No.

A Study by The Japan Society for International Development (JASID)
under contract with Japan International Cooperation Agency (JICA)

JFY2000
Evaluation by External Organizations

Alleviating Regional Disparity between the Bangkok Metropolitan Area and the Northeastern Region: A Case of the Kingdom of Thailand

(Summary)

March 2001

The Japan Society for International Development
(JASID)

PVE
JR
01-14

A Study by The Japan Society for International Development (JASID)
under contract with Japan International Cooperation Agency (JICA)

JFY2000
Evaluation by External Organizations

Alleviating Regional Disparity between the Bangkok Metropolitan Area and the Northeastern Region: A Case of the Kingdom of Thailand

(Summary)

March 2001

The Japan Society for International Development
(JASID)

Acknowledgments

Japan is providing the official development assistance (ODA) for supporting the nation building and human resource development of developing countries. Our continuous concern in ODA and its effort to encourage the self-help of developing countries are highly appreciated in contributing to the economic development of recipient countries.

However, as a consequence of the severe financial situation in recent years, ODA budget has to undergo reconsideration, and it has become necessary to make sure whether ODA activities are really useful for supporting these situations.

The Japan International Cooperation Agency (JICA) has continuously requested evaluation surveys from scholars and intellectuals who are independent and impartial and also have a broad view in development assistance. Since 1999, a new budget for "Estimation by outside institutions" has been prepared and JICA entrusts various independent research institutions which have rich experience and expertise in exploring evaluation methods and the implementation of evaluations based on these methods.

This estimation project is aiming at evaluating the JICA's projects to "alleviate regional disparities between the metropolitan area and the rural regions" which JICA places one of the priority subjects for the middle income countries. Thailand was chosen as a case study of the problem of "alleviating regional gaps between the Bangkok Metropolitan area and the Northeastern Region". The study also aims to propose new directions and suggestions for drafting and implementing the cooperation programs of JICA in the future.

Regarding the implementation of this evaluation, for the first time we have enlisted the services of an academic society. The society which was entrusted is the Japan Society for International Development (JASID), was founded in 1990, and has more than 1,150 members, mostly specialists in the field of international development study. For this contract, the Project Examination Committee of the JASID has selected the study team which consists of experienced specialists in Southeast Asia including Thailand and familiar with JICA activities.

The results and the suggestions derived from this evaluation survey will be utilized for planning and carrying out the similar projects in the future.

We would like to express our gratitude to everybody supporting our investigation.

Furthermore, we should mention that the content of this report reflects the opinion of each author, and in cases of disagreement with JICA, we have felt the need to append our comments.

March 2001

(TAKASHIMA Yushu)

Vice-President, Japan International Cooperation Agency

Foreword

The Japan Society for International Development (JASID) has entered into an agreement with the Japan International Cooperation Agency (JICA) for the post-evaluation of JICA's cooperation projects in Thailand. It is the first time that our Society has been so entrusted by JICA directly. We acknowledge JICA's positive attitude and promise to do our best.

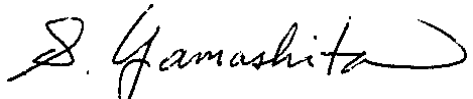
As we are well aware, the circumstances surrounding ODA have recently become harsh. Due to the economic recession in Japan, the ODA budget is said to be reduced and foreign assistance activities have come under increasing public scrutiny. The efficiency of each project needs to be pursued and information concerning ODA activities should be open to the public. In these circumstances, JICA needed an academic society as an objective evaluator. We feel glad to offer any contribution to this. Through the evaluation tasks, members of our group have had the opportunity to be involved practically in development projects and to use first hand data as research materials, and also many graduate students and young members of our Society have obtained valuable experience by taking part in field survey and other activities.

The evaluation carried out by an independent society like JASID aims at improving ODA practices and we should contribute to the improvement and reform of the ODA practices. This is one of the social contributions offered by JASID. It is essential that both sides are tackling this task most seriously, and open exchange of opinions and the readiness to accept other opinions are requested. Good solutions should be rated properly. We are happy to give rise to a new culture of ODA evaluation.

Further, the members of our evaluation team have been selected, by the Project Examination Committee of JASID, from among JASID members having rich experience in the field study in Thailand and their expertise. The content of this report reflects the results of the analysis and the opinions of our evaluation team, and does not represent the views of our Society. We consider that this report has reached the expected goals of analysis, but during the process of research, new problems appeared, and to solve them will be a task of the future. We also think that it would be necessary to publish the results and the problems of our evaluation and to continue the discussion by further studies.

Finally, we would like to express our gratitude to related institutions and experts for having given us their valuable information and support.

March, 2001



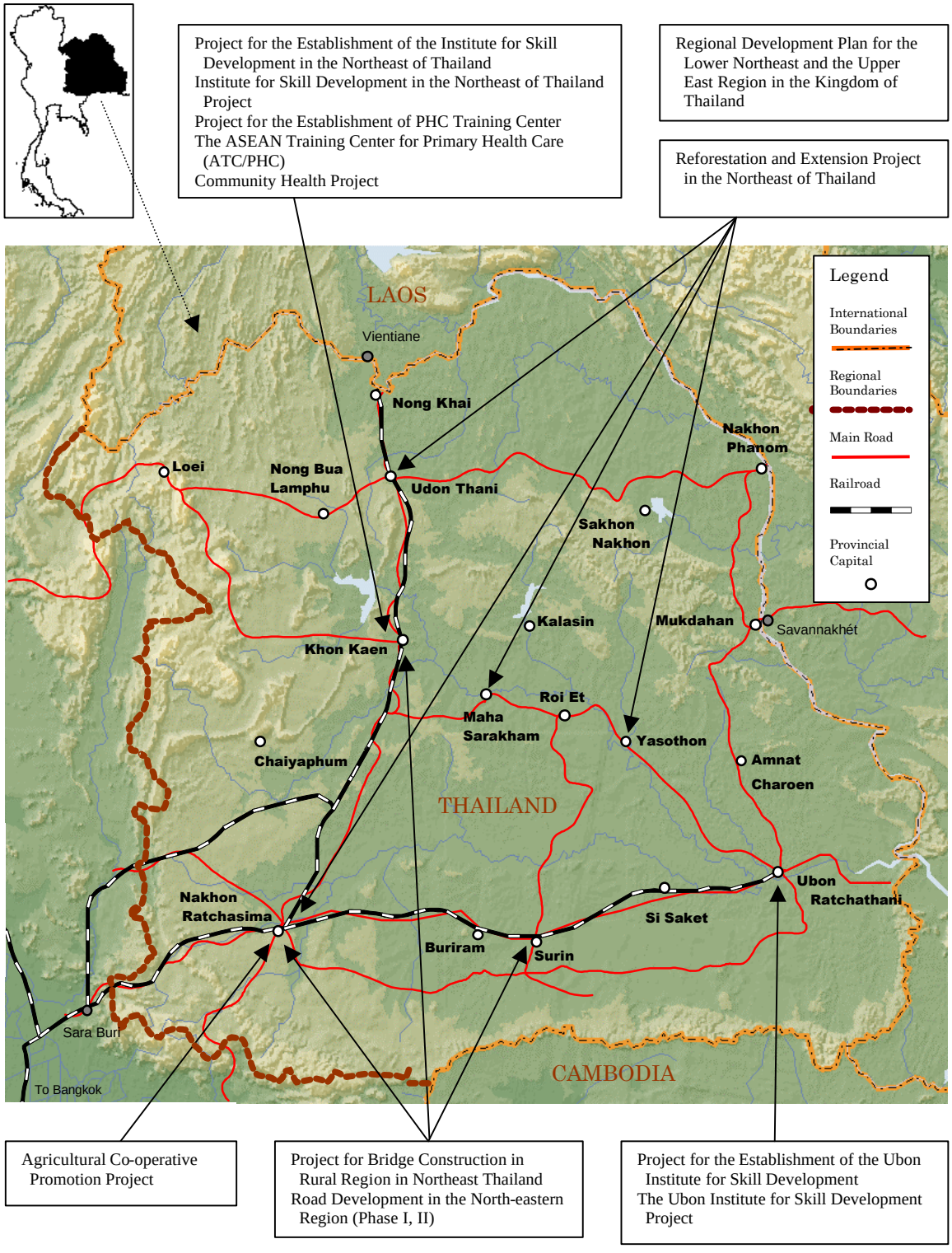
(YAMASHITA Shoichi)
President, the Japan Society for International Development

Contents

Abbreviations

ACPP	Agricultural Cooperative Promotion Project
AIHD	ASEAN Institute for Health Development
ATC/PHC	ASEAN Training Center for Primary Health Care
BAAC	Bank for Agriculture and Agricultural Cooperatives
BMA	Bangkok Metropolitan Area
C/P	Counterpart
CPD	Cooperative Promotion Department, Ministry of Agriculture and Cooperatives
DAC	Development Assistance Committee, OECD
DOH	Department of Highways, Ministry of Transport and Communications
F/S	Feasibility Study
GoT	Government of Thailand
GRP	Gross Regional Products
IQC	Indefinite Quantity Contract
ISD	Institute for Skill Development
JICA	Japan International Cooperation Agency
KISD	Khon Kaen Institute for Skill Development
MoPH	Ministry of Public Health
M/P	Master Plan
NESDB	National Economic and Social Development Board
NGO	Non-Governmental Organization
NSO	National Statistical Office
ODA	Official Development Assistance
PAR	Participatory Action Research
PDM	Project Design Matrix
PHC	Primary Health Care
PWD	Public Works Department, Ministry of Interior
REX	Reforestation and Extension Project in the Northeast of Thailand
RTC/PHCs	Regional Training Centers for Primary Health Care
S/W	Scope of Works
UBISD	Ubon Institute for Skill Development

Map of Project Sites



Introduction: Alleviating Regional Disparity between the Bangkok Metropolitan Area and the Northeastern Region in Thailand

In middle income countries there exist big regional gaps between the metropolitan area and the rural region. The aims of the study are to examine the reasons and the structure of regional gaps and give suggestions of how to alleviate the regional gaps, focusing on the Northeastern Region of Thailand. The challenge to solve the regional disparity problems is a nationwide target. However we take a multi-lateral approach by evaluating the micro Japan International Cooperation Agency (JICA) projects in different areas already provided in the Northeastern Region and then to approach this macro target. Based on the examination we also discuss the future direction of the cooperation between two countries in this subject.

The JICA projects we made post-evaluations of are listed in Table 0-1. There are 13 projects which can be classified in five groups: macro economics, infrastructure, agriculture and forestry, vocational training schools, and health and medical care. Through this examination we aim at examining very basic problems for sustainable regional and rural development, i.e., to promote rural residents' participation in the development process. This is one of our final goals.

This report aims also at providing new approaches necessary for evaluating Official Development Assistance (ODA) projects and examining policy issues, although we have partly applied the traditional methods to the post-evaluation analysis in this volume. Project evaluation is usually done by comparing targets and actually attained values. However in most of cases it is not enough. For example, in the case of evaluating a Master Plan, we cannot

Table 0-1 JICA projects assessed by JASID groups

Sector	Scheme	JFY	Official Names of Projects	Organisation in Charge
Macro Economics	M/P	91-93	Regional Development Plan for the Lower Northeast and the Upper East Region in the Kingdom of Thailand	NESDB
Infra-structure	Grant	89-90	Project for Bridge Construction in Rural Region in Northeast Thailand	Public Works Dept., Min. of Interior
	M/P	81-82	Road Development in the North-eastern Region	Dept. of Highways, Min. of Transport and Communications
	F/S	84-85	Road Development in the North-eastern Region (Phase II)	
Agriculture & Forestry	PTTC	84-91	Agricultural Co-operative Promotion Project	Cooperative Promotion Dept., Min. of Agriculture and Cooperatives
	PTTC	92-96	Reforestation and Extension Project in the Northeast of Thailand	Royal Forestry Dept., Min. of Agriculture and Cooperatives
Vocational Training	Grant	77	Project for the Establishment of the Institute for Skill Development in the Northeast of Thailand	Former Dept. of Labour., Min. of Interior (Dept. of Skill Dev., Min. of Labour and Social Welfare)
	PTTC	77-81	Institute for Skill Development in the Northeast of Thailand Project	
	Grant	87-88	Project for the Establishment of the Ubon Institute for Skill Development	
	PTTC	88-93	The Ubon Institute for Skill Development Project	
Health & Medical Care	Grant	82-84	Project for the Establishment of PHC Training Center	Min. of Public Health /Mahidol University
	PTTC	82-89	The ASEAN Training Center for Primary Health Care (ATC/PHC)	
	PTTC	91-96	Community Health Project	Health Planning Div. /Rural Health Div., Office of Permanent Sec., Min. of Public Health

The order of the sectors is based on the JICA's classification.

