after the Project. Because change of crops from rice to rubber plants is widely in progress in West Kalimantan¹², the rehabilitation of drainage which was meant to support rice production could not directly stimulate rice production to increase.

(4) Income Increase

71% of the respondents in South Sulawesi and 43% in West Kalimantan affirm their income increase after the Project. As already observed, income increase brought by improved access facility could be attributed to income source diversification, whereas in the case of small-scale irrigation, the income increase is almost purely related to agricultural production (84% answered) and the ratio of non-agricultural income in total income has decreased by 10% in two provinces surveyed.

¹² Appreciation of international rubber price would be the main reason.

3. Water Supply Facilities (West Nusa Tenggara Province)

(1) Change in Water Sources for Daily Life

Table 6 : Water Sources Before and After Project

Water Use	Before Project	After Project
Drinking	Spring	Project Facility
Cooking	Spring	Project Facility
Washing (Clothes)	River	Project Facility
Washing (Vehicles)	River	Project Facility
Bathing	River	Project Facility

The people relied on natural water like springs and rivers for their daily use before the Project, and 100% of the beneficiaries told that they started using the water supply facility prepared by the Project. In addition, they responded that the time of water drawing had been significantly saved.

A part of Water Supply Facilities
(West Nusa Tenggara)
Small pipes in front distribute water
to end users.



(2) Improvement of Health Conditions¹³

Improvement in family health is also remarkable. All respondents answered that (1) less frequently family members get ill and (2) medical expenditure in household expenses has been reduced.

¹³ Also in the “In-depth Evaluation Study” in 2004 (See footnote.7), 92% of the beneficiaries mention the Project’s contribution to the reduction in epidemic diseases and 98% affirm general improvement of family health. (As collective effect of water supply, sanitary and access infrastructure facilities as a whole.)

4. Sanitary Facilities (Jambi Province)

(1) Use of Sanitary Facilities

A set of the sanitary facilities provided by the Project usually consists of “well,” “water tank,” “MCK¹⁴” and “drainage.” The case observed in the beneficiary survey in Jambi showed that the MCKs were not fully used, contrarily the well was being effectively utilized to supply clean water for people’s daily use. The main reasons of the underutilizations of the MCKs are due to the fact that (1) they are still located within the accessible distance from the river, which discourages incentive for switching their behavior to use public toilets, and (2) the facilities are left damaged due to poor maintenance or diverted to storage use because of relatively weak demand. Although the direct use of the facility has not been satisfactory, the Project gradually inspired people’s sanitary mind and encouraged their actions to install house toilets of their own after the Project even though the number of cases is still limited. The Project location consists of 6 RT (Rukun Tetangga: Autonomous Village Unit) and percentages of households having house toilets are gradually increasing up to the percentages shown in the table below.

Table 7 : Ratio of Households Equipped with House Toilet

RT	Ratio
RT 1	20%
RT 2	20%
RT 3	17%
RT 4	10%
RT 5	13%
RT 6	13%

It takes time to widely diffuse sanitary mind among rural people, however, the installation of the MCKs under the Project has been gradually popularizing the use of public toilets even though it has not been reached a sufficient level yet. Especially, 100% of the residents of RT 5 and 6 which are located far from the river now use the facilities installed under the Project. The contribution of the MCKs to the people’s enhanced sanitary mind was also pointed out at the FGD of this beneficiary survey.

¹⁴ Cf. Footnote 2 on the page 5.

Table 8 : Utilization of Public Toilets

RT	Place to Defecate				
	Before Project		After Project		
	River	Field	River	Field	Project Facility
RT 1	100%		70%		30%
RT 2	100%		60%		40%
RT 3	100%		60%		40%
RT 4	100%		80%		20%
RT 5		100%			100%
RT 6		100%			100%

Sanitary Facilities (Well, Water Tank and MCK)
(Jambi Province)



(2) Improvement in Family Health¹⁵

Even under the condition of limited use of MCKs which is a major component of the sanitary facilities under the Project, active use of other components, including wells which are used as a water supply device, are recognized to have effect on improvement of the people’s health conditions. 100% of respondents answered that less frequently the family members get ill, and 71% affirmed the reduction of medical expenditure within household expenses.

Thus this project has realized effects as planned and its effectiveness is judged to be high.

¹⁵ Cf. Footnote 13.

2.4 Impact

2.4.1 Contribution to Poverty Reduction

The Project aims at poverty reduction in targeted regions in Indonesia as its overall goal. The following table presents the number of population living below a poverty line and its ratio in 14 provinces where the Project was implemented.

