

Meta Analysis of Ex-Post Evaluation Reports
by Country and Sector

Country Review Report

Thailand

Final Report

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This country review report (Thailand) was compiled and analyzed by Global Group 21 Japan at the request of Development Assistance Operations Evaluation Office, Project Development Department of the Japan Bank for International Cooperation (JBIC).

Foreword

This analyses ex-post evaluation reports (henceforth, evaluation report) for 74 projects to Thailand by the Japan Bank for International Cooperation (JBIC).

In order to improve the quality of aid projects in developing countries, JBIC has conducted ex-post evaluations of completed projects. Ex-post project evaluation is the assessment of how a project was implemented and administrated in contrast with initial plans, and whether the expected results were realized after completion of the project. The ex-post evaluations are conducted with two goals in mind. The first is to compile the lessons learned from the project evaluations, and to use the lessons in the implementation of future projects. The second goal is to improve transparency of aid projects, and to increase the accountability for people both in Japan and the borrowing countries through disclosure of evaluation results.

The goal of this review is to create an overview of the performance of the projects to Thailand using ex-post evaluation reports, to analyze the data to determine the cumulative effect of the Japanese ODA loan projects to Thailand and to derive possible lessons or recommendations for future ODA loan projects. In addition, by reviewing and studying the evaluation indices, it is hoped that reference material for future appraisals, administration and evaluations will be provided.

This report consists of four chapters. The first chapter outlines social and economic situation of Thailand. Chapter two presents an overview on the ODA loan to Thailand. Chapter three analyzes the performance of 74 projects based on the evaluation reports. Chapter four presents the comprehensive results of the analysis, and offers lessons learned and recommendations for future projects to Thailand.

The performance analysis is performed through the establishment and analysis of five primary criteria broken down into 23 evaluation check criteria.

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Attached Materials: Reviewed Projects

1. Economic and social trends in Thailand

1.1 Politics, economy and society

(1) Politics

Following the constitutional revolution in 1932, Thai politics were dominated for many years by the military. However, in 1992, an incident between the military and democratic forces caused bloodshed, leading to a reduction of military involvement in the government and since then, Thailand has seen transfer of power among civilian governments in accordance with the democratic process. In 1988, a civilian political party was re-established in power for the first time in 12 years. However, in February 1991, it was overthrown by a military coup d'etat. The people were against a military government, and in May 1992, as mentioned above, there was bloodshed between the people and the government. This caused the prime minister of the time, who had been in the military, to resign. A general election was held in September of the same year, re-establishing Chuan, the leader of the civilian Democratic Party, as Prime Minister, continuing the democratization of Thai politics. In accordance with the representative democratic system, democracy was firmly established in Thailand through the smooth change of democratically elected civilian administrations from Chuan to the Banharn Administration and later to the Chavalit Administration.

In July of 1997, Prime Minister Chavalit resigned during the economic decline brought about by the collapse of the baht. In November of 1997, the Democratic Party, which was the leading opposition party, came to power with the expectation that they would restructure the economy. The party leader, Chuan, then established an eight-party coalition government. As Chuan was politically honest and his cabinet ministers had been recruited from the economic arena, the administration was strongly supported by the population. In October of 1998, a bribery scandal in the ruling party brought the National Development Party, the second strongest opposition party, into the coalition to create a stable majority. The Chuan administration, with its high degree of public support, displayed earnestness in fulfilling the policy conditions imposed by IMF loans, by proactively implementing "painful reforms," such as reorganizing the banking system or tax hikes on petroleum and other tax increases as well.

However, as the population became increasingly discontent with an inability to see real economic recovery, the Chuan Administration had to dissolve the House of

Representatives. This occurred just prior to the expiration of Chuan's term in office, forcing an election in January 2001. The Thai Rak Thai Party achieved an overwhelming victory in this election by winning the vast majority of seats. Prime Minister Thaksin (leader of the Thai Rak Thai Party) came to office in February of 2001, under a coalition government made up of three parties: the Thai Rak Thai Party, the Chart Thai Party, and the New Aspiration Party.

(2) Economy

In the latter half of the 1980s, by leveraging direct foreign investment from Japan and other countries, the export industry became the main agent of Thailand's development strategies. From 1987 to 1995, the annual economic growth rate exceeded 8%. This led Thailand to shift away from a traditional agrarian economy, and they became one of Southeast Asia's main centers of economic growth. However, the rapid economic expansion created a variety of strains on the nation, such as ballooning urban populations, increasing gaps in income levels between urban and rural populations, and environmental destruction. Meanwhile, the current account deficit continued to increase, and an asset-inflated bubble economy developed, centering on the real estate sector. Later, when the bubble economy collapsed, the amount of non-performing loans grew, which increased the pressure to depreciate the baht. In July of 1997, a floating currency exchange system was introduced, and the value of the baht fell drastically, igniting an economic crisis.

With aid from the global community, including the IMF and Japan, the Thai government set to work rebuilding the economy, undertaking many structural reforms including disposal of the non-performing loans. As a result of economic pump-priming measures and other fiscal policies implemented by the Thai government, as well as flourishing exports, the sluggish economy began to recover in 1999. The Thaksin administration, which came to power in February 2001, hammered out an economic policy that focused on the industries at the bottom of the economy, such as farmers and small- and medium-sized enterprises. There are high expectations for this bottom-up economic stimulus package, but there are also concerns that the deceleration of the US economy will cause a slowdown in Thailand's economic growth rate.

(3) Society

Thailand does not suffer as many ethnic or religion-related conflicts when compared to other Asian nations, and the Royal Family is well respected by the

general populace, which has helped to create a relatively stable society with the King as the symbolic center.

However, problems of poverty and income disparities continue to be large factors of social unrest. The economic deterioration that occurred following the Asian economic crisis caused increasing unemployment, and disparities in income levels which had begun to shrink during the high growth period, began to widen again in 1998. Once these facts made it clear that the poor and other socially marginalized groups were in need of a social safety net.

Table 1-1: Shift in key indicators

	1985	1990	1996	1997	1998	1999	2000
Real GDP (mln baht)	1,191,255	1,945,372	3,119,621	3,074,528	2,743,360	2,859,159	2,984,961
Real GDP growth rate (%)	4.6	11.2	5.9	-1.4	-10.8	4.2	4.4
Per capita nominal GDP (US\$)	754	1,528	3,041	2,494	1,829	1,975	1,958
Unemployment rate (%)	3.7	2.2	1.1	0.9	3.4	3.0	2.4
Domestic investment rate (%)	28.2	41.4	41.6	33.3	20.3	19.9	22.7
Domestic savings rate (%)	24.8	34.3	36.5	35.6	35.0	32.6	n.a.
Current account balance (% of GDP)	-3.9	-8.4	-7.9	-2.1	12.8	10.2	7.5
Fiscal balance (% of GDP)	-4.3	4.8	0.9	-1.5	-2.8	-3.3	-2.2
External debt (% of GDP)	45.1	33.0	59.1	72.6	93.8	78.9	n.a.
Rate of increase in consumer price index (%)	2.5	5.9	5.9	5.5	8.1	0.3	1.6
Exchange rate (baht / US\$)	27.2	25.6	25.3	31.4	41.4	37.8	40.1
Population (million)	51.6	55.8	60.0	60.6	61.2	61.8	62.4
Population growth rate (%)	1.9	1.1	1.0	1.0	1.0	1.0	1.0

Note: Real GDP figures shown at 1989 values
 Figures for 2000 are provisional

Source: ADB

1.2 National development plan

(1) Medium-term development plan

Thailand's economic development planning began in 1961, with the formulation and implementation of the First Five-year National Economic and Social Development Plan. In the early plans, the focus was on building infrastructure, including large-scale irrigation projects and roadway networks. However, from the latter half of the 1970s, the plans began to place more and more emphasis on redistributing income, rectifying disparities and eliminating poverty.

The Eighth Five-year National Economic and Social Development Plan (covering the five years from October 1996 to September 2001) set a target of an 8% annual economic growth rate, with particular emphasis on improving the national standard of living, based on the basic philosophy of "human-focused development." At the same time, the fundamental concept for regional cooperation with the six

nations along the Mekong Basin (Thailand, Laos, Vietnam, Cambodia, Myanmar and China) and plans for the development of the eastern, southern and western seaboard regions were announced. The following development objectives were outlined in the plan.

- 1) Expand the potential of the populace.
- 2) Create a stable society and strengthen family and community bonds that support the individual.
- 3) Achieve stable, balanced economic growth and a more equitable allocation of the fruits of that growth.
- 4) Improve the utilization, conservation and regeneration of natural resources and the environment, and improve quality of life.
- 5) Reform the administrative system, and increase the level of participation of people and organizations, in national development.

Following this, during the economic crisis of 1997 the plan had to be revised, even though the basic philosophy of the Eighth Plan of “human-focused development” was maintained. The intent was to emphasize the achievement of economic stability, promote industrial structural reforms, alleviate any impacts of the economic crisis on the standard of living, and promote administrative reforms. Targeted economic indicators rates, such as the economic growth rate, were sharply reduced following discussions with the IMF, and overcoming the economic crisis became the primary issue.

In line with the “New Development Strategies” advocated by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD), the Eighth Plan spells out output-oriented goals, such as “reduce the proportion of the poverty-stricken segment of society to below 10%” and “extend compulsory education from six to nine years, and make preparations to further extend this to twelve years.”

(2) Issues in development

First, during an economic recovery process, in order to cope with the effects on the socially marginalized and to deal with the unemployment problem, there is a need to create measures that focus on the socially marginalized, including employment measures and other ways to redress income and regional disparities.