M/P: Master Plan Studies/Development Studies
F/S: Feasibilitiy Studies/Development Studies
Grant: General Project Grant Aid
PTTC: Project Type Technical Cooperation

directly apply the traditional DAC's[1] evaluation method of five items. We need to have new angles, frameworks, and criteria for evaluation.

The fundamental problem in alleviating regional disparity is deeply related to the poverty problem in the long run and our target must be to eradicate absolute poverty in each region. That is, the objective of our studies should be how to upgrade the living standards of local residents. This is the reason why we focus on the possibility of residents' participation who will be real promoters of regional development. We believe that voluntary and sustainable activities of local residents will be a driving force for alleviating regional gaps. We are very concerned with how to support local initiatives. In this sense it is necessary to develop a new framework for evaluation with long-term and integrated range of views.

[1] Development Assistance Committee, Organization for Economic Cooperation and Development (OECD)

Part I

Alleviating Regional Disparity between the Bangkok Metropolitan Area and the Northeastern Region in Thailand: Macro Evaluation and Its Analytical Framework

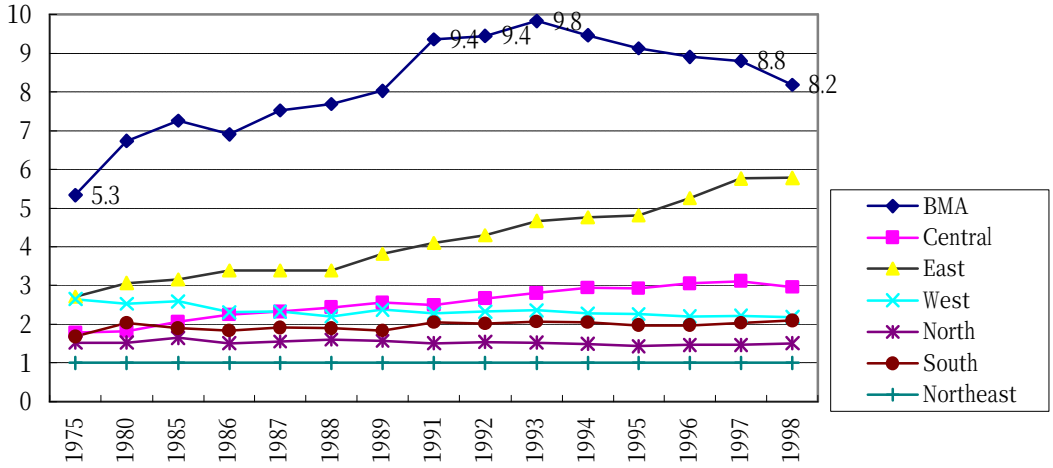
Chapter 1: Regional Income gaps between Bangkok Metropolitan Area and the Northeastern Region: An Empirical Analysis

1.1 Comparison of per capita gross regional products (GRP):

In this chapter the reality of the regional income gaps between Bangkok Metropolitan Area (BMA) and the Northeastern Region is shown and the structural factors which expanded the gaps are empirically analyzed. In this comparison per capita GRP and household income are utilized. The concentration processes of various resources including human resources are analyzed from viewpoints of differences in industrial structure, labor migration, infrastructure construction, education system, and other public services between two regions.

Here, the Northeastern Region consists 19 provinces as follows; Nong Khai, Loei, Udon Thani, Nong Bua Lam Phu, Sakon Nakhon, Nakhon Phanom, Mukdahan, Khon Kaen, Kalasin, Maha Sarakham, Chaiyaphum, Nakhon Ratchashima, Buri Ram, Surin, Si Sa Ket, Roi Et, Yasothon, Ubon Ratchathani, and Amnat Charoen. The population of the Northeastern Region is 20.8 millions which is about 34% of the total population of Thailand. And the area of the region is also about one thirds of total land of Thailand.

Figure 1-1 Trend of the regional income disparity in terms of per capita GRP: (per capita GRP of the Northeastern Region = 1.0)



Sources: NESDB, *Gross Regional and Provincial Product* , each year, and others
Note: 1) GRP: Gross Regional Products
2) comparison by real value at 1988 price.

Figure 1-1 shows the trend of regional income gaps in terms of per capita GRP. In this figure the per capita GRP of the Northeastern Region, which has the lowest income in Thailand, is shown as 1.0, whereas the per capita GRP in other regions is shown in terms of how many times higher it is compared to the level of the Northeastern Region (in the real income at 1988 price).

The area of the "BMA" is defined by the National Economic and Social Development Board (NESDB) as the Bangkok Metropolis and surroundings, including Samut Prakan, Patum Thani, Samut Sakon, Nakhon Pathom, and Nonthaburi, whereas the National Statistical Office (NSO) uses a "Greater Bangkok" concept, with Samut Prakan, Patum Thani, and Nonthaburi as well as Bangkok.

It is obvious that in this Figure the per capita GRP in the BMA is the highest, whereas in the Northeastern Region it is the lowest. In addition, the income gap between the two regions has expanded drastically since 1975 with the income gap escalating from 5.3 times in 1975 to 9.8 times in 1993. Thailand has had continued high economic growth during this period, and the regional income gap has expanded from about 5 times to 10 times in less than 20 years.

The factors cited as being behind the high economic growth, by economists in and out of Thailand, were external factors such as the increases in foreign direct investment, export, and tourism. It is agreed that the gap between the geographical areas in Thailand was the result of those areas which benefited from the rapid growth and those which did not. The government provided incentives especially to foreign capital. Most of the foreign direct investment, including that from Japan, was concentrated in and around Bangkok. The period from 1985 until 1991 when the income gap between the BMA and Northeastern Region escalated dramatically, corresponds with the time when Japanese enterprises rushed to invest into Thailand together with local Thai Chinese as their partners.

The government also established the basis for industrial development by constructing infrastructure such as industrial roads, ports, power plants, telecommunication systems, and even industrial complexes. Naturally, these activities and the arrangement of the infrastructure was concentrated in BMA at first, and then in the eastern seaboard industrial zone after the 1990s. The Northeastern Region was situated farthest from the effect of economic progress. As a result of these comprehensive effects, it can be said that the income gap between the BMA and the Northeast expanded.

In 1993, the income gap between the two areas had increased to its maximum. However, the income gap between the BMA area and Northeastern Region is beginning to show decreasing tendency as is shown in Figure 1-1.

There are several theories about why this is happening, but the facts are that highway systems have been developed; some governmental functions have been decentralized, foreign direct investment had increased, more tourists in some major cities in the Northeastern Region, including Nakhon Ratchasima have been observed, and hotels and other service industries have been located in this region.

The Board of Investment (BOI) inaugurated a new policy to decentralize the foreign

capital investment in 1997, aiming to balance growth throughout the country and trying to cope with the congestion of the Bangkok area. The effect of the implementation of this policy aiming at decentralization became visible with investment shifting from the first zone of the Bangkok area to the third zone of the Northeastern Region and the Eastern Seaboard Industrial area located in Rayong Province.

1.2 Household income comparison:

Per capita GRP does not necessarily show the residents' income standard, but is estimated as a total amount, including the income from businesses and government sectors, as well as the income for the household. Therefore, a different index is necessary in comparing local residents' living standards.

NSO carries out the Household Socio-economic Survey every other year to investigate incomes, savings, and consumption structures of the residents. Based on the NSO survey, the household income of the greater Bangkok area was 2.4 times higher than that in the Northeastern Region in 1981 , whereas the income gap escalated to 3.5 times in 1992 at its peak. When taking a look at the per capita household income, the gap between the two regions was 2.9 times in 1981, and expanded to its peak of 4.5 times in 1992.

More significant changes were that the gap shrank in 1994 down to 2.9 times, but that it showed the tendency of escalation in 1998 on, and the gap escalated to 3.3 times in the household survey conducted in 1999, with per capita household income escalating to 4.0 times. This tendency is greatly different from the tendency of the income gap decreasing since 1993 between both of the areas in terms of the per capita GRP.

1.3 Industrial and social comparison:

The composition of industry in the BMA is mainly manufacturing sector with a 40% share of the entire industry (see: Figure 1-6 (1) in the main report). The BMA includes the sectors of automobiles, electrical appliances, electronic parts, and others which have high value added. These manufacturing sectors based on advanced technology have been created and developed in the course of industrialization for the past 40 years. BMA has become a large center for modern industry as a result of the introduction of foreign direct investment. The manufacturing sectors have a wide range of supporting industries, and Bangkok has begun to play the role of an international business center with the development of information technologies and other modern services. However, the agricultural share in the metropolitan area shrank to 2%.

On the other hand, the Northeastern Region has the largest share of agriculture (see Figure 1-6(2) in the main report). The share of agriculture in this region, which was over 50% in 1975, but had fallen to 20%, still occupies the largest share. This fact explains the major cause of the region's low income. In 1997 and 1998, after the currency crisis, the agricultural share went up a little, possibly as a result of the contribution made by the unemployed who returned to their hometowns to help with farming.

One of the most serious problems of the Northeastern Region is its tendency to rely heavily on its unproductive agricultural sector. There also exists an income gap among the Northeastern Provinces. In the Northeast, more than 80% of the population lives in villages and less than 10% live in urban cities.

Recently it has become difficult to stop the trend of young people's migration to the BMA, since their desire to get a higher education and jobs has become strong, because of the lower socio-economic conditions, access to university education, and other public services in the Northeast.

Chapter 2: "The Regional Development Plan for the Lower Northeast and the Upper East Regions in Thailand": The Mid-term Evaluation and Its New Evaluation Framework

2.1 Outline and the objectives of the Master Plan

(1) Outline of the Plan

The macro economy group has assessed the **"**The Regional Development Plan for the Lower Northeast and the Upper East Regions in the Kingdom of Thailand" (referred to as "Master Plan" or "the Plan" in this chapter) that JICA implemented at the request of the Thai government. This plan is based on joint work between JICA and NESDB of Thailand. The Nippon Koei Co. conducted the Master Plan survey and drew up the plan. The report was prepared and submitted to the Thai government in September 1993

The Master Plan aims to promote rural and regional development in the Northeastern Region which is regarded as the lowest income region in Thailand. The final goal of the Master Plan is to achieve balanced regional development in Thailand. This Plan reflects in detail the direction and policy, from a long-term perspective, for alleviating the regional income gap between the BMA and the Northeastern Region which was studied in Chapter 1.

The period of the Master Plan is for 20 years, effective from early 1990 to 2010. At present, we are in the year 2000, midway through this plan. In this sense, it is a little early to implement an overall assessment of the project. However, we think it is possible to assess the progress of the Master Plan even at the interim status and suggest countermeasures toward the changes in the conditions assumed.

(2) Objectives of the Master Plan

There are essentially three objectives of the Master Plan. They are (A) To increase the income levels of the local people in order to narrow the gap of the national average income. (B) To enhance the quality of land and water environment for environmentally sound and sustainable development, and (C) To promote people's participation in regional development for socially viable development.

These objectives are consistent with the discussion in Chapter 1 and the Plan shows how

to alleviate the regional gaps between the BMA and the Northeastern Region for the nation's balanced growth. It also aims to achieve sustainable growth, focusing on the environment, which shows good intentions in the drafting of the plan.

Concerning the objective (A) for increasing the income level of local residents, it is necessary to promote the residents' participation in the development process. The basic aim of regional development in the Northeastern Region is to alleviate the poverty. To achieve self-supporting and sustainable development, one of the prerequisites is to improve the residents' capabilities. In this Master Plan, the importance of the residents' participation is mentioned, however the plan has not shown any direction nor concrete measures for human resource development. Since sustainability and self-reliance are the most important aspects for regional and rural development, the Master Plan should propose this direction in written and concrete form.