Table 9 : Trend of Population & Ratio of People under Poverty Line

Province	Baseline 1999		2002		2006	
	Population (x 1000)	%	Population (x 1000)	%	Population (x 1000)	%
NAD	602	14.75	1,200	29.83	1,150	28.28
North Sumatra	1,973	16.74	1,884	15.84	1,897	15.01
West Sumatra	602	13.24	496	11.57	579	12.51
Riau	590	14.00	722	13.61	565	11.85
Jambi	677	26.64	327	13.18	305	11.37
South Sumatra	1,814	23.53	1,601	22.32	1,447	20.99
Bengkulu	302	19.79	372	22.70	360	23.00
Lampung	2,037	29.11	1,651	24.05	1,638	22.77
West Kalimantan	1,016	26.17	644	15.46	627	15.24
Central Kalimantan	262	15.06	231	11.88	213	11.00
South Kalimantan	440	14.37	260	8.51	279	8.32
East Kalimantan	509	20.16	313	12.20	336	11.41
South Sulawesi	1,462	18.32	1,309	15.88	1,112	14.57
West Nusa Tenggara	1,277	32.96	1,146	27.76	1,156	27.17
14 Provinces Total / Average	13,562	20.35	12,157	17.49	11,662	16.68
National Total / Average	47,975	23.43	38,394	18.20	39,295	17.75

(Source: BPS Statistics, PCR)

The population in poverty in the 14 provinces was reduced approximately 2 million in average or 14% from the level in 1999 before Project.

Setting poverty reduction in targeted regions as its overall goal, the Project comprehensively developed several types of rural infrastructures that belong to

different sectors. This sort of project is often called as an “Integrated Project” in Indonesia, and in addition to the individual effect of each component, the mutually enhancing synergistic effect that amplifies achievement of the overall goal is expected for this type of project. To what extent synergistic effect is realized depends on the magnitude and extent of the influence of individual sub-components. It was observed that the access infrastructures carried the largest synergistic effect in the in-depth evaluation study conducted in 2004 as well as in the beneficiary survey in the ex-post evaluation. The latter study clearly shows that beneficiaries’ income has increased more through road and bridge development than small-scale irrigation that was expected to more directly increase their income through agricultural production enhancement.

Since a great number of factors, such as infrastructure development and activation of production activities outside of the Project, etc., could influence the extent of poverty reduction, it is not possible to precisely estimate the net contribution of the Project to poverty reduction. However, the fact that the majority of the beneficiaries have recognized improvement in income, health and education after the Project proves a considerable degree of the Project’s contribution toward the poverty reduction.

2.4.2 Self-sustainability Enhancement of Regional Communities

The Project focuses not only on physical infrastructure development but on its process by promoting active participation of local people into planning, implementation, operation and maintenance of the Project, encouraging people’s ownership, autonomous attitude and ability to involve themselves into future development works. They participate in development works through UDKP (Unit Daerah Keja Pembangunan: Regional Unit for Development Works), and the extent of participation has been growing every year as the following figures indicate. Community participation means that local people are involved voluntarily in development works to the extent possible and their will is reflected in substances of development works in each stage of planning, implementation, operation and maintenance. Thus community participation should be evaluated by monitoring the participation process, but it is judged in the ex-post evaluation that community participation has increased to a considerable extent based on the rate of participation to regional meetings.

Table 10: UDKP Activities and State of People's Participation

1. Number of Meetings Held Annually	Less Than Twice: 25% (Before Project)	Less Than Twice: 11% (After Project)
	More Than 8 Times: 12% (Before Project)	More Than 8 Times: 38% (After Project)
2. Average Number of Participants	22.6 People (2001)	23.8 People (2003)
3. Average Number of Female Participants	2.8 Women (2001)	3.4 Women (2003)

(Source: In-depth Evaluation Study Final Report)

Capacity enhancement of local governments is also essential in addition to capacity enhancement of local people for strengthening self-sustainability of regional society. For that purpose, the total of 65,000 days of capacity building training was conducted for about 530,000 people of local governments from 2001 to 2003.

2.4.3 Impact on Natural Environment

All the sub-projects are small-scale that are not subject to official environmental impact assessment and would inherently cause minimal or no negative environmental impacts. In addition to the policy to exclude environmentally vulnerable areas, the sub-project selection process excludes candidate sub-projects with unavoidable adverse environmental and social impacts at the preparation stage. The local governments monitor environmental impacts during the implementation stage and the central government also periodically visits the sub-projects sites for environmental inspection. The In-depth Evaluation Study conducted in 2004 as a part of the consulting services and the field surveys of the ex-post evaluation found no significant environmental and social impacts.

2.4.4 Resident Resettlement and Land Acquisition

The Project takes a participatory approach involving local people in every stage of preparation, implementation, operation and maintenance so as to reflect the people's intention. There were some cases that involve small-scale land acquisition and resident resettlement, however, those who would be influenced

were also involved in discussion and decision making at the project preparation stage. Therefore required process was smoothly executed on due consensus and no significant dispute was reported.