Second, it has been suggested that the delays that occurred in the transformation of the industrial structure played a part in the economic crisis. Thus, as a link in the economic infrastructure, the education of engineers and

skilled workers capable of coping with advanced industrial structures or creating new industries, and educating the administrators responsible for policy-making is a pressing issue.

Third, based on the agreement with the IMF, large-scale reductions of planned government expenditures led to a revision of large-scale public works projects, which had a huge negative impact on the socioeconomic infrastructure. However, it is undeniable that the basic socioeconomic infrastructure, such as mass transit and urban drainage systems, is inadequate, and its continued development and upgrading is a necessity.

Fourth, although there is a tendency to ignore environmental problems during the economic recovery process, the natural environment continues to be a pressing issue. It is vital that more attention be paid to anti-pollution measures, including air pollution prevention and water quality conservation, improvement of the urban environment, including alleviation of traffic congestion, and to nature conservation.

2. The Japanese ODA loan Project to Thailand

2.1 Loan Conditions for Thailand

Table 2-1 shows the cumulative figures of approved project Japanese ODA loans to Thailand by sector as of September 2000. Of the total 231 projects (based on the number of agreements) totaling 1,878,657 million yen, two were commodity loans totaling 66,000 million yen, and 229 were project loans totaling 1,812,657 million yen. Targeted sectors for the project loans covered a wide variety of fields, such as the infrastructure, industry, and social services sectors, but the highest percentage of projects were in the transportation sector, representing more than half of the total project loans. Within the transportation sector, many ODA loans were provided to road and railway projects, both of which made up 18% of the total amount of project ODA loans. Apart from the transportation sector, the next largest amount of ODA loans went to electricity and gas projects, and social service projects, 18% and 11% respectively. In terms of both total amount and in number of projects, the largest percentage in the former was power transmission line projects, and in the latter, it was water, sewerage and sanitation projects.

2.2 Priority areas of economic assistance to Thailand

According to the Ministry of Foreign Affairs' Country Assistance Plan, the following five areas were agreed upon when the Economic Comprehensive Survey Mission was dispatched in 1996 and were identified as priority areas for Japanese economic assistance from a mid-to-long term perspective, and are still considered to be valid today.

- 1) Social sector assistance (focusing mainly on education and HIV/AIDS-related measures): aid focusing especially on those who are socially marginalized, on healthcare and hygiene, education (especially higher education), and on drug-related measures.
- 2) Environmental protection: continued expansion and strengthening of environmental protection is crucial.
- 3) Rural development: support for the promotion of agricultural-related activities and rural development in regions where development has been lagging.
- 4) Economic infrastructure upgrade: continued investigation into the support of economic infrastructure, economic and industrial advancement (including support for the financial sector), and small and medium-sized enterprises.
- 5) Regional cooperation assistance: accelerated assistance for South-South

Co-operation (including the promotion of the Japan – Thailand Partnership Program, a program where Japan and Thailand together give assistance to developing countries). This also includes efforts to discover and form the conditions that will benefit the intra-regional cooperative development of the Mekong River Basin.

The JBIC has established its own priority sectors for assistance, based on the above-mentioned Country Assistance Plan. In order to assist in the economic structural adjustments necessary to restore international confidence in Thailand's economic recovery, to provide intellectual contributions aimed at achieving policy and regulatory reforms, to ensure that due consideration of support is given to those who are socially marginalized, and to support Thailand's independent development, the following have been identified as priority areas of assistance for Thailand.

- 1) Rectification of the regional and income disparities that accompany rapid economic growth
- 2) Environmental protection measures
- 3) Continued development and upgrading of the insufficient economic infrastructure that accompanies rapid industrial and economic development
- 4) Transformation of industrial structure
- 5) Education and training of human resources
- 6) Agricultural development

**Table 2-1: Cumulative Japanese ODA loans to Thailand by sector
(as of September 2000)**

Type of industry	Number of projects	Approved loan amount (million yen)	Composition ratio (%)	Composition ratio within loans (%)
Transportation	75	873,125	46.5	48.2
Roads	31	330,861	17.6	18.3
Bridges	9	37,952	2.0	2.1
Railways	20	328,643	17.5	18.1
Airports	7	119,729	6.4	6.6
Ports	7	51,792	2.8	2.9
Others	1	4,148	0.2	0.2
Mining and Manufacturing	22	129,299	6.9	7.1
Manufacturing	20	126,375	6.7	7.0
Others	2	2,924	0.3	0.2
Social services	32	193,224	10.3	10.7
Education	3	19,351	1.0	1.1
Tourism	4	14,122	0.8	0.8
Water supply, sewerage and sanitation	23	141,380	7.5	7.8
Public health and medicine	1	4,959	0.3	0.3
Urban/rural community infrastructure	1	13,412	0.7	0.7
Telecommunications	13	110,001	5.9	6.1
Electric power and gas	47	318,633	17.0	17.6
Transmission lines and distribution systems	26	196,620	10.5	10.8
Power plants	14	82,396	4.4	4.5
Multipurpose dams	4	9,163	0.5	0.5
Gas	1	11,730	0.6	0.6
Others	2	18,724	1.0	1.0
Agriculture, forestry and fisheries	25	124,749	6.6	6.9
Agriculture	21	113,018	6.0	6.2
Fisheries	4	11,731	0.6	0.6
Irrigation and flood control	14	57,878	3.1	3.2
Others	1	5,748	0.3	0.3
Project loan total	229	1,812,657	96.5	100.0
Commodity loans, etc.	2	66,000	3.5	
Total	231	1,878,657	100.0	

3. Performance Analysis

3.1 Outline of projects under review

The projects reviewed in this report are the 74 Japanese ODA loan projects that have undergone an ex-post evaluation, up to and including FY2001. A table listing the project name, sector, and date of loan agreement (L/A), of the projects under review has been included in the appendix.

As shown in Table 3-1, the 74 total projects can be divided by sector as follows: 27 transportation projects, 11 social services projects, 10 electric power/gas projects, 8 projects each in the mining/manufacturing sector and the agriculture/forestry/fisheries sector, and 5 projects each in the irrigation/flood control sector and the telecommunications sector. The 27 transportation projects represent 10 road projects, followed by railways and bridges.

Table 3-2 shows that, by year, there were 25 loan agreements that represents one third of the total number of loan agreements in early 1980's, next is latter half of 1980's (18 projects), followed by latter half of 1970's (14 projects).

Table 3-1: Target project numbers by sector

Sector	Number of projects	Sector	Number of projects
Transportation	27	Social services	11
Airports	1	Tourism	1
Ports	3	Education	1
Railways	8	Water supply, sewerage and sanitation	9
Roads	10	Mining and manufacturing	8
Bridges	5	Manufacturing	8
Telecommunications	5	Agriculture, forestry and fisheries	8
Telecommunications	5	Farming	6
		Fishing	2
Electric power and gas	10	Irrigation and flood control	5
Gas	1	Irrigation and flood control	5
Multipurpose dams	1		
Transmission lines and distribution systems	4	Total	74
Power plants	4		

Table 3-2: Number of target projects by date

Dates	Number of projects
1970-1974	4
1975-1979	14
1980-1984	25
1985-1989	18
1990-1994	13
Total	74

Note: Based on date of loan approval (the earliest in cases of multiple loan agreements).

3.2 Analysis of the five primary evaluation criteria

This section presents the analysis of the performance of each project, based on the ex-post evaluation report. The five primary evaluation criteria make up the framework of the analysis. Analysis is based on the Principles for Evaluation of Development Assistance adopted in 1991 by the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD). The five criteria are the “relevance”, “efficiency”, “effectiveness”, “impact”, and “sustainability” of the plan. In order to undertake a detailed evaluation of the plan, the above-mentioned five criteria have been again divided as in Table 3-3 into subordinate levels called Evaluation check items (23 in total). Following that, verification of each evaluation check item was conducted based on information recorded in the evaluation reports, and a performance analysis was conducted.

Table 3-3: The Five Evaluation Check Criteria and Evaluation Check Items

Project Relevance	Does the goal and the approach to the project match the priorities and policies of the target group, counterpart country and the donor?
<u>A1. Consistency with Development Policy and Priority Issues</u>	Do the project goals and overall goals of this project match the development policies (including the national policy and master plan) and priority issues of the country or region in question?
<u>A2. Relevance of Project Scope</u>	Was the project plan (scope and approach) at the time of appraisal judged appropriate to achieve the overall and project goals?
<u>A3. Relevance of Project Scope Alteration</u>	In cases where project scope was altered after the project was implemented, were the alterations relevant?
<u>A4. Relevance of Project Goals at the Time of Evaluation</u>	In cases where terms and conditions were altered after the planning stage, are the project goals still valid at the present?
Efficiency of Implementation	Was the input appropriate and achieved as planned in terms of quality, quantity and timing? Was the method used the most efficient in regard to output?
<u>B1. Completeness of Output</u>	Was the output (project results) completed as planned?
<u>B2. Implementation Schedule Efficiency</u>	Were there any problems in the project that caused the implementation schedule to exceed original plans?
<u>B3. Project Cost Efficiency</u>	Were there any problems in the project that caused the project costs to exceed original plans?
<u>B4. Project Implementation System</u>	Was the system appropriate for decision-making, monitoring and troubleshooting during the project?
Effectiveness	Achievement of Project Purpose. To what extent did the project output achieve its purpose?
<u>C1. Output Utilization</u>	Is the output (project results) being used adequately? (Determined primarily using the operation indicators. In cases where there is no planned value, sufficiency will be determined using absolute values.)
<u>C2. Project Goal Realization</u>	Was the direct effectiveness of the project sufficiently realized, and was the project goal sufficiently achieved? (Determined primarily using the effect indicators. When there is no planned value, sufficiency will be determined using absolute values)
<u>C3. Achievement of EIRR</u>	Is the Economic Internal Rate of Return sufficient when compared with initial project values?
<u>C4. Effect of Technical Assistance</u>	Were the training and technological instruction component effects sufficiently realized?
Impact	Was the intended overall goal of the project achieved? Direct, indirect and subordinate results in terms of technical, economical, socio-cultural, institutional and environmental aspects.
<u>D1. Contribution to Overall Goal Achievement</u>	To what level were the original overall goals of the plan achieved, and to what extent did the project contribute to their realization.
<u>D2. Impact on Policy and Institutional System</u>	