(3) Sustainable use of land and water resources focusing on environmental concerns

The proposal for the "use of land and water resources", which is the second objective of the Master Plan, shows the detailed land-use analysis, as well as the direction and projects of the Plan, such as small scale reservoirs, water resources, and hydroelectric power development. This is a realistic proposal based on real circumstances in the Northeastern Region. The Thai government is fully aware of the importance of water resource countermeasures in this area. They had already proposed the use of local development programs in the forth 5-Year Plan (1977-1981). They had expressed their intention to implement the "small-scale irrigation project" as a top-priority project and have actually been executing this project. The royal project (Royal Irrigation Bureau, Ministry of Agriculture and Cooperatives) played a key role in establishing small-scale irrigation facilities.

Assessment of the project can be accomplished by examining its direction and the necessity for the elements included in the Plan. However, this includes existing projects that have already been planned or implemented, such as the royal project mentioned above. Also, the relevance of measures and proposals for improving the environment and living conditions, which should be the original aim, is not always clear. Here, we would like to supplement the progress report regarding some key proposed projects for the assessment report.

(4) Local residents' participation in the development process

Regarding the third objective of "local residents' participation in the development process", we clearly understand that they need to improve voluntary initiatives in rural villages. However, this Plan does not fully explain the concrete measure concerning local initiatives in detail. We wish this plan had offered appropriate methods, approaches, and examples of how local residents could participate in the project.

2.2 A new framework for evaluating the Master Plan and the results

(1) A new evaluation framework

In the long term development plan, they have shown the development scenarios and projects, but it is not always shown the targets in numerical indicators. In many occasion, it is difficult to compare the target and the attainment. Therefore, it may be said that we cannot directly apply DAC's five items evaluation method, which often applied to project assessment, to evaluate the master plan survey. We set up a new framework for assessing the Master Plan survey, consists of four angles and ten items as follows:

1) Appropriateness of the aims and the direction
   ① Appropriateness of objectives and directions shown in the Master Plan
2) Evaluation of the progress of the Plan
   ① Performance assessment based on objectives
   ② Validity of the assumptions of the Plan
   ③ Progress of the development strategies and scenarios
3) Follow-up of the Master Plan and policy subjects
   ① Whether the proposals in the Master Plan are actually utilized in the national development plan or implementation program in Thailand
   ② Performance and overall assessment in the mid-term period
   ③ Following-up survey of the Master Plan
   ④ What should an assessment of the Master Plan be?
4) Conditions of voluntary and sustainable development
   ① The consideration of environmental dimensions
   ② Installation of the self-help conditions

In the study of alleviating income gaps between the regions, the issues are poverty and what type of countermeasures should be provided in the development plan. These themes need to be covered in the Master Plan as well as in the assessment report if awareness of the issue of poverty today is to be shown. However, this issue can be one for future challenges.

(2) Summary of the evaluation results

The results of the evaluation have been summarized in line with a newly proposed framework for evaluating the master plan survey:

1) Appropriateness of the aims and the directions

① The three aims and the direction for the development in response to the Thai government's request, was thought to be appropriate. However, the real aim of the development of the Northeastern Region was to probe into possible measures to eliminate poverty in the area. Other than the promotion of infrastructure construction and development projects, it was a matter for consideration to upgrade the capability of the residents of the region and solve the problems of poor people. However, the fact that the concrete direction was not shown in the plan remains as a problem to be solved.

2) Evaluation of the Progress of the Plan

① The actual economic growth rate in the target region was far below the planned growth

rate as stipulated by the framework of this plan up to the halfway point in the plan's scheduled time period. The scenario and the infrastructure construction are not in motion yet, and as a result the economic growth rate in the Northeastern Region is far below the level of other regions. Or rather, it should be said that the productivity of this region has lowered relatively.

② It would have to be concluded that the conditions as a premise for the growth scenario of this master plan have collapsed due to the financial crisis and economic depression which have lasted since 1997. This has made it necessary to reconsider the latter half of the scenario of the plan.

③ The direction and scenario for development strategies are based on the orthodox, growth poles approach, which seems to be well planned and prepared with good balance, with repeated surveys conducted to collect the regional characteristics. However the progress of the project or the program has not shown favorable growth except for the cases of road infrastructure and those routes which were already decided upon. This seems to have resulted from the response on the part of the government and the timing problem of realizing the scenario. The possibility of realizing a plan of building a regional center, in particular, one each in Nakhon Ratchasima, Buri Ram-Surin and Ubon Ratchathani, which is thought as a core project of the development in the Northeastern Region, does not seem to have been actualized at present.

3) Follow-up of the Master Plan and the policy subjects

① It is hard to judge how far the Thai government adopted the idea of this master plan in development projects and in carrying out plans, but as far as the road infrastructure is concerned, it seems that the idea has been adopted steadily from the fact that the project of building a freeway from the Eastern Seaboard industrial zone to Nakhon Ratchasima, the entrance hall to the Northeastern Region, has been included in the second phase of the motorway plan of the government. However, it appears that there is no one in planning offices (NESDB) who follow the Master Plan fully regarding other concepts. Realistic responses are requested by the Japanese government to call for some policy responses including policy discussions with the Thai government or to systematically follow projects with experts by assigned to monitor them. It seems to be a big waste to end up just preparing and planning a master plan.

② The results evaluation or progress viewed at the halfway point is not very satisfactory. In the latter half of the plan, changes in conditions were so big that it would seem inevitable to give substantial reconsideration to the plan, since there is a condition whose premise can be deemed to have collapsed. A new mid-term development plan could be drafted for the latter half of the planning period.

③ Considering the great number of cases concerned with policy issues and policy matters of the partner country, when surveying master plans in the future, systems which can respond to the needs and changing conditions should be created in advance, with continued follow-up surveys, discussions or communication with the partner country kept going all the time.

④ Since the evaluation of the master plan survey is affected in complex ways by various

factors and conditions, such as the purpose, strategy, length of plan, changes of external environment, intention of the government of the partner country, and others, it is important to conduct examinations and analyses from a wider perspective or a greater framework, mainly examining the purpose or the direction, not just conducting mechanical numerical evaluation, using an established standard frame of evaluation. Furthermore, policy suggestions gained from these results should be presented, and the most important support systems and measures should be proposed even to organizations which carry out only aid services.

4) Conditions for voluntary and sustainable development

① The consideration of environmental dimensions is the second aim of the regional development plan, and land use, soil conditions, quality control of water and floods in the rainy season have been examined in this plan in detail, besides the urban environmental problems. It is necessary to draft the direction for the position of the agricultural sector in the future and the relations with urban areas. It is also important to apply a strategic environmental assessment (SEA) which estimates the impacts of the proposed projects on the natural resource preservation and environmental protection for sustainable development before hand.

② One of the necessary conditions for the sustainable development of the region is to upgrade the capabilities of each actor. Residents' participation in the development process is one of the most important aims of the plan, but the plan has not referred to this important issue. The Master Plan has shown various development scenarios and projects for alleviating regional disparities, based on the growth poles approach.

However, it is better to consider that local residents, farmers, and local enterprises are the real promoters of regional development. Targets should involve upgrading their capabilities in keeping regional development sustainable. The direction of residents' participation in the development process should be the main theme, along with measures to eliminate absolute poverty in the region. The drastic and concrete programs and projects should be examined and drafted for the future development plan.

2.3 The necessity of the follow-up system for the Master Plan survey

The Master Plan survey helps realize and promote the formation of projects in accordance with the expected purpose, and enables the government to acquire the know-how and technology concerning the project. The Master Plan survey is considered effective for raising the developmental spirit of the country requested.

However, when a foreign consultant carries out the Master Plan survey, and hands over the results to the other party, it might end up with just a report. If they could send an expert to the planning office to discuss the implementation of the project and further proceedings, the Master Plan could create a new prospect.

The consultants and experts involved know how to best implement the plan. Advisory services, feasibility studies of projects, and pilot surveys of priority projects to which the Master Plan can be connected to, will be conducted by Indefinite Quantity Contract (IQC), which will be placed as a follow-up service.

At the same time, some JICA experts will be sent to a planning agency of the recipient country. They will engage in regular policy advisory services, and also follow up the Master Plan as part of their responsibility. These experts will think of the next step of the Master Plan, giving policy proposals and engaging in discussions to transfer the plan to the partner government. It is important to conduct the follow-up with the IQC system for realizing effective cooperation.

Chapter 3: Alleviating Regional Disparity as a Subject of the Future: Decentralization and "Local Initiatives"

3.1 Importance of "growth with equality" concept

What is the meaning of a big regional gap ? In Thailand, for example, only 10% of the Thai people enjoy the merits of Bangkok's economic prosperity. To put it strongly, 90% of the Thai people are living outside of Bangkok and are resigned to a low level of public services and a poor life, being unable to maximize their capabilities. If conditions could be changed to use the abilities of these local inhabitants, many more Thai people in rural districts could enjoy a high standard of living, and the economy of the regions would be activated, contributing to the economic and social progress of the whole nation. We should remember that many East Asian countries have already attained "growth with equality".

3.2 Driving forward the decentralization policy and financial support

As a result of the extreme concentration in the BMA, the capital has to face various problems of urbanization such as traffic jams and environmental pollution. To solve them, highways and other orbit-shaped roads had to be built with excessive costs. On the one hand, Bangkok's citizens enjoy the merits of metropolitan culture, on the other hand they are in danger of suffering more and more from high costs, uncomfortable living conditions and a high rate of crime, so that countermeasures have to be taken immediately.

Decentralization of functions to the regions and more fairness concerning income distribution are considered to be the fundamental strategies in achieving the goals mentioned above. The Thai government has already been promoting measures in this direction. The forth Five-year Plan (1977-1981) and the fifth Plan (1982-1986) demanded the alleviation of regional gaps and the eradication of poverty in less advanced areas. As far as the alleviation is concerned, measures like progressive taxation, fixed property tax, inheritance tax, etc., have already been suggested by many international organizations and think tanks. It is important to enforce measures in this direction, to decentralize government functions, and to improve the efficiency of the local administration.

Thailand is a country of strong bureaucracy and it is still common for the center to rule over the periphery. The governors of each province are appointed by the central government, and regarding the sources of regional tax revenue, the rights to collect the allocation taxes, the

degree of regional autonomy, and the distribution of subsidiary money, the regions are structurally dependent on the center. Furthermore, each ministry of the central government is deeply involved in local communities. They closely govern matters of local budget and administration and are said to have a strong influence on financial decisions.

It is necessary to restructure the local administration and make it capable of using financial help efficiently. The citizens and villagers receiving such benefits are responsible for increasing their capabilities.

3.3 Tools to support "Local Initiatives"

As a result of growing environmental consciousness, Non-Governmental Organization (NGO) activities are slowly but constantly expanding. People employed in agriculture are organizing themselves and have succeeded in excluding agents by doing business directly with producing and processing factories. Silk worm farmers in the Northeastern Region are managing products such as worms, cocoons and reeled silk and are selling them through a cooperative marketing network.

In the Northeastern Region of Thailand, signs of change have become visible. There are groups of farmers who have successfully switched over to the cultivation of highly lucrative agricultural products, and have diversified their products to include vegetables, fragrant rice (Jasmine rice) and even fish or pork breeding. We can see these examples in Nakhon Ratchasima and its vicinity. They were supported at the initial stage by the King's projects, Ministry of Agriculture and Cooperatives, Bank for Agriculture and Agricultural Cooperatives (BAAC), foreign aid organizations and others, but the important thing it proves is that the farmers became aware of profits and the meaning of networking. It has to be understood that this is the beginning of "Local Initiatives" (which means that the region takes action as a subject). It is important to take notice of the farmers' change of consciousness and to offer a way to support their struggle for sustainable and self-help development.

At present, it is necessary that the government continues to support regional inhabitants developing "Local Initiatives". Especially because their participation to development is still at an immature level, the promotion of "Local Initiatives" itself is very meaningful, and it is important to continue to support these efforts.

Part II

Regional Development through Respective Sector Projects

Chapter 4: Impact of Local Roads and Bridges Projects on Regional Development

4.1 Preface

Among the infrastructure reports that JICA has conducted on Northeastern Region of Thailand, post evaluation was conducted for the three road sector projects listed below.