2.5 Sustainability (Rating: b)

2.5.1 Implementing Agency

2.5.1.1 Institutional Structure for Operation and Maintenance (O&M)

Since the Project consists of construction and rehabilitation of small and simple facilities, most of them are operated and maintained basically by local people themselves who utilize the facilities concerned. The small irrigation facilities are mostly end canals and drainage, and the laws and regulations in Indonesia state that their O&M responsibilities belong to the water users association (P3A: Perkumpulan Petani Pemakai Air) which is comprised of farmers involved. Institutionally, the local people involved have to organize KPP (Kelompok Pemanfaat dan Pemelihara <Group of Operation & Maintenance>) except for irrigation facilities to conduct O&M works, however the field survey of the ex-post evaluation revealed that this system does not fully function. Only KPPs of the road, bridge and water supply sub-projects in NTB were found active in this field survey. The In-depth Evaluation Study of 2004 also reports that KPP was generally inactive or even unorganized in about 43% of the total sub-projects. However as mentioned in the next section 2.5.2, the field survey observed that the actual performance of operation and maintenance depends more on people's sense of ownership on the facilities, the extent of sense of belongings and participation to the local communities that carry out O&M activities almost irrespective of the existence of KPP.



Collaborative Rehabilitation Works
on Village Road by Local
Community¹⁶
(West Nusa Tenggara Province)

¹⁶ The road portion which was developed together with the bridge in NTB for which the beneficiary survey was conducted.

The small-scale irrigation facilities are operated and maintained by the existing water users' association (P3A), but P3A has been organizationally and functionally immature in many cases. Their activities are not systematically carried out on operational fund raised as irrigation fees, but performed on an ad hoc basis by volunteer collaboration on gratis labor and optional fund raising in case of need.

As for facilities that provide trans-community services, such as relatively long inter-village roads, local governments are in charge of their operation and maintenance.

Thus the O&M activities are not necessarily carried out systematically in a fixed institutional framework, and no significant O&M problems have been found for the moment. However, O&M should be carried out based on institutionalized O&M structure to maintain sustainability in a long term.

2.5.1.2 Technical Capacity

All of the facilities developed under the Project are small and simple facilities and do not require advanced O&M techniques or knowledge in general, but basic technical training and support is provided by relevant local governments as required. The consulting services also included wide range of training to guide local governments to effectively organize and train local community for O&M coupled with technical guidance on civil works and O&M.

2.5.1.3 Financial Status

As already mentioned above, most of the facilities developed under the Project are operated and maintained directly by the local communities comprised of the beneficiaries involved. O&M is to be executed organizing KPP (or P3A in case of irrigation) and raising fund for O&M by collecting member fees in principle. Although these KPP and P3A schemes are not fully practiced, O&M is substantially functioning without significant hindrance. In many cases the fund for O&M is voluntarily collected on an ad hoc basis when needed, or works are done with gratis labor and materials provided by the local communities without monetary arrangement in some cases. Those practices are especially conspicuous in areas where the people's ownership toward the facilities and sense of belonging to the community is strong. Especially among the regions where the field survey was conducted in the ex-post evaluation, most of the O&M activities in the site of

West Nusa Tenggara were conducted without monetary transactions¹⁷. Financial issues would hardly obstruct as a bottle neck for favorable O&M practice under these circumstances.

On the other hand, O&M performance for rural roads and other facilities that involve more than one community is much affected by the sufficiency of O&M budget allocated by the local governments responsible. The field survey of the ex-post evaluation found a case in Jambi where maintenance works were stagnating with insufficient budget allocation by the local governments. The beneficiary survey of the In-depth Evaluation Study in 2004 also reports that respondents who claimed that support from local governments is insufficient accounted for 89.5% before the Project and 85.5% at the time of the beneficiary survey for completed facilities under operation.

2.5.2 Conditions of Operation and Maintenance

The field survey of ex-post evaluation confirmed that O&M performance depends on how well the project facilities benefit people's living and economic activities. In other words, there is a direct linkage between the project effect and sustainability. It constitutes a self-enforcing cycle where bigger effect encourages people's higher sense of ownership and participation in facility maintenance, and the consequent well-maintained facility and its optimal function further enforces project benefits. Conversely, low needs and little benefits from the facilities entraps the people into a vicious circle of operation and maintenance. The field survey observed the project facilities in good conditions in general, however, the conditions of the MCK facilities in Jambi Province which still attract less needs of the local people (the well component of the facilities is separately utilized actively and maintained in good conditions) and the drainage in West Kalimantan where a large part of the paddy fields were converted to more profitable rubber production with scarce need for irrigation were not favorable. These facilities were not maintained at the level of fully functioning. Moreover, the road in Jambi is not maintained well due to a lack of sufficient budget allocation from the regional government.