	What impact did the project have upon development policy of the country in question and the institutional system of the sector in question? Was the impact positive or negative?
<u>D3. Socio-Economic Impact</u>	What kind of impact was there on the regional society and economy? Was the impact positive or negative?
<u>D4. Impact on Technology</u>	What contribution did the project make to technological innovation and improvement in the country in question?
<u>D5. Impact on Natural Environment</u>	What impact was there on the regional environment? Was the impact positive or negative?
<u>D6. Resident Relocation and Land Acquisition</u>	What impact was there on regional society in terms of resident relocation and land acquisition?
Sustainability	After completion of aid, to what extent will the agencies and organizations of the counterpart country be able to sustain the output and effects of the project?
<u>E1. Output Condition</u>	Is the output (project results) being maintained and operated appropriately? Is facility in good condition?
<u>E2. Operation and Maintenance System</u>	Are the systems, human resources (quality and quantity), work procedures (manuals) technology, maintenance facilities and equipment, and stock and procurement of spare parts for operation and maintenance sufficient?
<u>E3. Financial Resources for Operation and Maintenance</u>	Are sufficient financial resources available for appropriate operation and maintenance? Are those resources expected to remain available in the future?
<u>E4. Continuation of Needs</u>	Is it expected that need for the project will continue in the future?
<u>E5. External Factors</u>	What external factors will have a major effect on project effects and sustainability (environment, politics, policy, institutional systems, market, other related projects, etc.)? Is it expected that positive factors can be maintained in the future?

3.2.1 Project Relevance

In the text, the words “plan” and “project goal” each refer to the initial plan and the project goals of the initial plan (in principal, at the time of appraisal). However, in cases where project revisions were approved during implementation of the project, they refer to the revised plan and project goals. This definition will be used throughout the remainder of this document.

(1) Consistency with development policies and priority issues

The majority of the 74 projects were deemed appropriately relevant to governmental development policies or priority issues. In judging relevancy, the projects can be broadly divided into the following three categories.

- 1) Projects implemented as part of Thailand’s Five-year National Economic and Social Development Plans, which have been in existence since 1961, or as a part of development plans by sector, developed in line with the National Development Plans. Projects in the railway, education, agriculture, irrigation, water supply/sewerage, and telecommunications sectors fall into this category.
- 2) Projects implemented as a part of the Eastern Seaboard Development Plan. Projects targeted at Thailand’s long-standing priority issues, such as alleviating poverty, or especially at redressing disparities between urban and rural income levels are included. Sixteen projects fall into this category¹.
- 3) Other projects targeted at long-standing priority issues for Thailand, especially those aimed at redressing disparities between urban and rural income levels.

Note that even for projects in which mention is not made of relevance to top development policies and priority issues, and thus were not evaluated for relevancy, it is possible to speculate a high degree of relevance to development policies judging from their connection to similar projects.

(2) Relevance of project scope

Based solely on the ex-post evaluation reports, nearly half of the reports contained sufficient information to judge the relevance of the project scope. The

¹ Please refer to Section 3.3 for information regarding the 16 projects related to the Eastern Seaboard Development Plan.

initial plans of two-thirds of these projects were judged to appropriately reflect needs and various external factors.

However, in the remainder of the projects, there were problems with the project scope as defined in the initial plans, which necessitated large-scale revisions during the project implementation stage. The most apparent problems were in the transportation sector. For example, in the "Sriracha - Laem Chabang Railway Project," there was a lack of internal communication and coordination at the implementing agency, the State Railway of Thailand (SRT), which meant that the signal and communication device specifications were not sufficiently determined at the detailed design stage. When it came time to draw up the tender documents, the SRT signal communication department stipulated the use of specific equipment, resulting in cost overruns in the signal and communications equipment procured from overseas. Consequently, the major revisions had to be made to the project plan and construction fell well behind schedule as a result.

It should be noted here that, while it is possible to interpret major revisions to project scope during the implementation phase to be the result of insufficient study during the planning stage of the project, this report does not necessarily do so. More specifically, it is natural that differences will exist between study accuracy and external conditions from the time of the initial studies and the detailed design at the implementation stage, which is frequently the reason for revisions to the plans at the detailed design stage.

(3) Relevance of project scope alternation

While the plans of nearly 70% of the 74 projects had some type of revision, the revisions were mostly relevant. The major reasons for the revisions were 1) the geographical and technical conditions of the site, or the needs of the recipient beneficiaries became better defined at the detailed planning stage, and 2) revisions were made in response to factors such as changes in policy, socio-economic conditions, or natural disasters, which were unforeseeable during the planning stage. A quintessential example of the second case occurred during November of 1985 when the Thai government temporarily halted the Eastern Seaboard Development Plan with the intention of readjusting its overseas borrowing plan in an effort to stabilize the macro economy. When development restarted, changes in conditions necessitated revision of the project scope.

The plan revisions that occurred during the Khon Kaen Water Supply Expansion Project were deemed not especially relevant. The plan called for the replacement of the aging distribution pipes, but in fact new pipes were laid down next to and used in conjunction with the existing ones. The improved capacity of the water

purification plant resulted in higher water pressures, which in turn caused the pipes to crack, and no revenue water was deteriorated.

(4) Project project goals at the time of evaluation

There were no projects for which the relevance of project goals had largely diminished at the time of evaluation.

3.2.2 Efficiency of Implementation

(1) Completeness of Output

At the time of evaluation, more than 90% of the projects had achieved their planned output. A few projects were concluded while their output was still less than the scope of the plan². Problems were especially noted in the following two projects.

The “Productivity Road Program” was an ODA loan project that was implemented over three consecutive stages. Because the general contractor in both the first and second stages went bankrupt, each stage was concluded even while the output was not at planned levels and the targets were carried over into the next stage.

The “Environmental Protection Promotion Program” was a two-step loan program designed to provide funding for corporate antipollution measures, but only two-thirds of the original loan amount was disbursed. This was due to reduced corporate inclination to invest in the environment and an eroded market interest rate, both of which were brought on by the Asian economic crisis.

(2) Implementation schedule efficiency

Of the 74 projects, approximately 40% of them were completed with construction delays of less than one year, and not many projects experienced long delays (15% of the projects were delayed for more than three years). Delays occurred in nearly all sectors, but long delays were most evident in the transportation sector (especially railways). The main reasons for the extensive delays include delays in the tender and procurement procedures, and difficulties during site acquisition and resident resettlement.

(3) Project cost efficiency

In close to 90% of all projects, project costs (total project costs denominated in foreign currency) fell within the projected costs or had overruns of 10% or less, which indicates that the project cost efficiency was exceedingly high³. Projects in

² In addition to the two projects mentioned above, the “SRT Signaling Improvement and Modernization Project” and the “Project for State Railway Of Thailand.”

³ There were also many projects where the costs on a yen basis were far less than originally planned. This mainly resulted from continuing appreciation of the yen and lower contract amounts stemming from competitive bidding. In the absence of major scope cutbacks, cost under-runs were universally considered as “no problem.”

the transportation sector such as railways and roads, and projects implemented during the later half of the 1980s through the first half of the 1990s, seemed to have a comparatively low cost efficiency.

The main contributing factors to project cost overruns were 1) additional construction due to plan revisions, and 2) a steep rise in the cost of construction materials and equipment as a result of a construction boom that occurred in the latter half of the 1980s. In addition, it was quite common for projects, in which construction delays caused extensions to the project implementation timeframe, to experience inflated project costs. Most of the projects that had low construction efficiency also received low evaluations on project cost efficiency.

(4) Project implementation system

Of the 74 projects, 60% were deemed to have an appropriate project implementation system (“generally good”), but nearly 20% of the projects had some areas of concern, while problems were indicated in 10% of the projects. The remainder of the projects contained no mention of an evaluation of the implementation system, which made judgment impossible.

The factors that were most often indicated as problematic in project implementation systems were 1) problems in the competence of the project implementation agencies, and 2) competence (technical and financial) of the contractors. There were 7 projects in the transportation sector in which problems were especially noted, and of these, 5 were railway projects. Some of the projects ran into difficulties due to problems with the implementation competence of the State Railway of Thailand⁴, others suffered due to problems with contractors’ performance⁵, and there were some projects in which both types of problems occurred⁶. Whatever the reason, these difficulties caused construction delays and other unfavorable results. One port and one road project also experienced problems due to the implementation system⁷.