(1) Project for Bridge Construction in Rural Region in Northeast Thailand
(2) Road Development in the North-eastern Region (Phase I)
(3) Road Development in the North-eastern Region (Phase II)

Among these projects, (1) is a grant aid cooperation project and (2) and (3) are development investigations. Starting with the master plan (M/P), a feasibility study (F/S) was conducted afterwards. Therefore, (2) and (3) were evaluated together in this report. 4.2 will consist of the evaluation results of the grant aid cooperation project and 4.3 will consist of the evaluation results of the two development investigations. The importance in conducting a post evaluation for grant aid cooperation projects and development investigations is already recognized by JICA. However, the attempts to conduct such evaluations have been based on only a few case studies and their methods cannot be well established. In this report, evaluations were based on the Project Design Matrix (PDM) framework that clarifies the "investment", "result", "objective" and "high-ranking objective" and evaluates "efficiency", "effectiveness", "impact", "validity" and "sustainability" based on it.

The theme of the entire project was to show how the infrastructure and projects targeting the Northeastern Region that JICA conducted in various sectors have contributed to the rectification of income disparities between the Northeastern Region and Bangkok. Therefore, this evaluation has put the highest priority on "the rectification of income disparity between the Northeastern Region and the BMA" regardless of whether it was a grant aid cooperation project or development project and whether it was intended at the time of the formation of the project or not. By thinking this way, the evaluation of how the targeted project has contributed to this point and of what points should be noted for similar projects in order to make further contributions can mainly be obtained in the evaluation of the "validity" of the targeted project.

4.2 Evaluation of the grant aid cooperation project (Project for Bridge Construction in Rural Region in Northeast Thailand)

(Efficiency) The construction of the 51 designated bridges was completed within the scheduled construction period and budget, and there is no problem in efficiency in this aspect.

However, it is not clear if the cost allotment for Thailand was within the estimated range. For future grant aid cooperation projects, the counterpart(C/P)'s share of the expenses should be investigated at the time of the evaluation immediately after completion. All of the bridges have adopted steel bridge forms. In Thailand, all of the steel must be imported so the construction cost for steel bridges is extremely expensive. The reason why steel bridges were used is because Thailand demanded construction at an early stage and desired steel bridge construction technology. However even in such a case, it seems that it was necessary to conduct a thorough comparative investigation with other technically possible bridge forms, such as concrete bridges. However, as the importance of "aid with face" is being advocated, there is a danger that efficiency will not be evaluated properly if only the mere construction is considered for the grant aid cooperation project. Even if the construction cost is relatively high, if there are enough Japanese participants on-site to make up the deficit and if many of the local residents recognize that it is constructed with the assistance of Japan and if technology transfer obtains good results, then it can't be said that there is a problem in efficiency. The Japanese contractors have constructed bridges in 10 places for this project and the local residents are well aware that it was constructed with the assistance of Japan so it offsets the high cost of construction. However, afterwards, there has not been similar construction of steel bridges in Thailand, so there is not much effect in the aspect of technology transfer. In its defense there are many external factors involved such as the delay in the development of the steel industry in Thailand, so it can't be absolutely concluded that there was a problem of efficiency in this project. As a lesson for future similar projects, it is necessary to investigate the external factors in order to achieve results in technology transfer by conducting a comparative investigation of alternatives.

(Effectiveness) An evaluation showed that after the construction of the bridge, people and cars were able to cross the river safely regardless of the season, and transportation became very convenient. This was pointed out in the evaluation reports of the past and it was also confirmed in the investigation conducted at this time. Furthermore, the improvement of traffic does not benefit to the residents, but it is believed to reach a wider area by drastically shortening the traffic distance of long-distance detour transportation. Looking at the volume of traffic for 26 bridges measured in 1999, it is shown that in almost all places the measured traffic volume exceeded the forecast by more than 50%. If the objective of this project was to "achieve safe transportation for people and all vehicles regardless of the season" then it can be concluded that the objective was accomplished.

(Impact) The following was reported by the local residents as effects of the bridge construction of this project. ① reduction of transportation cost, ② improvement of productivity of agriculture due to reduction of transportation cost of investment materials, ③ increase in market price of products due to the reduction of transportation cost, ④increase in planting of cash crops, ⑤decrease in price of consumption materials accompanied by decrease in transportation cost, ⑥increase in convenience of schools, hospitals and administration services, ⑦increase in job opportunities accompanied by the improvement of access to

working sites, ⑧decrease in disparities between the relatively low developed regions of Northeastern Region and the other regions. These factors indicate that the impact of this project was extremely great.

(Validity) This project repaired many bridges to regional roads especially of those that were behind in development in Northeastern Region in accordance with the policy agenda to promote regional development, which was an overriding priority in the 6th national development plan and it can be evaluated that the validity at the time when the plan was designed was high. Also from the standpoint of redressing income disparity between provinces and the BMA, the development of the Northeastern Region is an important point of the national land development policy and the level of validity does not change. However, in selecting the 51 bridges of target, high priority was given to regions that were relatively behind in the Northeastern Region, but strategic importance to raise the income of the Northeastern Region as a whole was not considered. Therefore, the question remains as to whether it was an appropriate project to efficiently carry out rectification of income disparities between the Northeastern Region and Bangkok. However, this project does not aim to redress the income disparity between the province and the BMA, so this point is more like a lesson for similar projects in the future rather than an evaluation. In other words, even in projects like this, a stratagem that contributes to a greater policy target such as redressing the income disparity between the BMA and the province should be prepared.

(Sustainability) Sustainability of this project will be discussed from three points: (1) maintenance control of the 51 bridges, (2) sustainability of bridge repairing projects of regional roads and (3) sustainability of transferred bridge construction technology. 1) Maintenance control of the 51 bridges: investigation at this time confirmed that among the 51 bridges, monitoring has been conducted once a year for at least 26 bridges. However, an investigation is carried out "about twice a year at the end of the rainy season and at the time of road examination", which the "study report" assumes is not practiced. Also the presumed form of conducting "an investigation based on a questionnaire with the results being analyzed by experienced engineering technicians" has not been carried out. According to one member of the Public Works Department (PWD) staff, there are not many engineers that have knowledge about steel bridges, so it was difficult to conduct an accurate monitoring. It is fundamental to carry out a project after ascertaining the maintenance control structure, but if there are further obstacles seen in maintenance control in the future, it will be necessary to consider additional technology cooperation such as the maintenance of manuals and teaching of maintenance control technology. 2) Sustainability of bridge repairing projects of regional roads: Since the evaluation by the C/P states that "with this project as an impetus, replacements of other wooden bridges have progressed with the self-help effort of Thailand" it can be evaluated that sustainability was achieved in this sense. 3) Sustainability of transferred bridge construction technology: 41 bridges were constructed by Thailand and it is believed that a certain amount of technology transfer occurred at the time of construction, but afterwards there were no similar steel bridges constructed in Thailand and we cannot help but say that sustainability of

technology transfer has not been achieved. As a reason for it, a staff member of the PWD has stated that steel bridges are much more expensive than concrete bridges in Thailand and that there are no engineers that can design and construct steel bridges.

4.3 Evaluation of the development investigation (Road Development in the North-eastern Region (Phase I, Phase II))

(Efficiency) The efficiency of the development investigation was evaluated by these factors: ①if the investigation was enforced according to the scope, ②if investment, technology transfer, communication and data were enough and ③if there were enough adjustments made between other investigations and projects. It was impossible to evaluate these items in this investigation since Scope of Works (S/W) and other manuals could not be obtained. To prevent this from happening again, it is necessary to make sure records remain by including the S/W in the report. Also, part of the records of investment, technology transfer and communication could not be obtained. It should be required to keep a record of these matters in the S/W and there should be a detailed indication of what kind of data is necessary. For the third point, adjustments between road maintenance-related investigations and projects were made, but there were no signs of adjustments made in agricultural promotion and improvement of public welfare even though they are some of the objective of road maintenance.

(Effectiveness) Effectiveness of the development investigation is determined by an evaluation of the sufficiency of the investigation process up to the point where the suggestion was designed and the contents and structure of the report. For the evaluation of the latter point, both the M/P and F/S cannot be evaluated concisely. However, since the S/W is obscure, this result does not directly mean that the development investigation itself was insufficient. (There is a possibility that the S/W was insufficient.) The following is the list of major problems. 1) The M/P selects high priority routes that require maintenance, but since roads are a measure of development, it is necessary to first of all clarify the direction that the development of the entire Northeastern Region is heading. Especially, in order to find a solution to the task of how to pursue road maintenance to rectify regional disparity between Northeastern Region and Bangkok, it is a precondition that a regional development strategy has an aim as mentioned, but the M/P designing investigation is not based on a clear regional development strategy. 2) In order to promote development of the Northeastern Region, it is desirable to have as many roads as possible. Therefore, it is only when there is a limitation to the budget of road maintenance for the Northeastern Region that the proposition of routes of X km requiring maintenance has a meaning. Also, the point of how much of the budget is distributed to the Northeastern Region among the total road maintenance budget of the country directly related to the task of how to reduce the regional disparity between the Northeastern Region and Bangkok. The M/P states that the total lengths of the high priority routes are X km without such examination. 3) The necessary length for each of the routes is indicated without tradeoff analysis of what kind of balance will be taken between establishing and

improving of roads and maintaining and repairing existing roads. 4) There is no investigation conducted on the enforcement of the project of the routes that require repair in the F/S.

(Impact) F/S was conducted based on M/P and business was enforced for all the projects which F/S conducted. However, the results of the M/P were not fully utilized in conducting F/S. Also, it was recommended in the F/S that the opening target year for most of the routes that required establishment and improvement to be in 1988, but the actual year of completion ranged from 1988 to 1996. In this case, there was no relationship found between the order of completion and the size of the internal rate of return calculated in the F/S. Also the year of completion for the routes that required repair ranged from 1990 to 1995. However, most of the road projects in both categories were completed with loans from Overseas Economic Cooperation Fund (OECF) and International Bank for Reconstruction and Development (IBRD) so the role that F/S played in obtaining such loans was large.

(Validity) In the case of evaluating the validity of development investigations like M/P and F/S which is targeted in this project, and for which most of the suggested projects were enforced, it seems that evaluating whether the project carried out directly or indirectly achieved the expected effect or not (in other words the impact and validity of the project) is more realistic. This report has conducted an on-site detailed investigation on the social impact and benefit of agricultural development, which were direct effects of the project. As a result, the following observations were made: 1) Benefit of agricultural development: The decrease in production cost was something that was not expected. Along with road maintenance, chemical fertilizers were used in large amounts in Northeastern Region and as a result, productivity increased at first. However, because of the lack of knowledge of fertilizers, land became impoverished from excessive use of fertilizers and productivity started to decrease. And now there are many cases where the costs of fertilizers do not match the increase in production, hence increasing the productivity cost. Also, the increase in planted acreage did not shift as the M/P and F/S had expected. In the regions along the newly established route, a large-scale agricultural development was anticipated, but instead existing farmlands were sold for speculation and planting was no longer practiced. Also, the number of migrant workers that go to Bangkok and Taiwan increased in many regions while the agricultural population decreased, resulting in decrease in agricultural production. However, there are many reports of cases where the M/P and F/S assumed that the transfer to cash products such as sugarcanes were the result of easier transportation of products due to the road maintenance and an increase in garden prices of products as a result of expanding markets. 2) Social impact: As a result of road maintenance, traffic conditions have improved without a doubt and many benefits upon social life were observed. Social impacts, such as the advancement of water and electricity maintenance accompanied by the road maintenance, were not predicted in the M/P and F/S. Also there are cases where greater social impact was achieved because of the enrichment of public transportation facility services due to the advancement of road maintenance. 3) Conclusion: The results stated above indicate that the impact of the road maintenance project has, at least in the aspect of social life, actualized what

M/P and F/S had assumed. Therefore, the validity of the development investigation that has created them can be highly evaluated from this aspect. However, in the case of agricultural development, the impact towards income improvement and industrial promotion in the matters of road maintenance is extremely complicated and the development investigation did not sufficiently foresee this. Also there were no investigations conducted of the ways to promote its emergence and the measures used to prevent negative effects, so the validity was low. However, for the 33 routes which the traffic volume observation results were obtained in 1999, the results were much greater than what was expected in the M/P and F/S. Therefore, if we are not particular about agricultural development benefits then it means that many development benefits were obtained and in that sense the validity of the development investigation is high. However, traffic volume that exceeds the expected volume produces a heavy load on the maintenance and management of the roads so there is some doubt about whether the construction standards at the beginning were appropriate or not. This requires close examination to determine whether or not the reduction of lifecycle cost of the road system is produced as anticipated.