Part of the O&M activities is not systematically conducted following the current institutional arrangement, and some of the facilities malfunction due to poor

¹⁷ The sub-project site in NTB where KPP is organized and O&M activities are conducted under the organization has more established O&M system, compared with other provinces where KPP is not organized yet. However, financially, informal practices based on traditional principle of mutual help still prevail in NTB.

maintenance. However in general, no significant problems were found with regard to the Project sustainability.

3. Conclusion, Lessons Learned and Recommendations

3.1 Conclusion

Based on the above analysis, it is concluded that the Project is highly satisfactory.

3.2 Lessons Learned

1. A performance of a small scattered type project primarily depends on a well structured (hierarchical) system involving the central up to the field levels that comprehensively manages all processes of planning, implementation and evaluation. In order for such management system to be effectively operated, horizontal as well as vertical share of functional responsibilities and practice of good coordination and communication are essential.

2. Sustainability of this project is much dependent on the people's sense of participation to sub-projects with local autonomy. This can be most effectively achieved through direct beneficiary involvement at every phase of the project cycle including planning, implementation and evaluation under a well structured institutional framework. However, it also significantly reflects behavioral character of the local people involved being deeply affected by their underlying own indigenous local culture. Therefore, approaches are needed taking respective cultural differences into account to attain an optimum result.

3.3 Recommendations

1. To the Indonesian Government (BAPPENAS):

JBIC and BAPPENAS agreed in the Memorandum signed concurrently with the loan agreement on July 5, 2001 to mutually evaluate the project effect, two and seven years after the project completion, by monitoring the predetermined PODES 14 indicators based on the official statistics of the Central Bureau of Statistics (BPS) at the Kecamatan level. The actual figures of 14 indicators were once collected in 2002, however, consistent and meaningful comparison turned out unable because BPS modified the indicator items of PODES. To act up to the agreement at the time of the loan agreement above, BAPPENAS should request

BPS to resume provision of statistics on the agreed indicator items.

2. To the Indonesian Government (BAPPENAS):

A mass of reports regarding a series of rural infrastructure development including this Project have been produced and kept by the Secretariat PISEW (Pengembangan Infrastruktur Sosial Ekonomi Wilayah: Regional Infrastructure for Social & Economic Development) established by BAPPENAS. However a part of the documents and electric files were not be found at the time of ex-post evaluation. In order for the excellent monitoring system established within the project management to work properly, thorough document management is to be practiced.

3. To the Indonesian Government:

To further strengthen project sustainability, the KPP system for operation and maintenance being applied uniformly at the moment should be reexamined from a practical standpoint.

4. To the Indonesian Government:

It is pointed out in the Project Completion Report (PCR) and the In-depth Evaluation Study in 2004 that the capacity of Kabupaten governments was still relatively weak for project implementation and O&M management in general compared with the central and provincial governments. Continuing effort for their further strengthening should be attempted in the programs to follow.

Comparison of Original and Actual Scope

Item	Plan	Actual
Output	(Access Facilities) • Road 11,940 m • Bridge 70,909 m • Jetty 472 units (Water Supply Facilities) • Water Pipe 1,097 km • Other Facilities 4,031 units (Sanitary Facilities) • MCK 1,970 units (Small-scale Irrigation) 23,625 ha • Irrigation Canal, Drainage 1,423 km • Other Facilities 353 units	(Access Facilities) • Road 11,934 m • Bridge 70,850 m, 3677 bridges • Jetty 471 units (Water Supply Facilities) • Water Pipe 1,097 km • Other Facilities 4,064 units (Sanitary Facilities) • MCK 1,968 units (Small-scale Irrigation) 23,625 ha • Irrigation Canal, Drainage 1,423 km • Other Facilities 349 units
Project Period	July 2001~May 2004 (35 months)	July 2001~September 2005 (51 months)
Loan Agreement	July 2001	July 2001
Consultant Selection	July 2001	July 2001
Consulting Service	July 2001~May 2004	July 2001~September 2005
Civil Work • Procurement	July 2001~December 2003	September 2001~December 2003
Project Cost		
Foreign Currency	785 million yen	1,220 million yen
Local Currency	22,791 million yen	22,508 million yen
Total (Japanese ODA loan amount)	23,576 million yen (20,039 million yen)	23,728 million yen (19,906 million yen)
Exchange Rate	Rp. 1 = 0.013 yen (as of September 2000)	Rp. 1 = 0.014 yen (Weighted average during project implementation)