⁴ The “Klong Sip Kao - Kaeng Khoi Railway Project”, and the “Sattahip - Map Ta Phut Railway Project”

⁵ The “SRT Signaling Improvement and Modernization Project,” and the Train Dispatcher Telephone Improvement portion of the “Train Dispatcher Telephone Improvement and Passenger Coaches Procurement Project”

⁶ The “Sriracha - Laem Chabang Railway Project”

⁷ In the ports sector, it was noted that implementing agency of the “Inland and Coastal Navigation Channels Improvement Project” (Procurement of Dredgers and a Tug Boat) did not have sufficient experience. In the roads sector, the “Phun Phin - Phattalung Highway Project” received a low evaluation; however, this was a special case in that many of the contractors and consultants were killed in a guerilla raid.

3.2.3 Effectiveness

(1) Output utilization

Based on operational indicators, the output of two-thirds of the projects is being utilized to a satisfactory degree. Concerns were noted for approximately 20% of the projects, and less than 4% of the projects had utilization that fell far below planned levels. Thus, on the whole, the degree of output utilization of all projects in Thailand was high. Of the ten projects in the electric power/gas sector, all except one had satisfactory utilization⁸. Given that demand for electricity has been steadily increasing, the capacity utilization rate of the facilities is also on the rise.

However, there were three projects where the low degree of output utilization was deemed to be problematic (one project each in the railways, industry and irrigation sectors). In the railway project, because completion of the facilities fell behind schedule, both the cargo transport volume and the number of trains in operation were below targeted levels⁹. The industry project was a two-step loan program, but was not sufficiently utilized¹⁰. In the irrigation project, only 20% of the planned rice cultivation acreage was irrigated during the dry season¹¹. Including the three projects just mentioned, the reasons for projects failing to achieve a satisfactory degree of utilization include 1) insufficient expenditures on facility and/or machinery maintenance due to a lack of funds, 2) low capacity utilization rates due to frequent breakdowns arising from inadequate maintenance, and 3) low utilization due to demand growth rates failing to meet expectations.

(2) Project goal realization

The degree of project objective achievement was ascertained by the performance of outcome indicators as well as any qualitative remarks contained in the ex-post evaluation report. While project goals were almost completely attained in 80% of the projects, the remaining projects experienced some type of difficulties and failed to attain their project goals to a satisfactory degree.

⁸ The “New Village Development Programme” was implemented to promote cottage industries in a number of targeted rural communities. Success was achieved in the communities that received training by an appropriately skilled trainer, where sufficient materials and resources were provided and where a market was secured. Remote communities where these conditions were not fulfilled did not achieve satisfactory results.

⁹ The “Sriracha - Laem Chabang Railway Project”

¹⁰ The “Environmental Protection Promotion Program” mentioned above.

¹¹ The amount of irrigation water attained in the “Chao Phya Irrigated Agricultural Development Project” was insufficient. This is attributable to a decrease in river water flows due to a drought, and also to another irrigation project that was implemented in the same region.

There were two projects with particularly low project objective achievement levels, one in the railways sector and one in the manufacturing sector¹². In both cases, the implementation efficiency of the projects was low, which made it very difficult to achieve the project goals.

Projects that were deemed to have achieved project objectives to a high degree were most often seen in the telecommunications sector, the transmission lines/distribution systems/power plants sector. The five telecommunications projects were designed to expand the telephone systems in rural areas or in the greater capital metropolitan area¹³. The availability of telephones in very remote areas was especially improved, thus enhancing the standard of living of the rural population. Eight of the power transmission lines/power plant projects contributed greatly to the electrification of rural areas, and also helped to meet increasing demand for industrial and household electricity use¹⁴. Regarding projects in the roads sector, the “Phitsanulok - Denchai Highway Project,” the “Bang Na - Klong Toey Port Expressway Project,” and the “Dao Kanong - Klong Toey Port Expressway Project (Stage II)” contributed to the decrease of traffic congestion in the greater capital metropolitan area, and thus were highly successful in achieving project goals.

(3) Achievement of IRR

An IRR (economic internal return rate (EIRR) or financial internal return rate (FIRR)) had been calculated for 60% of the 74 projects. In 80% of these projects, actual IRRs were 70% or more of the planned figures (recalculated figures)¹⁵, and they attained most of the outcome indicators. The IRRs of the remaining 20% were lower than 70%.

There were six projects (2 railway, 2 irrigation, 1 water supply/sewerage

¹² The “Sattahip - Map Ta Phut Railway Project” and the “Environmental Protection Promotion Program”

¹³ The “EGAT Communication System Expansion Project,” “the Long Distance Telephone Plant Project,” “Metropolitan Telephone Plant Project,” and the “Metropolitan and Long Distance Telephone Plant Project,” the “Rural Public Long Distance Telephone Project 1992-1996,” the “Rural Long Distance Public Telephone Expansion Project,” and the “Rural Public Telephone Expansion Project”

¹⁴ The “Normal Rural Electrification Project (Phase 1),” the “Power Distribution Systems Reinforcement Project (4-2)” and the “Power Distribution Systems Reinforcement Project (Fourth Stage Phase III),” “Normal Rural Electrification Project Phase 2,” and “Village Electrification Project (Phase II),” the “Power Distribution Systems Reinforcement Project (I) and (II),” “Electric Distribution System Reinforcement Project in Chaing Mai La Niphun and Lampang,” and the “Power Distribution Systems Reinforcement Project (Stage III Phase 1),” the “Village Electrification Project (Phase I) and (Phase II Second Stage),” the “Lower Quae Yai Regulating Dam Project,” the “Ban Chao Nen Hydroelectric Project (I) and(II),” the “Bhumibol Hydroelectric Project Unit 8,” and “Bhumibol Hydro Power Plant Rehabilitation Project,” and the “Mae Moh Power Plant Project (Unit 8),” and “Mae Moh Power Plant Project (Unit 9)”

¹⁵ For example, if the planned EIRR was 20%, then the actual value was 14.0% or higher.

/sanitation and 1 fisheries project) whose IRRs were less than 30% of the projected figures.

In both the “Klong Sip Kao - Kaeng Khoi Railway Project” and the “Sattahip - Map Ta Phut Railway Project,” cargo transport volumes fell far short of expectations, causing the projects to have negative FIRR at the time of evaluation¹⁶.

In the “Nakhon Ratchasima Water Supply Expansion Project,” water prices at the time of appraisal were 7 baht, but the rate actually realized was 3.08 baht, causing the water supply income to drop drastically, and resulting in a negative FIRR.

The “Small Swamp Inland Fishery Program” was designed to make 100 different small inland swamps in Thailand’s northern and eastern regions more suitable for fish farming. However, the size of the fish catches did not grow as expected, resulting in a negative EIRR.

In both the “Chao Phya Irrigated Agricultural Development Project” and the “Eastern Seaboard Mae Kuang Irrigated Agriculture Development Project (Stages I, II, and III),” the total acreage of irrigated land used for rice cultivation was less than planned, contributing to lower income from agricultural products, and thus the actual EIRR was far below planned figures¹⁷.

(4) Effect of technical assistance

For three-quarters of the projects, training or technical instruction was not part of the project scope, or there was no mention made of any results related to these activities. However, in projects where a judgment of this factor was possible, more than 80% of them were deemed to have transferred technology effectively. Advantageous effects were especially seen in projects where consultants implemented technical training for their local counterparts¹⁸. In addition, there were some projects where specialists who were dispatched under JICA’s Individual Expert Dispatch Program greatly contributed to the transfer of technology to local

¹⁶ However, the FIRRs of the five railway network projects in the eastern seaboard region were positive (0.7%), and have secured a certain degree of income on the whole. However, as the management of the State Railway of Thailand (SRT) is inefficient overall, it has been running at a deficit for many years. Given this, from SRT’s standpoint, investment in the eastern seaboard railway network was effective.

¹⁷ However, a multipurpose dam was constructed in the “Mae Kuang Irrigated Agriculture Development Project (Stages I, II, and III),” which not only increased irrigation water; it also helped to decrease damage from flooding, and created a water supply for urban use. If these results were included in the project benefits, the EIRR would improve (they are not included in the calculations noted above).

¹⁸ The “Tourism Development Program,” the “LPG Market Development (Distribution) Project,” the “Pumping Irrigation Project,” the “Small Scale Irrigation Program (Stages I, II and III),” etc.

counterparts¹⁹.

In the two two-step loan programs in the manufacturing sector, consultants were initially expected to offer managerial, technological and marketing guidance to end users, but technical transfers were not always effectively carried out due to time and personnel constraints ²⁰.

¹⁹ The “Chiengmai Water Supply Expansion Project,” the “Power Distribution Systems Reinforcement Project (4-2) and Fourth Stage Phase III,” the “Normal Rural Electrification Project Phase 2 and the Village Electrification Project (Phase II),” the “Power Distribution Systems Reinforcement Projects (I) and (II),” the “Electric Distribution System Reinforcement Project in Chaing Mai La Niphun and Lampang,” the “Power Distribution Systems Reinforcement Project (Stage III-Phase 1),” and “BAAC Loans (I, II, III and IV)”

²⁰ The “IFCT Loan (1)” (Export Industry Modernization Program) and “Small Scale Industry Promotion Program (Phases I and II).” Technical transfers to the implementing financial institutions (counterparts) were very effective.

3.2.4 Impact

(1) Contribution to overall goal achievement

Contribution was evaluated from two perspectives: the degree of overall goal achievement and how the project contributed to their achievement. However, in more than 40% of the projects, overall goals were not clearly established, or the degree of contribution or relevance of the project results to the overall goals was difficult to determine, so judgment has been deferred for these projects. When evaluation was possible, the majority of the projects were deemed to have largely contributed to the achievement of overall goals. In particular, projects in each of the road, electric power and agriculture/forest/fisheries sectors displayed a high degree of contribution to achievement.