(Sustainability) It is possible to comprehend the "suggested project" as the road maintenance project itself and also as a planning work of regional road maintenance. In the case of the latter point, it can be evaluated as having a high sustainability based on the enforcement of road maintenance projects of a different category. However, planning works are conducted to promote road maintenance projects, so ultimately there is not much meaning to evaluate the planning work itself without ascertaining the sustainability of the road maintenance project. This means that the evaluation of the sustainability of the M/P and F/S is simply the evaluation of the sustainability of the enforced project. As shown in the results of the follow-up investigation, DOH has completed the repair for a 90km section which the F/S targeted and since it used loans by the World Bank for part of the project cost, it can be observed that Department of Highways (DOH) has devoted itself to maintenance management and repair and not only to the establishment and repair of road systems.

4.4 Lesson and suggestion of the policy

The lesson in how to contribute in rectify regional disparities between the Metropolitan area and Northeastern Region in projects like this development investigation as well as individual infrastructure maintenance projects targeted in this evaluation, was revealed through the results of this evaluation process. In order to rectify disparities, first of all it is necessary that individual projects, the development investigation, and the construction project enforced by it greatly contribute to the economical and social development of the targeted region, but that is not enough. A strategic approach to rapidly develop the Northeastern Region in order to rectify disparities from a nationwide point of view is essential. Therefore, it is obvious that the problem of rectifying disparities cannot be tackled by investigating the situation of road maintenance or bridges building by only focusing on the Northeastern Region, as in the development investigation and targeted individual projects.

As indicated above, in order to rectify regional disparity it is a prerequisite for any projects to impact economic and social development of the region. Even with this respect, there is still great room for improvement in the approach taken in the development investigation and the project that was targeted for evaluation. The points that will become a lesson for enforcement of similar projects in the future have become clear in this evaluation. In the case of enforcement of infrastructure projects and development investigations aiming to improve public welfare and promote agriculture, it is not only necessary to make adjustments with other projects in this field, but it is necessary to clarify the new needs of maintenance in these fields and to make the best use of new conditions produced by infrastructure maintenance. Also, it is important for the project to take measures to prevent negative effects, such as an increase in traffic accidents and land speculation outbreaks by infrastructure maintenance.

Development investigations do not have a very long history and there still isn't an established evaluation method. This evaluation process was conducted based on the framework of "PDM evaluation method (draft)" and the following points have become clear about evaluation methods.

1) The "PDM evaluation method (draft)" considers an evaluation framework with wide use and it can conduct an evaluation in cases where the project recommended by the development investigation may or may not have been enforced. However it has a danger of not applying in either case and there is a difficulty in application. Two types of frameworks should be created depending on if the project was enforced or not.
2) The evaluation of the development investigation of when the recommended project was enforced should be conducted together with the post-evaluation of the project itself. Especially, the validity and sustainability of the development investigation can be evaluated for the first time when the evaluation of the project itself is conducted.
3) Even if there is plenty of room for improvement, the framework of the PDM evaluation method has been extremely useful in conducting the evaluation of the development investigation and it was also very helpful for this evaluation process.

Chapter 5: Contribution toward the Development of Agriculture and Forestry: By Encouraging Sustainable Use of Resources and People's Self-Help Activity

5.1 Introduction

The Northeastern Region of Thailand faces extremely harsh environmental conditions. People in the region have suffered from low level of income, investment and productivity for many years. JICA has implemented various projects in this region challenging poverty problems in rural villages.

JICA's evaluation team in charge of the agriculture and forestry sector chose two projects carried out between the mid-1980s to the 1990s for evaluation: the Agricultural Cooperative Promotion Project (ACPP) and the Reforestation and Extension projects in the Northeast of Thailand (REX). The Japanese government provided assistance to both of these projects. The agricultural Cooperative Training Center and four Large-scale Nursery Centers were established, respectively, under each project.

The ACPP aimed at the advancement of agricultural cooperatives and was carried out between the mid-1980s to the 1990s. The project embarked on the improvement of the organizations, projects and management of agricultural cooperatives emphasizing on how cooperative farmers' organizations could contribute to the development of regional agriculture. REX, on the other hand, was a reforestation project implemented in the 1990s and included activities such as distributing seedlings to local communities as well as carrying out awareness-building and educational activities related to reforestation.

The two projects shared a common characteristic of involving disseminative activities within their technology transfer programs. The seedlings produced in REX were distributed to target villages and enhanced farmers' reforestation activities. This was a highly localized program targeting poor rural villages. The ACPP aimed at developing an agricultural production base putting emphasis on the advancement of farm groups besides its main activities of strengthening the organizational and operational aspects of agricultural cooperatives.

The evaluation team extracted points considered to be the characteristics of the projects and tried to assess the major impacts made on the local society. The assessment was carried out through the team's visits to project sites and in-depth discussions and thoughts that came up by interviewing the people involved in the project and the local people. Interviews were mainly conducted for the evaluation of ACPP in which the dissemination effect was considered to be relatively easy to recognize. They were conducted in Phimai and Pakthongchai districts of the Nakhon Ratchasima province. For REX, farm research was conducted only in one part of the region. Interviews were entrusted to Dr. Saroj Aungsumalin and Mr. Nugool Kornyuenyong, assistant professor and lecturer of the Faculty of Economics, Kasetsart University[2].

5.2 Activities and evaluation of "Reforestation and Extension Project in the Northeastern Region of Thailand"

Contribution to the Reforestation Plan of the Northeastern Region of Thailand

In 1988, the Government of Thailand formulated a "Greening of the Northeastern Region of Thailand (E-san) Project" and got down to start the reforestation activities. In order to implement the reforestation project it was necessary to develop nurseries and to establish technologies to produce seedlings in large quantity. The Thai government requested the Japanese government to build four large-scale nursery centers in the northeastern region

[2] A report titled "Socio-Economic Impacts of JICA Project" has been submitted.

through Grant Aid and to launch on REX at the same time. The five cooperative areas in REX were: (1) Implementation of Base Line Survey; (2) Development of Large-scale Nursery Management Technologies; (3) Development and Enhancement of Dissemination Methodologies and Systems; (4) Formulation of Training Program Aimed at Local Residents Including Women and Development of Teaching Materials; and (5) Development of Exhibition Forests and Model Forest to Strengthen the Reforestation, Technical Training and Disseminate Activities.

The Evaluation Report stated that the local community was able to utilize seedlings owing to the cooperation activities. REX has contributed to promoting the local peoples' participation in reforestation activities and improving their technologies and knowledge on reforestation. The report also concluded that investments for reforestation activities were used efficiently. Evaluation on the improvement of the environmental condition and living standards of the local people cannot be made easily, but it is anticipated that these will also become obvious in the near future.

REX's modern and innovative approach

REX was endowed with the following modern and innovative characteristics. First, technology transfer and the dissemination of its achievements were set as two inseparable factors like two wheels on both sides of a cart. Specific reforestation activities were carried out through distributing seedlings to target areas aiming at increasing farmers' income. Secondly, those objectives and activities of REX included potential factors that promote agriculture and forestry, and ultimately influence the change in the industrial structure of the northeastern region. Thirdly, the project aimed at both the exhibition and economic effects through the promotion of "Communal Property" by embarking on forestry development projects in common areas such as villages, schools, and temples.

Achievements of transfer of technologies for large-scale nursery management and dissemination activities

In order to improve technologies for nursery development management, REX embarked on projects in securing seeds, developing technologies for pot seedlings, started the production of seedlings using the new material, and developed "REX-TRAY" which was more suitable for local species. These seedlings, produced in large quantity, were distributed to the target villages. REX handled various types of seedlings. The major types among the early maturing varieties were Eucalyptus (34.7%) and Acacia (6.4%), and among local varieties included Petrocarpus macrocarpus (13.1%) and Aizella xylocarpa (6.6%). Immediately after the project started the ratio of Eucalyptus was significantly high.

Implementing a participatory and local demand-led approach

REX's basic policy was to recognize the demands of reforestation in target villages and reflect these demands to the production of seedlings. The villages that REX selected are

scattered all over the northeastern region and totaled 1668 villages. Target villages were selected by utilizing village data produced by the Ministry of Interior to achieve externality and transparency of the selection process. Activities focused around these target villages were highly multifunctional and the number of the local people who received the seedlings reached 100,000 and the numbers of governmental agencies, temples, and schools involved was about 1,700.

Multifunctional effects of reutilizing abandoned lands

REX has made possible the mass production and distribution of seedlings, promoted farmers' reforestation activities, and provided economic benefits accompanied by these activities. REX's seedling distribution activity was especially attractive for the poorer farmers who retained unused lands. Farmers who were seeking for alternative agricultural products (species), because of unstable cassava cultivation and other source of income actively took part in the reforestation activities. They received income from reforestation activities while finding work outside the agricultural sector. Moreover, it became easier to secure household fuel (firewood) and it is said that the natural environment surrounding the farms has significantly improved.

In areas where there were many unused lands or lands with low productivity, reforestation was concentrated on the early maturity and economic varieties of trees. Reforestation was highly appealing for the farmers who could only cultivate certain kinds of crops. Moreover reforestation activities were also effective in reducing the "pressure" from over-utilizing agricultural resources.

Farmers especially held hopes in the labor-saving effects of eucalyptus plantation. Compared to cassava, eucalyptus requires less labor and fertilizers. Farmers chose eucalyptus variety (agricultural products) that would develop "labor-extensive culture of farmlands". Economic benefits from reforestation are currently getting smaller as the farmers' selling price of eucalyptus is falling. Many farmers considered the merit of eucalyptus forests is that they do not require labor for management. As a result, degradation of farmers' reforestation land intensified in some areas and the resource value of the lands decreased.

For Thai pulp companies it is important whether they could secure high quality and cheap raw materials from farmers' reforestation activities. Since a plantation type of reforestation management caused various social conflicts, companies do not have a choice but to depend on the farmers' reforestation forests. They have to collect materials from general farmers and from their contract farmers. REX's technology transfer and seedling distribution to general farmers contributed to the strengthening of Thailand's pulp industry.

Conservation and utilization of community forests: Expanding community-based approach

Support to community forests activities attempted by REX resulted in the improvement of the environmental condition of villages and brought in economic benefits to their members. Economic benefits brought into school forests were particularly significant. Support to students

from poorer families became possible. The villagers gradually understood the meaning of having community forests, and benefits made from the forests have been utilized as a fund to improve the villages' living condition.

In villages with many poor populations, economic merits that cannot be reached by using personal owned resources have been realized by effectively using various common resources in the region, and the peoples' living standard has improved. Common resources tend to be excessively used because of their nature of open access, but if a system was established to properly manage these common resources local people could utilize the resources in a sustainable way. REX has established a base for linking regional resource management and rural development activities and implementing them through the Community-based Approach.

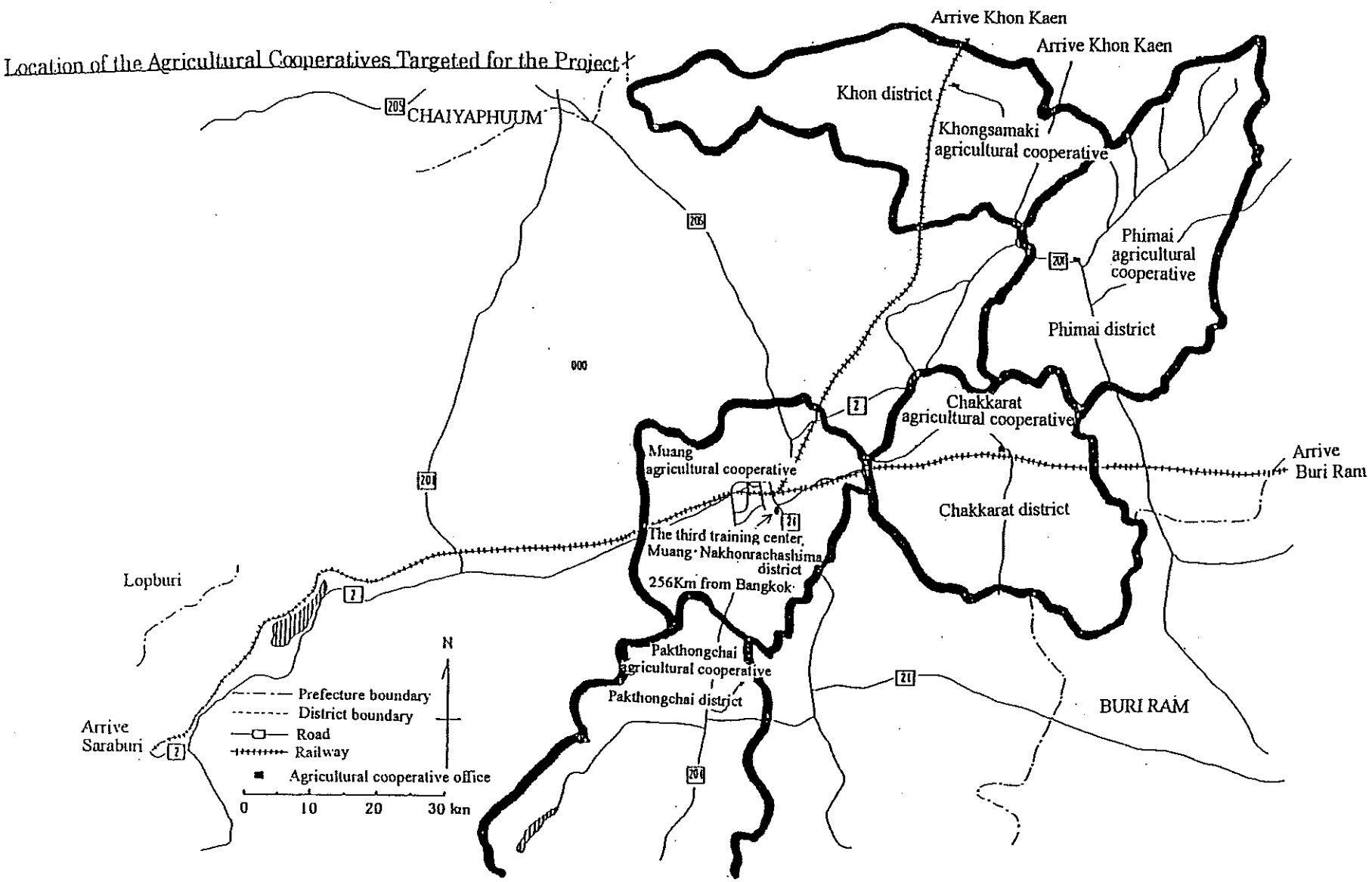
As REX has been deeply involved in the Royal Forest Department's (RFD) project of Greening the Northeastern Region of Thailand, the ratio of eucalyptus was quite high at the beginning of the project. Many criticisms have been made on the promotion and dissemination of eucalyptus. This reports only refers to the point that how the farmers tried to accommodate eucalyptus in their farm management. Farmers introduced eucalyptus as dump-crop variety and neglected its management because of the falling selling price. There are possibilities in replacing eucalyptus with local varieties in the future but in areas where population is decreasing as well as aging, such activities have not been seen that much.

REX's plan of promoting reforestation activities by initiating participation of villagers, and developing disseminating species' and reforestation methods based on the villagers' demands was indeed epochal. Though REX's activities were multi-functional it can be said that if the technology transfer was conducted in a more focused manner and the target area were more concentrated, its effects could have been larger, given the limited time frame of the project. Experts and their C/P could have had been further involved in farmers' reforestation and villagers' forestry activities such as the community forests.

5.3 Activities and evaluation of "Agricultural Co-operative Promotion Project in Thailand" characteristics of the project

The Agricultural Co-operative Promotion Project Plan (ACPP) aimed at establishing a multi-purpose type of agricultural cooperative through the following four strategies: 1) Expand and strengthen the existing base of the agricultural cooperatives (expanding the organization and increasing utility-rate); 2) Realize the leadership role of the agricultural cooperatives for regional agricultural development; 3) Promote the agricultural cooperatives as fair dealers and 4)Prepare conditions to respond to farmers' financial demands and promote active engagement of the agricultural cooperatives to farmers' financial and farm planning. ACPP provided guidance and advice to five model agricultural cooperatives selected from the Nakhon Ratchashima province (Figure 5-3) and aimed at disseminating the outcomes and lessons from these cooperatives. ACPP gave advice for the planning and preparation for such activities. The first character of the ACPP is that it was technical cooperation in the 'soft' area aiming at the advancement of organizational and management bodies that the local communities take part in.

Figure 5-3 Location of the Agricultural Cooperatives Targeted for the Project



Secondly, the ACPP not only aimed at strengthening the organizational and management bodies of the model cooperatives, but also implemented various activities within the jurisdiction of respective agricultural cooperative to develop the regional agriculture into a major local production base. It aimed at establishing an agricultural cooperative system based on producers' group (so-called section units) by organizing model farm groups.

Thirdly, ACPP envisaged that the experiences and policies of the model cooperatives could be compiled into manuals and disseminated to agriculture all over the country. As the fourth point, however, the ACPP was facing a danger of being wiped away or merged with other policies and projects that were competing in the same field. BAAC was expanding its agricultural finance and resource supply project, the Department of Agricultural Extension (DAE) was promoting farmers' group activities, and the Ministry of Interior and many other organizations were carrying out various projects to organize local community groups. Therefore, there was a possibility that the social dissemination effect of the model cooperatives will become restricted even when their establishment was successful.

Activities at the model agricultural cooperatives

Technology transfer was aimed at the overall area of activities such as project, management, and organization, but transfer of technology in the area of credit businesses was especially effective. In order to smooth the cooperatives' loan recovery operation, advice was made to compile members' registration records and methodologies of assessing and ranking members for credit purposes were introduced. These were introduced to agricultural cooperatives all over the country through the Cooperative Promotion Department (CPD). Moreover, a savings campaign titled "One Baht a Day" promoted farm businesses and improved the cooperatives' capital position.

Model farm groups decided on major products to be promoted based on the demand of participating farmers. Experts provided necessary technologies and knowledge to promote these products and small-scale infrastructure was also prepared. In places like Phimai, Pakthongchai, and Khongsamaki the pig-farming business that took root at that time is still prospering and has developed into one of the best pig-farming areas in the province.

Successful cases of compound farm management

Many farmers in the Phimai agricultural cooperative used to engage in mono-culture farming of rice. Farmers who joined the model farm groups started pig-farming businesses and were able to seize opportunities to obtain new sources of income. In the beginning, the farmers considered compound farm management to be quite difficult, but as the cooperative operation system gradually developed, many started to take part in the management. In areas where model farm groups were located, the number of farmers purchasing compost from the pig-farming farmers to be used in paddy fields increased. The profitability per unit of the paddy fields within and around the area where model farm groups were steadily increased. By launching livestock farming the agricultural productivity of the region gradually improved.

Strengthening the Operational Marketing Business and Service Utilization Activity

In order to establish the collecting system of rice, which is the most important agricultural product, the project supported Phimai agricultural cooperative in establishing a rice mill. Muang and Pakthongchai cooperatives also started to extensively deal with the paddy collecting operation. As a consequence, the distribution structure of paddy and milled rice in the region has drastically changed. Model agricultural cooperatives expanded their activities utilizing the equipment and facilities granted by JICA. Pig-farming facilities, mill, mixed-feed, and agricultural machinery were granted. The cooperative supported the small-scale farmers' agricultural operation through the management of these facilities and started to engage in members' overall production and distribution processes. Model cooperatives are still trying to fully utilize the processing facilities even after the project.

Agricultural cooperative promotion that enabled a formation of sustainable regional agriculture

ACPP has been successful in shifting the agricultural production based on rice cultivation to a mixed agricultural operation. "Paddy field + α" has almost completely taken root in the area, and progress has been made within the "α" sectors in forming a local production base. Its contribution to increase the agricultural income is highly valued.

ACPP put emphasis on the activities of assisting organizational bodies that could autonomously lead the regional agriculture. It was a project to form local production bases and establish a system to ensure the sustainable development of these bases. Although all model agricultural cooperatives' levels of achievements were not the same, progress was made in the areas such as improvement in credit business, establishment of instructive operation, and entering distribution and processing related operations. These activities were not seen in the past. Particularly the project is highly valued from the point of view that it prepared a system for carrying out production credit and a stable supply of agricultural materials. It was made clear that if a stable agricultural cooperative could be established through the advancement of cooperatives, and could operate activities that are directly linked to members' farming activities, it would be possible to improve productivity of the regional agriculture as well as increase farmers' income.

Backing up paddy filed cultivation

The ACPP has made a big impact on rice production that is the base of agricultural economy from a distributional aspect. In those days, the agricultural cooperatives in Thailand could not take part in the distributional operation of paddy and milled rice, but the successful experiences at the Phimai agricultural cooperative have proved that it is not impossible for an agricultural cooperative to enter the rice business. Moreover, Pakthongchai agricultural cooperative has expanded its role as a transaction center while functioning as the primary product collector for paddy distribution.

Agricultural production and farmers' employment structure keep changing. If agricultural cooperatives could flexibly reform their organizational and operational structure in

accordance with these changes farmers could also continuously seek new ways of developing agriculture in their region. This is the essential task of advancing agricultural cooperatives and where the future hope for sustainable dissemination effects lie.

Difficulties faced by the ACPP

The main difficulty the ACPP faced was its competition with farm groups or BAAC. Initially, agricultural cooperatives were thought to be the leading organization among various agricultural organizations but this was not the case. Outside the jurisdiction of CPD, the objective of promoting agricultural cooperative became unclear as a policy.

Activities at model cooperatives had made significant achievements but they never brought change to CPD cooperative policies. Taking these points into account, CPD launched on its own improvement activity targeting 15 agricultural cooperatives nationwide starting from 1999. It is envisaged that achievements made at the model cooperatives can be utilized as future lessons in order to achieve ACPP objective of further enhancing economic benefits.

5.4 Conclusion

The two projects have basically made substantial achievements and have supported farmers' agricultural activities as well as everyday lives. Nevertheless, there are some factors to be considered and improved. Especially, advice should have been sought from a third party in the analysis on the background of the demand for the project and its appropriateness. Many issues such as the policy stance of the project and the environment surrounding the project can be determined only by the people or experts who are directly involved in the sector.

The experiences from REX and the ACPP show the necessity of a comprehensive approach in assisting rural villages. Instead of giving aid to a particular sector within the region, it is better to include all related sectors as they will expand the bases for local peoples' participation to the project. Transfer of technologies on the large-scale production management of seedlings carried out by REX was highly successful combined with the supporting activities of community forest. The promotion of producers' group activities encouraged by the ACPP was combined with the transfer of agricultural technology and has realized sustainable agricultural development in the region.

Demands for technology transfer in rural villages will increase in the future especially in the area of regional environmental resources management and the way to use these resources in a sustainable way. REX-type methods will be required in the area of reutilization of natural resources. An ACPP-type of methods would be required to advance these economic activities so that the profit could be disseminated to the local people. It is worthy to note that there is a possibility of combing the two projects into a single systemized synthetic project.

Chapter 6: Impact of Vocational Education and Training on Regional Development

6.1 Background and objective of this study

It has been considered only natural that human resource development through education and vocational training is indispensable for regional development. However, human resource development does not necessarily lead to regional development. It is necessary to ensure that those who have received education and training obtain jobs within the region and contribute to the area utilizing their skills and knowledge to realize regional development through offering education and training to the youth and adults.

To this end, it is necessary to reflect the needs of the community in the contents of education and training. Yet circumstances surrounding vocational education and training such as conditions of the labor market, needs for human resource development, and educational environment easily change along with changes in the industry structure and many other factors. Therefore, the key to operate projects on education and training is to forecast future trends and cope with changes.