(2) Impact on policy and institutional organization system

There were very few project reports that contained references to impacts on policy and organization systems. In fact, just over 10% or only eight project reports mentioned this item. In all cases, a positive impact was reported.

The “BAAC Loans (I, II, III and IV)” brought about the establishment of a long-term loan system in the Bank for Agriculture and Agricultural Cooperatives (BAAC) and the loan system was strengthened. In addition, in order to simplify BAAC procedures and to secure assets, farmer joint guarantee groups were organized besides public agricultural cooperatives, farmer groups, , complementing existing organizations. Consequently, implementation of this project made large contributions in furthering institutional banking and in organizing farmers in Thailand’s rural communities.

In the “Nong Pla Lai - Nong Kho Water Pipeline Project” and the “Map Ta Phut - Sattahip Water Pipeline Project,” management of the operation and maintenance of the water pipes was turned over to private enterprises. This is a prime example of where participation of the private sector served to increase the efficiency of operation and maintenance control of water works projects in developing countries.

(3) Socio-economic Impact

Fewer than half of the reports contained references to impacts on society and economy (note: this does not include resident resettlement and land acquisition impacts, which are discussed separately). In addition, the cause and effect relationship between project implementation and impacts was not clearly

explained in many projects.

Where some mention of this item was made in a particular project, it is possible to conclude that all of the impacts mentioned were positive. Projects in which impacts figured prominently were reported in each of the roads, water supply/sewerage/sanitation, and agriculture/forest/fisheries sectors. However, in two projects in the bridges sector, it was reported that beneficial impacts were not achieved to the extent anticipated²¹.

Main instances of beneficial impacts are:

1) Industrial development

Many of the projects reported beneficial industrial development results in commerce, industry, and tourism. Projects in the road, water supply/sewerage and telecommunications sectors also had remarkable impacts. For example, in the “Chonburi - Pattaya New Highway Construction Project (I and II),” improved efficiency was achieved in the surface transportation of cargo handled at ports, and surface transportation of raw materials for and the products of industrial plants. This played a major role in supporting industrial development. The “Long Distance Telephone Plant Project,” the “Metropolitan Telephone Plant Project” and the “Metropolitan and Long Distance Telephone Plant Project” spurred the economic performance of industry, commercial enterprises and tourism by increasing the availability of telephones.

2) Job creation and increased income

Projects in the industrial sector created many employment opportunities and improved income levels of the populace²². Projects in other sectors also spurred job creation, mainly through industrial development.

3) Improvement of standard of living

The implementation of projects related to water supply, telecommunications and others improved the standard of living by making life easier and less stressful as a result of improvements of the social infrastructure. For example, resident lives were much improved by the public telephones installed in outlying regions by the “Rural Public Telephone Expansion Project.” Interaction with friends and relatives increased, it became possible for people to stay in touch with family members who

²¹ The “Nonthaburi and Pathumthani Bridges Construction Project,” and the “Memorial Bridge Construction and Rehabilitation Project”

²² In the “IFCT Loan (Export Industry Modernization Program) (1)” and other two-step loan programs, many end-user enterprises increased employment opportunities, and the number of enterprises who became tenants in both the “Map Ta Pud Industrial - Urban Complex Project” and the “Laem Chabang Industrial Estate Projects (I) and (II)” surpassed initial expectations.

live far away, and the ability to make calls during emergencies brought peace of mind to all. In the “Khon Kaen Water Supply Expansion Project,” a stable water supply was established, lightening women’s workloads by freeing them from having to draw water. Electrification projects such as the “Normal Rural Electrification Project (Phase 1),” also freed women by making it possible for them to use rice cookers and other electrical devices. Their newly found free time was effectively used in increased participation in community activities.

4) Other

Through infrastructure development projects such as ports and railways, decentralization of cargo and passenger transport was effective in reducing traffic congestion on the roads in Bangkok²³. In the “Tourism Development Program,” the participation of local residents in the excavation of archaeological sites and other related development projects resulted their increased awareness of the area’s history and culture. The research vessel constructed for the “Fishery Development Project” was named Chulabhorn after Thailand’s Royal Princess, and has made its mark as the symbol of Thailand’s fisheries industry.

(4) Impact on technology

This section discusses evaluation of transfers of technology that were outside the scope of the projects. It was surmised that many of the projects had some form of transfer of technology or know-how, but this was only clearly indicated in fewer than 10% of the ex-post evaluation reports.

Feasibility studies for the “Nong Pla Lai Project (Stage I),” a dam construction project, explored whether construction of an underground dam was possible. Although the results showed that the possibility of putting the project into operation was low, transfer of technology related to underground water detection occurred during appraisal, and the same technology was later used in other regions of the country.

Through the “New Village Development Programmes (I and II),” various rural development projects were implemented in northern, north-eastern and southern Thailand’s poorer regions. One of these projects, which focused on cottage industries, resulted in the villagers acquiring techniques and skills in a variety of fields such as the handicrafts industry.

²³ The “Laem Chabang Port Project (I), (II), (III),” the “Klong Sip Kao - Kaeng Khoi Railway Project,” and the “Sattahip - Map Ta Phut Railway Project”

(5) Environment

Approximately 40% of the projects reported some form of environmental impact, but of this number, nearly half reported that no particular negative environment impact had occurred, or that a beneficial impact had ensued. However, atmospheric pollution resulting from the implementation of the “Mae Moh Power Plant Project (Unit 8)” and “Mae Moh Power Plant Project (Unit 9)” was reported as having caused serious adverse effects on the environment. These power plants are located in the Mae Moh region, which is a basin-shaped valley. In the winter, dispersal of the flue gas is hampered by this geographical feature, and has caused serious damage²⁴. Surrounding regions were monitored, and some spots were found to have sulfur oxide concentrations that exceeded standard values. JBIC is to provide 15,924 million yen for the installation of flue gas desulfurization equipment to remedy the problem.

In four bridge projects, interviews with residents living in the vicinities of the bridges revealed that many felt both atmospheric and noise pollution had worsened as a result of the project, but that these were generally at tolerable levels²⁵.

(6) Land acquisition and resident resettlement

One fourth of the total 74 projects, or 19 projects, whose ex-post evaluation reports made clear mention of occurrences of resident relocation or land acquisition, were generally economic infrastructure projects related to port, railway or power plant construction. Fourteen of these reported that land acquisition had taken place but no particular problems had been encountered. However, the remaining five experienced problems that impacted on project implementation.

In both the “Tourism Development Program” and the “Chiengmai Water Supply Expansion Project,” the time required for land acquisition was lengthy, causing construction to fall far behind schedule.

In the “Laem Chabang Port Projects (I, II and III),” 1,726 households were targeted for resettlement but 235 households had not yet been resettled as of 1998. However, this did not prove to hinder port operations, so the Port Authority of Thailand made a decision to not forcibly resettle these households. Thus, there was

²⁴ In October 1992, concentrations of sulfur oxide and dust were abnormally high, causing injury to more than 1000 farmers, and untold livestock and agricultural crops. The Electricity Generating Authority of Thailand (EGAT) provided medical treatment and subsidies to the victims, and implemented countermeasures for the unfavorable weather conditions between October and April.

²⁵ The “Sathorn Bridge Construction Project (Engineering Survey and Design),” the “Tha-Chang Bridge Project,” “Nonthaburi and Pathumthani Bridges Construction Project” , the “Memorial Bridge Construction and Rehabilitation Project”

clearly a necessity for more thought to be given to the resettlement of citizens of the project locality earlier in the project cycle.

In the “Eastern Seaboard Mae Kuang Irrigated Agriculture Development Project (Stages I, II, and III),” 1500 hectares were to be submerged due to dam construction, which necessitated the resettlement of 309 households. Even though resettlement was implemented through legal means and follow-up activities were implemented after resettlement, the number of households remaining in the resettlement region decreased to 239.

3.2.5 Sustainability

(1) Output condition

While approximately 40% of the 74 projects had current states of output (i.e., physical condition) that were deemed satisfactory, either problems were reported in the remainder of the projects or there was insufficient information based on which to evaluate. Problems were especially noted for “Thai AJDF Category B” and in the “Small Scale Industry Promotion Program (Phases I and II).” Both were two-step loan programs targeted at small and medium-sized manufacturers, with the objective of the first program being to provide investment funds for export-oriented enterprises, while the second category was for enterprises that serve the domestic market. In both projects, the small and medium-sized enterprises, which were the end users, were negatively affected by the economic crisis that occurred in 1997, causing an increase in the percentage of sub-loans that became delinquent.

In other sectors, the water supply/sewerage/sanitation, agriculture and irrigation sectors had a relatively high number of projects where concerns in this area were noted. Misgivings regarding the current state of maintenance management were noted in seven out of the nine projects in the water supply/sewerage/sanitation sector²⁶, in four of six projects in the agriculture sector²⁷, and in four of five projects in the irrigation sector²⁸. While there are many instances where the targeted recipients of these projects (users) have taken on part of the financial burden for maintenance management or are themselves engaged in the maintenance of incomplete facilities, there is a risk that the condition of the facilities or equipment will be negatively affected should these activities not be properly undertaken.

(2) Operation and maintenance system

²⁶ The “Khon Kaen Water Supply Expansion Project,” the “Nakhon Ratchasima Water Supply Expansion Project,” the “Nong Pla Lai - Nong Kho Water Pipeline Project,” the “Bangkok Water Supply Improvement Project (Tunnel Rehabilitation),” “Bangkok Water Supply Improvement Project (Stage 2 - Phase 1),” the “Fourth Bangkok Water Supply Improvement Project (Phase 1),” the “Bangkok Water Supply Improvement Project (Stage I- Phase II),” and the “Map Ta Phut - Sattahip Water Pipeline Project”

²⁷ “BAAC Loan (X), the Agricultural Credit For Rural Development Project (2), (3), (4), (5),” the “New Village Development Programme (I and II),” and the “Seed Multiplication Project.” The first two are two-step loan programs. As expected, many of the sub-loans are delinquent due to aftereffects of the economic crisis.

²⁸ The “Chao Phya Irrigated Agricultural Development Project,” the “Mae Kuang Irrigated Agriculture Development Project (Stages I, II, and III),” the “Small Scale Irrigation Program (Stages I, II and III),” and the “Small Scale Irrigation Program (Stages IV, V and VI).”

While 60% of all projects were deemed as having good operation and maintenance systems, 30% noted concerns and there was insufficient information on which to evaluate in the remaining 10% of the projects. Operation and maintenance systems in projects in the bridges, manufacturing, and telecommunications sectors were comparatively good, but the systems in the water supply/sewerage/sanitation, transmission lines/distribution systems, and irrigation sectors had comparatively more problems.

The “Khon Kaen Water Supply Expansion Project” and the “Nakhon Ratchasima Water Supply Expansion Project,” both for the water supply/sewerage/sanitation sector, were indicated as having particularly serious problems in this area. In the first project, there was a shortage of personnel and training, resulting in inadequate management of operations and maintenance, which led to various problems in the waterworks facilities. In the second project, a shortage of personnel resulted in the failure to undertake routine inspections as specified in the manual during normal management of operation and maintenance. Instead, problems were dealt with as glitches arose, which resulted in the judgment that a sufficient operation and maintenance system had not been established.

However, the “Laem Chabang Industrial Estate Projects (I) and (II),” and the “Map Ta Pud Industrial - Urban Complex Project” are both examples where maintenance was well managed. The Industrial Estate Authority of Thailand (IEAT) held regular monthly meetings with maintenance organization composed of firms occupying the estate, and offered various types of support, such as consultations on trouble spots in maintenance management.

(3) Financial resources for operation and maintenance

The ex-post evaluation reports of just under half the projects stated explicitly that they were capable of adequately securing the funds necessary for future operations and maintenance. While fewer than 20% of the projects indicated some cause for concern regarding financial resources, 10% had clear problems. The ex-post evaluation reports of the remaining 30% did not indicate their situation one way or the other.

There were 7 projects where problems of some sort were apparent. These can be broken down as follows: 2 railways projects, 2 water supply/sewerage/sanitation projects, 1 road project, 1 fisheries project, and 1 agricultural project.

The two railways projects were both deemed as facing difficulties in securing sufficient financial resources for management of operations and maintenance²⁹.

²⁹ The Passenger Coaches Procurement portion of the “Train Dispatcher Telephone Improvement and

This was due to the poor financial condition of the State Railway of Thailand, the operating agency of the projects. SRT's situation was further worsened by project implementation.

(4) Continuation of needs

Approximately 60% of the projects were judged as being needed to a satisfactory degree on an on-going basis. Fewer than 10% of the projects had concerns regarding the continuity of needs. For the remainder, no mention was made in the ex-post evaluation reports regarding an on-going need for the project.

At the time of evaluation of the "Sattahip - Map Ta Phut Railway Project," other means of transportation were negatively affecting rail transportation demand. Thus, the continuing need for this project is at risk, unless the State Railway of Thailand makes an effort to stimulate demand.

In addition, at the time of evaluation of the "Environmental Protection Promotion Program," a two-step loan program, the economy was still experiencing residual complications arising from the economic crisis. This reduced corporate inclination to invest in environment countermeasures, and until the economy recovers at a more rapid rate, it has been deemed that there is no continuing need for this project.

(5) External factors

Of the 74 projects, fewer than 30% contained particular mention of external factors such as policy, natural conditions, social and economic environment, and related projects. Two-thirds of these factors were noted as being positive in terms of project effectiveness.

The "Bangkok International Airport Expansion Project (Stages I, II and III)" was implemented during the first half of the 1980s. It then became possible to implement policies emphasizing tourism, including naming 1987 as "Visit Thailand Year", which resulted in an increase in the number of foreign visitors. The main objective of the "Tourism Development Program" was to promote the development of tourism in the greater Bangkok metropolitan area. The project also succeeded in attracting visitors to outlying districts, and the "Regional Development Program (I) & (II)" and the "Social Investment Project," were implemented as follow-up projects, building and expanding the tourism infrastructure.

Passenger Coaches Procurement Project" and the "Passenger Coaches Procurement Project (II)," the "Project for State Railway Of Thailand" and "Procurement of Locomotives and Rolling Stock Project"

However, in terms of negative external factors, the Asian economic crisis was noted as having adverse effects, causing negative consequences especially for the two-step loan programs³⁰.

³⁰ The “Environmental Protection Promotion Program,” the “BAAC Loan (X),” etc.

3.3 Issues specific to Thailand – The Eastern Seaboard Development Plan

A factor to be kept in mind when evaluating Japanese ODA loan projects in Thailand is the Eastern Seaboard Development Plan. There were 16 ODA loan projects spanning many sectors implemented in relation to the development plan for the eastern seaboard region; an evaluation of their collective impact was undertaken³¹. This section will present a broad overview of the results of the combined evaluations, and will examine the collective results and impacts, which were not dealt with directly in the previous section.

(1) Overview of the plan

The objective of the Eastern Seaboard Development Plan is to build new industrial infrastructure in the three provinces (Chachoengsao, Chonburi, and Rayong), collectively known as the eastern seaboard region. This area is located 80 to 200 km south of Bangkok, and the main purpose of development is to avoid an over-concentration of people and industry in the Bangkok metropolitan area. This region formed one of the main pillars of Thailand's Economic and Social Development Plan from the 1980s through to the mid-1990s. Part of the underlying impetus was the discovery of commercially exploitable natural gas fields in the Gulf of Thailand, and the promise of development of heavy and chemical industries, which make use of these resources.

(2) Japanese ODA loan projects

The 16 projects listed below account for total loan commitments of 178,668 million yen³² and an actual disbursed amount of 133,799 million yen³³. The projects focused on heavy and chemical industries utilizing natural gas in the Map Ta Pud region, the establishment and development of export-oriented light manufacturers in the Laem Chabang region, and the development of infrastructure supporting these projects, such as ports, roads, railways, and an industrial water supply.

³¹ The date of the evaluation report is September 1999.

³² This corresponds to 10% of the total cumulative loan commitment to Thailand at the end of FY1998. The Eastern Seaboard Development Plan, undertaken from the start of the 1980s to the early 1990s, was one of the priority areas of Japanese support to Thailand.

³³ As of July 1999.

Development of the Map Ta Pud region	1) Map Ta Pud Industrial - Urban Complex Project, 2) Development Programme Map Ta Pud Port Project, 3) Gas Plant Project
Development of the Laem Chabang region	4) Laem Chabang Port Project, 5) Laem Chabang Industrial Estate Project
Development of water sources and water conduit projects	6) Nong Pla Lai Project (Stage I), 7) Eastern Seaboard Region (Dokukurai - Map Ta Pud) Water Pipeline Project, 8) Map Ta Phut - Sattahip Water Pipeline Project, 9) Nong Kho - Laem Chabang Water Pipeline Project, 10) Nong Pla Lai - Nong Kho Water Pipeline Project
Railway projects	11) Sriracha - Laem Chabang Railway Project, 12) Sattahip - Map Ta Phut Railway Project, 13) Klong Sip Kao - Kaeng Khoi Railway Project
Road projects	14) Chonburi - Pattaya New Highway Construction Project, 15) Bangkok - Chonburi Highway Construction Project, 16) Outer Bangkok Ring Road (East Portion) Construction Project (I)

(3) Impact

In the ex-post evaluation report, the impact of the Eastern Seaboard Development Plan was categorized into impacts on industrial development, the environment, and regional administrations; these impacts were then analyzed and evaluated. The following is a summary.

(A) Impact on industrial development

- The eastern seaboard region experienced rapid economic growth during the 1980s and early 1990s, and established itself as a major economic bloc and industrial zone, second only to the Bangkok metropolitan area.
- The implementation of transportation-related infrastructure and public utility services as a result of ODA loan projects stimulated investment from the private sector, in particular direct foreign investment. It also played a major role in the establishment of factories and the industrialization of the eastern seaboard region.
- The Map Ta Pud region has developed into Thailand's paramount petrochemical base. Of the heavy and chemical industries that use natural gas as a fuel and a raw material (manufacturing products such as petrochemicals, fertilizers, soda ash, and iron), the choice of petrochemicals as a national project contributed to the efficiency of the project and the commercial success it achieved.
- The Laem Chabang region and other inland regions have developed into bases of general industry. A factor for this success was the timely creation of a new

industrial base at the onset of Thailand's high economic growth period. The over-concentration of economic functions in the capital metropolitan area resulted in a lack of alternative industries elsewhere.

- There were disputes between the Thai government and donor organizations (such as the World Bank and the Japanese government) due to differences of opinion regarding macroeconomic conditions and the development potential of the eastern seaboard. This resulted in a temporary suspension of implementation due to a review of overseas borrowing, but in the end, once the Thai government had carefully studied the project in depth, they reached an independent decision to implement the plan. This was a factor that led to the project's ultimate success.