It has been considered that expansion of education and training in the Northeastern Region is an effective means for alleviating the regional socio-economic disparities between the BMA and the Northeastern Region. However, many of the ex-trainees of institutes for vocational training move to the Bangkok Metropolitan area because there are not many jobs suited for workers with high levels of skills and knowledge in the Northeastern Region and because wages are generally higher in the Bangkok Metropolitan area.

Many of those who moved to the BMA send money to their parents; however, such cash flow only indirectly expands the demand in the region and does not directly contribute to the development of the region. Therefore, some consider that the expansion of education and training accelerates the drain of people to the BMA and that it is very unlikely to bring about development in the Northeastern Region. Yet it is also possible to consider that education and training are indeed contributing to the development of the region through causing the youth, who would otherwise work only in the busy seasons for farmers and work part-time the rest of the time, to have a steady job in the BMA and send part of their income to the region.

This study clarifies the role that the JICA's projects on vocational education and training have played in alleviating the socio-economic disparities between the BMA and the Northeastern Region in Thailand, focusing on Sathaaban Phattanaa Fiimuu Raenggaan Khon Kaen: Khon Kaen Institute for Skill Development (KISD) and, Sathaaban Phattanaa Fiimuu Raenggaan Phaakha Tawanookciangnua Toonlaang Ubon Ratchathani: Ubon Institute for Skill Development (UBISD), which were established with grant aid from the Japanese government and where project-type technical cooperation has been made. Further, this study makes a proposal on the nature of assistance in education and training most effective in minimizing the regional socio-economic disparities.

6.2 Research methods

Traditionally evaluation of projects in education and training has been made through examining indexes on activities such as the transfer of technology to the C/P or the number of trainees. However, such a method is not enough. An Evaluation should focus on how the project has contributed to regional development and alleviation of the regional socio-economic disparities.

Therefore, this study supposes that the main effects of the two Institutes for Skill Development (ISDs) are the development of skilled workers and improvement of social productivity, and it evaluates the education and training through measuring indexes to demonstrate these effects.

Yet, the influence of only two institutes for skills development is not sufficient for the substantial issue of alleviating the regional socio-economic disparities. Thus, this study conducted cost-benefit analysis to examine whether the activities by these two ISDs are making contributions in proportion to the investments. It can be said that the projects are contributing to the region if the increase in production caused by the projects exceeds the costs of the projects. Finally changes in the factors surrounding the two ISDs are considered based upon the results of the project evaluation to make policy proposals on the operation of the ISDs and alleviation of the regional socio-economic disparities.

Field surveys were made in the Bangkok Metropolitan area and the Northeastern Region, Khon Kaen and Ubon Ratchathani, in particular from October to December 2000. The survey consisted of a questionnaire survey on trainees and ex-trainees of the institutes, interviews of the supervisors at the companies where the ex-trainees worked, and interviews at organizations related to these projects. We sent out the questionnaires in advance and collected 530 and 301 responses from trainees and ex-trainees, respectively. Interviews were made to 58 individuals with 53 companies.

6.3 Results of the questionnaire survey

According to the responses on the question on plans right after graduation, only 29.2% of them plan to work in the Northeastern Region after graduation while those who intend to work in the BMA and to continue to study at an institute for higher education are 41.1% and 12.0%, respectively. These ratios change depending on the length of period from the graduation, and for example, those who plan to work in the Northeastern Region in ten years from graduation are 39.4% and those who plan to work in the BMA drops to 23.3%, which is about half of the previous figure. Additionally, 15.5% of the trainees plan to work overseas. These imply that the trainees desire to work for some years in the Bangkok Metropolitan area, and then come back to the Northeastern Region or go abroad to work.

On the other hand, many ex-trainees have indicated that they obtained knowledge and skills necessary to work as to the effects of the vocational education and training. This demonstrates that the chief objective of these two ISDs, which is to offer an opportunity to receive vocational training to the youth in the Northeastern Region who have not joined the

labor market and make them skilled workers. Other effects recognized high percentages of the ex-trainees are that they became more disciplined, they were able to obtain a good job, and they were able to obtain a job at an early stage. However, it seems that the training improved the circumstances of the ex-trainees but did not make them better workers because such items as effects on society and recognition by others were found relatively less significant.

Additionally, it seems that the status within workplace is lower for the ex-trainees working in the BMA than for the ex-trainees in the Northeastern Region because those who are working in the BMA found the training less effective than those working in the Northeastern Region. The effects on the ex-trainees would vary because they reflected not only the effects of the training but also their competitiveness in the labor market and the status in companies, which is defined by their competitiveness. The ex-trainees who indicated that they received training because they had not been able to get a job responded that they were able to get a good job, or to have acquired skills and knowledge, and are more satisfied with their present conditions.

Finally, it has been found through the interviews of the supervisors that although they are satisfied with the ex-trainees in general, those who are pleased with them have hired them as semi-skilled or skilled workers. As to specific evaluation criteria, the ex-trainees were given points that are slightly higher than the neutral level on “having basic knowledge” and “having basic skills”. Their points on “having sophisticated knowledge” and “skills” were lower than the neutral level. The ex-trainees were found superior to their colleagues as to characteristics such as “obedient”, “cooperative”, and “disciplined”; in other words, they are found to be workers with proper temperament with superior skills and knowledge.

6.4 Cost-benefit analysis

We compared the costs of the projects and its effects to demonstrate whether they are producing results in proportion to the investment. The benefit of the projects were based upon the difference between the annual income of the ex-trainee found from the questionnaire survey and the annual income calculated from the minimum wages.

First we found social rate of return, which is the cost-benefit for society in general. On condition that half of the ex-trainees work in the BMA, the rate of return for the ISD ex-trainees who are elementary school, lower secondary school, and upper secondary school graduates are 3.7%, 5.2% and 6.6%, respectively. The differences in the rates reflect the fact that those with better educational background have more potential for learning and that workers’ educational background tend to be reflected in their wages. The rate of return varies greatly in regions, as it is 0.9% and 9.8%, respectively, for the Northeastern Region and the BMA. The general social rate of return has found to be 5.5%. It can be said that vocational training offered by the ISDs is an investment, which excels other types of investment.

From the point of view the rate of return for the Northeastern Region on condition that half of the ex-trainees drain from the region to the BMA, and that all of them work in the region, is 2.1% and 13.4%, respectively. The rate of return is found to be 9.4% on condition

that the ex-trainees who work in the BMA send one third of their income to the Northeastern Region. As the Northeastern Region lacks major industry to create job openings for all the ex-trainees, in a sense, it is meaningful for the region that the ex-trainees move to the BMA to work and send money to the region, thus expanding demand in the region, rather than remaining in the region as a seasonal workers or unemployed. However, still it is a loss from the view point of the Northeastern Region that the people who are originally expected to work in the region drain to the BMA after having obtained skills and knowledge through the training, as they do not contribute to the region as so much. The payback period has been found to be twenty years according to a cost-benefit analysis based upon the cash flow of the project in a time series.

6.5 Changes in the environment

It is a key to a success of the project to forecast the changes in the labor market, needs for human resource development and educational environment, and to cope with such changes. Currently ISDs are faced with major social changes. First of all, unemployment rate has risen sharply since the economic crisis of 1997. This is a serious problem for the Northeastern Region, where the unemployment rate had been at a high level even before 1997. The economy appears to have resumed its upward course, thus causing the unemployment to decline to some extent in 2000; however, training by ISDs is unlikely to contribute to regional development as the ex-trainees are unable to work and the improvement of their productivity are not utilized within the region.

Secondly, educational opportunities have been expanded. Educational opportunities expanded greatly since the project on the expansion of educational opportunities in 1990. The attendance rate for lower secondary schools rose sharply and reached 74.2% in 1997. As a result, the relative status of elementary or lower secondary school graduates, who are the main target for the pre-employment training offered by ISDs, has become less significant in the labor market, and skilled work is available for those who have completed upper secondary education. Furthermore, the ex-trainees of ISDs cannot pursue education at a higher level of institutes because the Ministry of Education has not accredited ISDs as part of the academic school system. Additionally, the current six-year compulsory education is to be extended to nine years by 2002, and the costs of twelve-year basic education is to be borne by the government. This will further expand educational opportunities, thus lowering the status of workers with less educational background.

Thirdly, ISDs are in competition with other institutes for vocational training. Skill Development Centers under the Ministry of Labor and Social Welfare are being established in every region in the country, and the ministry is rapidly increasing the number of people to receive vocational training. However, it is not only at the institutes under the control of the Ministry of Labor and Social Welfare that the graduates of lower secondary schools may receive vocational education and training. For example, there are a number of institutes for vocational training controlled by the Ministry of Education. The merit of receiving

vocational education at an institute under the Ministry of Education is that the trainees are not instilled in skills and knowledge but also receive certificates accredited by the ministry, which are highly recognized in the labor market. Even excluding the institutes under the Bureau of Non-formal Education, the institutes under the control of the Ministry of Education currently hold more than one million trainees, and the number of trainees will continue to increase. In such circumstances it is difficult to assume that the country will make a substantial investment for institutes for skill development under the Ministry of Labor and Social Welfare, where the number of the trainees to receive pre-employment training is as low as 20,000 per year.

There is yet another problem concerning the nature of education and training. In the past vocational education and training controlled by the Ministry of Education were theory-oriented, while those controlled by the Ministry of Labor and Social Welfare were skill-oriented, and the later had the merit of being directly related to the needs in the labor market. However, institutes controlled by the Ministry of Education came to offer Dual Vocational Training (DVT) since 1995, thus making education by those institutes relevant to the needs in the labor market. Furthermore, the fact that ISDs do not cause financial burden to trainees will be less significant as the national scheme for bearing the expenses of elementary through upper secondary education is implemented. As a result the only merit of ISDs will be that it does not cause much opportunity costs because the length of the training period is short. As a whole the merit for the trainees of receiving vocational training controlled by the Ministry of Labor and Social Welfare is becoming relatively small.

6.6 Conclusions and policy implications

One way of helping KISD and UBISD make more contribution to the development of the Northeastern Region is to offer education and training to trainees with higher educational background; in other words, they should count on schools under the control of the Ministry of Education for basic education. Also, skill-upgrading training targeted at those who have already obtained jobs should be expanded. In the long run it will not be productive to offer lengthy programs to elementary and lower secondary school graduates using highly equipped and expensive facilities.

Secondly, it will also be effective to make sure that the ex-trainees of the institutes earn proper status in the labor market based upon the skills and knowledge they have acquired. This may be realized by giving certificates accredited by the Ministry of Education to those who have completed training, or by making a system in which the certificates earned from ISDs are converted to those recognized by the Ministry of Education. At least making a system where the credits earned at ISDs are convertible to those earned at schools under the Ministry of Education will help the ISD ex-trainees continue to study or receive more sophisticated training.

Thirdly, the Ministry of Labor and Social Welfare's national skills standard should be made convertible with the certificates issued by the Ministry of Education. This will help not only the ex-trainees of ISDs but also those who have graduated from schools and are already

working receive higher education and training and continue to improve themselves. At present the national skills standard is not highly recognized in the labor market. The new system will also improve the status of the standards.

ISDs need to change its functions to cope with the above-mentioned changes in the social environment. Vocational training is costly because it calls for continual improvements of facilities and equipment. Therefore, it is impossible for ISDs to cope with the various needs in the labor market and drastic technological revolution by themselves. In order for ISDs to contribute to the attainment of the higher-level objective of the regional development, it is necessary for them to function as organizations for the adjustment of vocational training within the region in cooperation with private enterprises and their facilities for vocational training, taking advantage of the fact that they are agencies under the Ministry of Labor and Social Welfare. Cooperation with private enterprises is an effective measure not only for the effective use of facilities but also for the creation and maintenance of close ties with the labor market. On the other hand, each ISD must create original programs to reflect the needs of the community that they belong to. Training to meet the needs of the community cannot be offered solely through centralized control. Each ISD will have to be equipped with the capacity for conducting research, planning, and a system to implement its plans.