(B) Environmental Impact (Map Ta Pud Industrial - Urban Complex)

- A key issue in anti-pollution measures in the Map Ta Pud Industrial - Urban Complex, where the petrochemical industry is concentrated, is an offensive odor. Suggestions for improvement made by the IEAT were implemented at each of the factories, and were effective to a certain degree. However, more effort is required to further improve the situation.
- In the Map Ta Pud Industrial - Urban Complex, the IEAT established a monitoring community composed of local residents and municipal workers. This community is giving the local population, whose quality of life was being affected by the offensive odors, opportunities to voice concerns, and is continuing to work to ameliorate the situation. These efforts are receiving recognition.
- The IEAT regularly monitors the atmospheric pollution and water quality as specified in the environmental impact assessment, and is endeavoring to improve monitoring methods. This type of effort is winning approval.

(C) Impact on regional administrations

- The on-going industrialization of the eastern seaboard was accompanied by a large population influx from other regions during the late 1980s to the early 1990s. Thus, regional administrations were faced with a much greater demand for public services such as living-condition related infrastructure upgrades, education, and health care.
- In Laem Chabang City, the Eastern Seaboard Development Plan revitalized the municipal economy and created approximately 30,000 new jobs.
- Regional administrations are working to meet the increasing demand for public services, but are limited by budgetary constraints and limited organizational capacities. The appropriate delegation of authority to regional

administrations, strengthening their organizational capacities, and securing of financial resources are the key challenges to resolve this impasse.

(4) Comparison of individual project evaluations

As noted above, the results of the comprehensive impacts evaluations reveals that the Eastern Seaboard Development Project had an enormous impact on the region's economy and society, and on Thailand's economic development as a whole.

An examination of the evaluation results of the individual projects that make up the Eastern Seaboard Development Plan shows that, while each generally received good evaluations, these evaluations were not made from a comprehensive point of view, which meant that some things escaped notice. For example, the degree of direct contribution to the growth rate of added value as well as the number of new jobs created by each of the projects was small, and was difficult to measure in any case. However, it is clear that the Eastern Seaboard Development Project in its entirety greatly contributed to the economy and public welfare of the country as a whole. At the same time, increases in the eastern seaboard region's population brought about by its development, generated a significant increase in demand for social infrastructure and public services, and made the provision of new services absolutely vital. At present, the regional administrations are not able to keep pace with this, and there is a possibility that other urban problems will develop.

Also, not all evaluations of individual projects in the railway and roads sectors were positive, and some problems were specifically noted, especially regarding implementation efficiency or the manifestation of project results. However, given that these projects were part of the infrastructure development of the eastern seaboard region, and thus played an essential part in regional and industrial development, it can be said that the projects were indispensable³⁴. In this sense, when the overall impact of these projects together with other projects was taken into consideration, it is safe to say that the outcomes were in reality, more than sufficient.

In this way, when dealing with the implementation of projects in specified regions or with industries that are a portion of a comprehensive framework, it is essential to adopt an approach whereby the overall impact of all related projects is evaluated, and then use these results in conjunction with the individual project evaluations.

³⁴ The railway network is used for long-distance mass transport of the container cargo handled at Laem Chabang Port or the LPG and other types of energy produced in the Map Ta Pud Industrial - Urban Complex. The road network also serves as regular ground transportation for passengers and cargo from Bangkok and the eastern seaboard region.

4. Conclusions

4.1 Performance analysis overview

In general, results have been satisfactory for the 74 projects carried out in Thailand that were subjected to ex-post evaluation. Project planning has, overall, been relevant, and effects of the projects significant. In particular, objectives have been achieved for most of the projects, with those deemed not to have achieved the desired objectives comprising a tiny minority. With regard to efficiency and sustainability, on the other hand, though there were a number of projects for which there were problems in these areas, these two categories were rated relatively high in comparison with other countries. Projects carried out in Thailand tend to be positively evaluated.

Though clear trends by sector could not necessarily be ascertained in all cases, bridge, power/gas, and agriculture projects were positively evaluated, while the percentage of problematic railways and water supply/sewage/sanitation/ projects was relatively high.

The following is a summary of evaluation findings, by the five major evaluation criteria, on performance for projects subjected to evaluation.

(1) Relevance

Relevance was the category for which the fewest problems were reported, and the majority of projects were evaluated as being consistent with priority development goals and development issues.³⁵ Most projects carried out in Thailand were formulated in accordance with national socioeconomic development plans and/or sector development plans.

Some type of modification was made to project scope at the implementation stage for approximately 70 percent of projects, with the great majority of the changes determined relevant. For some of the projects, particularly in the transport sector, however, the modifications were unavoidable, having stemmed from inadequate surveying at the preliminary planning stages. Of course, it is to be expected that level of survey precision on project details as well as external conditions may differ between the preliminary appraisal and implementation stages; therefore it is inappropriate to assert that the survey process at the project planning stage was inadequate based solely on the fact that the project had to be altered.

(2) Efficiency

³⁵ Excluding projects with no particular information.

Projects completed within less than a year over schedule stood at some 40% of the total, while those incurring more serious delays, of three years or more, comprised only 15%. A number of reasons contributed to the setbacks, including delayed bidding and procurement procedures, and difficulties with land acquisition and resettlement issues.

Construction-stage setbacks can be observed in nearly all sectors, but serious delays were particularly common among transport-sector projects.

Cost performance, on the other hand, was excellent, with nearly 90% of projects completed within planned budgets, or in excess of budgets by 10% or less. Implementation systems were on the whole rated highly. In the transport sector, however, particularly with regard to railway projects, problems were observed with executing agency and/or contractor performance.

(3) Effectiveness

Most projects satisfactorily achieved their objectives, and ODA loan projects carried out in Thailand are considered highly effective, with output and usage levels high. Analyzing the IRR, a number of projects reached the economic and financial viability levels established at the original planning stages. Quantitatively speaking, therefore, goals were effectively reached.

By sector, facility/service usage levels as well as the degree to which objectives were achieved were relatively high for communications and electricity/gas projects. In particular, the projects served to enable a more convenient lifestyle in rural areas through the popularization of telephone lines, as well as contributing to improved electrification rates and accommodation increasing electric power demand for both industrial and household use. They also contributed greatly to the alleviation of traffic congestion in the capital area.

(4) Impact

Clearly presented data on the project contribution toward the achievement of national priority goals or impact was not available for many projects. Socioeconomic impact, however, given that it was highly evident, was reported for a relatively high number of projects, taking the form of industrial development, greater employment opportunities, improved incomes, and so on in the economic sphere. In terms of social impact, the projects hastened social participation by improving social welfare and reducing the labor burden incurred by women. Such effects were widely reported in the road, port, communications, and water supply/sewage/sanitation sectors.

A few projects also significantly affected policy and organization aspects in rural Thailand by facilitating the formation agricultural associations and promoting financial systems.

One project was reported as having had serious negative impact on the environment; the problem, however, was dealt with by a strategy formulated with the assistance of another ODA loan.³⁶ On the whole, projects involving resettlement and/or land acquisition were carried out according to plan, though several projects were delayed due to problems with these two issues.

ODA loan-assisted Eastern Seaboard development focused on 16 projects. In general, the projects are viewed as having had a positive impact on regional economic development of Thailand as a whole. However, negative impact on the environment, and increased burden on autonomously-managed regional public services caused by population influx did occur.

(5) Sustainability

Regarding sustainability, few problems were reported in general. For a number of projects, however, particularly in the railways, water supply/sewage/sanitation, roads, fisheries, and agricultural sectors, there was cause for concern related to operations and maintenance systems as well as the securing of financial resources.

As for two-step loan projects, delays in repayment of sub loans were conspicuous due to overlap with the economic crisis of 1997. Though ameliorative steps are being taken by the executing financial agencies, the problem, which was induced by unexpected external factors, is not expected to be solved with a short period of time barring a broad-based economic turnaround.

³⁶ Air pollution caused by the “Mae Mho Power Plant Projects (Unit 8 & 9)”

4.2 Lessons Learned/Recommendation

(1) Continuous assistance to priority sectors, with a long-term view

As can be observed with the Eastern Seaboard development projects, a mutually strengthening effect is possible where concentrated continuous assistance is provided over a specific period of time to multiple sectors for the development of a specified region as a nationally-designated project. Among the Eastern Seaboard projects, even in case where each project was not necessarily evaluated as particularly effective, taken as a whole they have played a significant role in the overall development of the region, and have achieved overall project objectives.

In general, projects carried out in Thailand have been consistent with the country's development planning, and are highly relevant. To enable even greater effectiveness of regional and sector development, however, assistance should be carried out in still closer coordination with other donors over the long term.

(2) Flexible application of two-step loan programs

Numerous two-step loan projects have been carried out as ODA loan projects in Thailand. These have had the effect of facilitating the establishment of long-term financing systems geared toward small and medium-scale corporations---which had not previously existed in the country---as well as the establishment and development of such systems for the agricultural sector.

On the other hand, however, problems stemming from fluctuating economic circumstances resulting in declining use of these systems as well as climbing rates of delinquent payments in relation to aggregate sub-loan balances, have been reported for some projects.

As a mean of realizing the various applications of the two-step loans, the linking of two-step loan projects to other types of ODA projects can potentially achieve greater project effect.

(3) Efficiency of operations and maintenance

Operations and maintenance of water pipeline projects under the Eastern Seaboard Development Plan is contracted to private corporations, resulting in enhanced efficiency through automation and greatly contributing to the sustainability of project effectiveness.

As illustrated by this case, efficient operations and maintenance of public services can be facilitated by contracting to private companies. However, certain preconditions must be carefully considered in determining which operations should be contracted; e.g. government limitations on the type of contractable operations, initial conditions set by the government, and so on.

Reviewed Projects (Thailand)

Project Name	Sector	L/A
NONG PLA LAI PROJECT (STAGE I)	Electric Power/Gas	Sep-88
THE BAN CHAO NEN HYDROELECTRIC PROJECT (I)	Electric Power/Gas	Apr-74~ Sep-74
THE LOWER QUAE YAI REGULATING DAM PROJECT	Electric Power/Gas	Sep-77
MAE MOH POWER PLANT PROJECT (UNIT8)	Electric Power/Gas	Mar-86~ Apr-87
BHUMIBOL HYDRO POWER PLANT REHABILITATION PROJECT	Electric Power/Gas	Sep-89~ Sep-91
THE POWER DISTRIBUTION SYSTEMS REINFORCEMENT PROJECT (1,2,3-1), ELECTRIC DISTRIBUTION SYSTEM REINFORCEMENT PROJECT IN CHAING MAI LA NIPHUN AND LAMPANG	Electric Power/Gas	Dec-74~ Jul-82
VILLAGE ELECTRIFICATION PROJECT	Electric Power/Gas	Apr-81~ Oct-85
NORMAL RURAL ELECTRIFICATION PROJECT	Electric Power/Gas	Sep-83
POWER DISTRIBUTION SYSTEMS REINFORCEMENT PROJECT (4-2, 4-3), NORMAL RURAL ELECTRIFICATION PROJECT 2, VILLAGE ELECTRIFICATION PROJECT (PHASE 3)	Electric Power/Gas	Sep-88~ Sept-91
LPG MARKET DEVELOPMENT (DISTRIBUTION) PROJECT	Electric Power/Gas	Sep-83
THE PHUN PHIN-PHATTALUNG HIGHWAY PROJECT	Transportation	Oct-74
DIN DAENG-KLONG TOEY PORT EXPRESSWAY PROJECT, BANG NA - KLONG TOEY PORT EXPRESSWAY PROJECT	Transportation	Mar-78~ Jun-79
PRODUCTIVITY ROAD PROGRAM	Transportation	Mar-78~ Sep-83
PHITSANULOK-DENCHAI HIGHWAY PROJECT	Transportation	Aug-78
SAM YAK SRA KRATHIAM-KANCHANABURI HIGHWAY PROJECT	Transportation	Aug-78
DAO KANONG-KLONG TOEY PORT EXPRESSWAY PROJECT (STAGE II)	Transportation	Sep-83
CHOLBURI - PATTAYA NEW HIGHWAY CONSTRUCTION PROJECT	Transportation	Nov-88~ Sep-91
OUTER BANGKOK RING ROAD(EAST PORTION) CONSTRUCTION PROJECT(I)	Transportation	Dec-90~ Sep-93
BANGKOK-CHONBURI HIGHWAY CONSTRUCTION PROJECT(I)	Transportation	Dec-90
HIGHWAY SECTOR PROJECT (2)	Transportation	Jan-93
THE THA-CHANG BRIDGE PROJECT	Transportation	Feb-71
THE SATHORN BRIDGE CONSTRUCTION PROJECT	Transportation	Mar-77
MEMORIAL BRIDGE CONSTRUCTION AND REHABILITATION PROJECT	Transportation	Aug-80
NONTHABURI AND PATHUMTHANI BRIDGES CONSTRUCTION PROJECT	Transportation	Apr-81
NEW RAMA VI BRIDGE CONSTRUCTION PROJECT	Transportation	Sep-87
RAILWAY COMMUTER TRAFFIC REINFORCEMENT PROJECT	Transportation	Jul-82
SRT SIGNALLING IMPROVEMENT AND MODERNIZATION PROJECT	Transportation	Sep-83
TRAIN DISPATCHER TELEPHONE IMPROVEMENT AND PASSENGER COACHES PROCUREMENT PROJECT	Transportation	Sep-84
PASSENGER COACHES PROCUREMENT PROJECT (II)	Transportation	Sep-87
SRIRACHA - LAEM CHABANG RAILWAY PROJECT	Transportation	Sep-88
SATTAHIP - MAP TA PHUT RAILWAY PROJECT	Transportation	Sep-88
KLONG SIP KAO - KAENG KHOI RAILWAY PROJECT	Transportation	Feb-90
PROJECT FOR STATE RAILWAY OF THAILAND	Transportation	Sep-91~ Sep-93
BANGKOK INTERNATIONAL AIRPORT EXPANSION PROJECT	Transportation	Oct-79~ Jun-82
INLAND AND COASTAL NAVIGATION CHANNELS IMPROVEMENT PROJECT (PROCUREMENT OF DREDGERS AND A TUG BOAT)	Transportation	Aug-80
DEVELOPMENT PROGRAMME MAP TA PUD PORT PROJECT	Transportation	Sep-84~ Sep-91

Project Name	Sector	L/A
LAEM CHABANG PORT PROJECT	Transportation	Sep-84~ Feb-90
THE METROPOLITAN AND LONG DISTANCE TELEPHONE PLANT PROJECT	Telecommunications	Nov-75~ Sep-78
EGAT COMMUNICATION SYSTEM EXPANSION PROJECT	Telecommunications	Jul-78
RURAL LONG DISTANCE PUBLIC TELEPHONE EXPANSION PROJECT	Telecommunications	Sep-84
RURAL PUBLIC TELEPHONE EXPANSION PROJECT	Telecommunications	Oct-85
THE RURAL PUBLIC LONG DISTANCE TELEPHONE PROJECT 1992-1996	Telecommunications	Sep-93
SMALL SCALE IRRIGATION PROGRAM (1-3)	Irrigation/Flood Control	Mar-78~ Jul-82
PUMPING IRRIGATION PROJECT	Irrigation/Flood Control	Aug-80
CHAO PHYA IRRIGATED AGRICULTURAL DEVELOPMENT PROJECT	Irrigation/Flood Control	Jul-82
SMALL SCALE IRRIGATION PROGRAM (4-6)	Irrigation/Flood Control	Sep-83~ Oct-85
MAE KUANG IRRIGATED AGRICULTURE DEVELOPMENT PROJECT	Irrigation/Flood Control	Sep-84~ Sep-87
BAAC LOAN(1-4)	Agriculture/Forestry/Fisheries	Oct-75~ Aug-80
NEW VILLAGE DEVELOPMENT PROGRAMME	Agriculture/Forestry/Fisheries	Jun-79~ Sep-81
BAAC LOAN (5-7)	Agriculture/Forestry/Fisheries	Apr-81~ Mar-86
SEED MULTIPLICATION PROJECT	Agriculture/Forestry/Fisheries	Sep-81
BAAC LOAN (X)	Agriculture/Forestry/Fisheries	Feb-90
AGRICULTURAL CREDIT FOR RURAL DEVELOPMENT PROJECT	Agriculture/Forestry/Fisheries	Sep-93~ Sep-97
FISHERY DEVELOPMENT PROJECT	Agriculture/Forestry/Fisheries	Apr-81
SMALL SWAMP INLAND FISHERY PROGRAM	Agriculture/Forestry/Fisheries	Sep-83
GAS PLANT PROJECT	Mining/Manufacturing	Jul-82
MAP TA PUD INDUSTRIAL - URBAN COMPLEX PROJECT	Mining/Manufacturing	Oct-85
LAEM CHABANG INDUSTRIAL ESTATE PROJECT	Mining/Manufacturing	Oct-85~ Sep-87
NONG KHO-LAEM CHABANG WATER PIPELINE PROJECT	Mining/Manufacturing	Oct-85
IFCT LOAN (EXPORT INDUSTRY MODERNIZATION PROGRAM)	Mining/Manufacturing	Oct-85
SMALL SCALE INDUSTRY PROMOTION PROGRAM	Mining/Manufacturing	Sep-87~ Feb-90
THAI AJDF CATEGORY B	Mining/Manufacturing	Sep-92
ENVIRONMENTAL PROTECTION PROMOTION PROGRAM	Mining/Manufacturing	Jan-93
THE CHIENGMAI WATER SUPPLY EXPANSION PROJECT	Social Services	Mar-77
BANGKOK WATER SUPPLY IMPROVEMENT PROJECT (STAGE I- PHASE II)	Social Services	Jun-79
BANGKOK WATER SUPPLY IMPROVEMENT PROJECT (II-I)	Social Services	Sep-84~ Oct-85
KHON KAEN WATER SUPPLY EXPANSION PROJECT	Social Services	Mar-86
NAKHON RATCHASIMA WATER SUPPLY EXPANSION PROJECT	Social Services	Sep-87
MAP TA PHUT - SATTAPHIP WATER PIPELINE PROJECT	Social Services	Nov-88
BANGKOK WATER SUPPLY IMPROVEMENT PROJECT (TUNNEL REHABILITATION)	Social Services	Nov-88
BANGKOK WATER SUPPLY IMPROVEMENT PROJECT (STAGE 2 - PHASE 1)	Social Services	Nov-88

Project Name	Sector	L/A
THE FOURTH BANGKOK WATER SUPPLY IMPROVEMENT PROJECT (PHASE1)	Social Services	Sep-91
NONG PLA LAI - NONG KHO WATER PIPELINE PROJECT	Social Services	Jan-93
TRAIN DISPATCHER TELEPHONE IMPROVEMENT AND PASSENGER COACHES PROCUREMENT PROJECT	Social Services	Sep-84
TOURISM DEVELOPMENT PROGRAM	Social Services	Jan-88

The first Loan agreement year/month and the last Loan agreement year/month are described for multi-phased projects, etc.