Development of the Northeastern Region cannot be realized only through the development of education and training. The effect of education and training will not be significant if the labor market in the region is not expanded. This is because workers naturally move to different places to seek better working conditions, and it is impossible to prevent their moves from the region.

Chapter 7: Evaluation of the Public Health Projects: with Regard to the Sustainability of Institutions and Service Provision

7.1 Overall objectives of the evaluation study

This study was conducted as part of the evaluation of the impact of JICA projects on the alleviation of socio-economic disparities between the BMA and the Northeastern Region, in Thailand. The alleviation of socio-economic disparities as measured in the health sector, however, can be an extremely indirect outcome taking into account numerous mediating variables. Therefore, this study focuses on a process management of the institutions that the original projects were centered on, in the light of policy developments and improvements in health indicators.

The aim of the evaluation work was to assess the following Japan-assisted public health projects: (1) “the ASEAN Training Center for Primary Health Care(ATC/PHC)” including Regional Training Centers for PHC (RTC/PHCs) and (2) “Community Health Project” in Khon Kaen province. However, some evaluation studies had already been completed for these two different projects. These evaluation studies made professional assessments in terms of the

efficiency, effectiveness and impact, and project relevance. Based on an examination of these performance measures, these evaluation studies both arrived at positive conclusions, with some suggestions for further reforms.

In practice, ATC/PHC currently the ASEAN Institute for Health Development/AIHD and RTC/PHCs are now well established institutions in the Thai health sector that have established high national and international reputations. The outcome from the Community Health Project is already well accepted by the Government of Thailand (GoT) in formulating health policy.

7.2 Policy developments

The leading policy instrument in the Thai health sector has been a five-year National Health Plan. Unlike some other developing countries where national development plans are regularly drawn up as a mere shell of the state's political message, the GoT can be highly commended for having translated its national health plan into various sub-plans and strategies that have actually been, or are being, implemented.

Over the last two decades, policy priority has been shifting from the development of health infrastructure and primary health care to the management of the health system, which includes efficient resource mobilization and a stronger mechanism for health financing. Now, the Ministry of Public Health (MoPH) has launched a National Health System Reform.

Among the projects evaluated, the project for ATC/PHC and RTC/PHCs related rather to the early stage of policy development. The policy targets at this stage were mostly achieved, particularly in terms of health infrastructure and health personnel (aside from a geographical imbalance).

The Community Health Project was launched in 1991, and was expected to influence the Eighth National Health Development Plan (1997-2001), in which MoPH is taking on more visibly the challenge of integrating development in the health sector. MoPH plans to strengthen the co-ordination mechanism and referral system so that the population can receive appropriate, complete, and quick services by the nearest health care facility. The Plan emphasizes community participation for better quality of life.

Thailand has achieved remarkable economic growth in the past two decades. The Gross Domestic Products (GDP) increased by about 7-9% annually during the late 1980s and 1990s, up to the downturn in 1996. The economic growth of Thailand is second only to Malaysia in this group. This is also true of demographic trends and major health indicators. Overall, the indicators of the general health status of the population have shown considerable improvement over the past decades. The health status is far better than that of the neighboring countries, with the exception of Malaysia.

Thailand is now undergoing epidemiological and demographic transition. While the incidence of infectious diseases has been falling, chronic diseases are now the leading cause of death. The causes of death in order of their frequency are cardiovascular, accidents, malignancies. Reflecting this transition, and to reduce the burden of unexpected and expensive health care, more efficient sector management (including a stronger mechanism of health

financing) is now required. MoPH has now launched the National Health System Reform.

7.3 The ASEAN Training Center for Primary Health Care (ATC/PHC) in Mahidol University and Regional Training Centers

The ASEAN Training Center for Primary Health Care (ATC/PHC) and four Regional Training Centers (RTCs) were established through grant aid cooperation. Thereafter, project-type technical cooperation was provided between October 1982 and September 1989. ATC/PHC was established at the Salaya Campus of the Mahidol University. Four RTCs were established at Khon Kaen, Chon Buri, Nakhon Sawan and Nakhon Si Thammarat.

ATC/PHC was founded as an international institution (to serve an area beyond the boundaries of Thailand) for the improvement of the quality of human resources, particularly in the field of public health. ATC/PHC was promoted to become the ASEAN Institute for Health Development (AIHD) within Mahidol University in October 1988. Since then, AIHD has grown to a full-fledged institution, providing various training courses (national and international) and master's programs (e.g. Master of Primary Health Management). Its development goes beyond its original plan. It can be safely said that the performance of AIHD is evidently positive.

As for RTCs (in particularly RTC in Khon Kaen), they perform well in their training and research functions. They cooperate closely with local organizations, in both the public and private sector, especially NGOs, in implementing public health tasks. Moreover RTC in Khon Kaen provides some international programs; for example, they receive trainees from neighboring countries such as Laos, with the support of United Nations Development Programme (UNDP).

Sustainability should, first of all, imply 'financial sustainability'. In this sense, AIHD is perhaps unique among the various institutions assisted by Japan's grant aid, for which the counterpart's likely recurrent financial difficulties have often been under-estimated. AIHD is an autonomous agency within Mahidol University. At its inception it introduced schemes for income generation, through the ASEAN HOUSE (student dormitory), printing and other services, in addition to receiving a regular budget from GoT. AIHD also receives some support for its programs from JICA, European Union (EU), Canadian International Development Agency (CIDA), World Health Organization (WHO), and so on.

RTCs will continue to be subsidized by the GoT, in support of their well-established roles and capacities

As they have demonstrated notable success in the training and dissemination of information and knowledge in the public health area, AIHD and RTCs are valuable assets for the ASEAN and beyond, as trainees come not only from Asia but from Africa and other regions. It is particularly commendable for the autonomous AIHD to maintain financial self-support. Japan may regard AIHD as a strategically valuable base for public health training programs. It is worth considering the continuation of supporting their short-term training and degree courses. This support will complement AIHD's self-generated sources of income. It can be

concluded that AIHD is a top-rated institution and an ideal implementation base for JICA's third country training scheme.

AIHD and RTCs receive recognition for their activities from both international and local partner institutions, as well as ex-students, which must be a good surrogate indicator of their effective performance.

7.4 Project evaluation of the Community Health Project in Khon Kaen province

This unique Project is composed of five sub-projects (Rural Community Health Services, Dental Health Care in Rural Community, Urban Community Health Services, Trauma Prevention Project which is still ongoing, and System Research about Health Insurance). Moreover, human resource development was promoted as a cross-cutting intervention in all sub-projects.

The general objective of the Project was to develop a health service system model in the province that formed the project site and to disseminate the experience into other provinces, thus contributing to national health policy and to further development of primary health care in Thailand.

This Project used a cross-cutting method applied to sub-projects called 'Participatory Action Research' (PAR), to build up people's awareness of a range of activities designed to improve their access to health care. PAR aimed at promoting agreement, cooperation and interaction among the organizations, communities and people involved, and facilitating the achievement of specific objectives set forth for each of the activities incorporated in the sub-projects.

Furthermore, the findings from PAR were expected to help make a convincing proposal for formulating the National Health Policy, with particular reference to the community health services system. Thus, how PAR was carried out was a crucial factor in determining successful project implementation.

Performance, Benefits and Sustainability

Project performance was satisfactorily assessed at the time of project completion. The ex-post evaluation study also expressed positive views, particularly in terms of the impact and sustainability.

The ex-post study classified the impact into two aspects, one was policy formulation and the other human resources. The study assessed the contribution to higher level policy formulation in terms of the dissemination of concepts, principles and experiences throughout the country. The study also recognized that human resource development at the province, district and sub-district level was achieved.

The present mission has almost the same positive impressions through interviews with people involved in rural and urban health activities. The various gains are more tangible in urban communities in Khon Kaen City.

In terms of sustainability, the Urban Health Activity sub-project was much more visible

than its rural equivalent, with local networking and effective cooperation apparent among the local administration, NGOs and voluntary groups. This mission was not able to ascertain the extent of rural people's involvement in decision-making or the planning of activities; however, community hospitals and health centers were seen to be functioning well with good coordination, and this is expected to provide a long-lived participatory linkage.

System Research on Health Insurance

This sub-project is referred to separately due to the nature of the activity. The research period was between 1994 and 1995. The study looked at health card purchase and patterns of utilization in Khon Kaen, and found that card purchase was influenced by the following factors: proportion of employed persons to total family members, education, and presence of illness. The last factor is related to the problem of adverse selection in the health card program. The research findings indicated that improvements to the existing health card program should require a number of policy changes, such as the revision of criteria for card use, and restructuring of relationships with providers to provide an effective referral system. The study suggested that an alternative possibility for altering the program might be a community-based compulsory insurance scheme in rural areas.

7.5 Conclusion

The projects evaluated are (1) technical cooperation and education/ training facilities in the field of public health and (2) programs to develop a health service system model in the province. Needless to say, these projects have shown successful performance. Thus, it is possible to say that the projects have contributed to general improvements in health status and access to health services in the province, which has created a basis for the alleviation of socio-economic disparities between the BMA and the Northeastern Region in Thailand.

In fact, the training and education activities have created a rich pool of human resources in public health, and in terms of people's access, the national health plan has generated steady achievement. The province has a regional university with a faculty of medicine, and several public health facilities: one regional hospital, seven specialist centers, 19 community hospitals, 212 health centers and one municipal health center. Furthermore, there are many private clinics and hospitals.

7.6 Suggestions

The mission would like to make some suggestions for future cooperation with Thailand, which is undergoing epidemiological and demographic transition, and countries beyond.

(1) AIHD (the former ATC/PHC) is a valuable educational institution for ASEAN and beyond. This should continue to be supported from a long-term and wide perspective. Human capital development needs to be considered more strategically for the long term. More active support of its course programs, beyond conventional aid modality, is greatly recommended.

(2) Supporting research activities in developing countries tends not to be given high priority in a development assistance project. However, it needs to be better understood that research work in educational/training institutions is crucial to maintaining and improving education levels.

(3) Various government institutions, such as universities, hospitals, and research institutes are being transformed into something like independent agencies. Therefore, a mechanism for their financial sustainability needs to be well designed. In this sense, AIHD has built up a sound financial system. Grant aid projects cannot consider this issue too much.

(4) Policy priority in the Thai National Health Plan has been shifting towards more efficient resource utilization, together with a stronger financial mechanism. Supporting policy management and institutional management in the health sector is increasingly necessary. The conventional approach of provision of equipment, hardware-related training and service provisions of technical experts should be reconsidered, to allow more management support components to be included.

(5) There is a need for better targeted study (that is more focused than the usual evaluation study) concerning the financial management of medical facilities (such as the case of the Sri Jaye Wardenepura Hospital in Sri Lanka, financed by Japan's grand aid facility, which was transformed into an independent agency after the hand-over of the project, thereafter being well managed).

(6) The advantage of Japanese assistance remains its capacity for providing significant capital assets. Therefore, it will be increasingly important to design asset provision in harmony with resource allocation within the health sector, and work out self-help mechanisms to complement the capital assets provided, for long term effectiveness.

(7) Health sector assistance should not be narrowly confined to health care assistance. For example, it is appropriate that a component of the Community Health Project in Khon Kaen Province is involved not only with in-hospital services, but also road transportation management and road safety education. It will be possible to include a health component (prioritizing preventive health) in other sector projects or programs, such as road construction, for example. Japan's assistance, which is vast sector-wise, may be able to make a unique contribution in this way.

List of Contributors

Leader of the Team	MUTA Hiromitsu（Chapter 6）
	Professor, Tokyo Institute of Technology,
Co-leader of the Team	YAMASHITA Shoichi (Introduction, Chapter 1, 2, 3)
	Professor, Hiroshima University, President of JASID
Sector Leader	TSUNOKAWA Koji (Chapter 4)
	Professor, Saitama University
	UCHIDA Yasuo (Chapter 7)
	Professor, Kobe University
	YAMAO Masahiro (Chapter 5)
	Professor, Hiroshima University
Member	MORISHITA Minoru (Chapter 6)
	Assistant Professor, Tokyo University of Mercantile Marine
	SAITO Takahiro (Chapter 6)
	Research Associate, Tokyo Institute of Technology,
	TAKAHASHI Yoshi (Chapter 1)
	Research Associate, Hiroshima University
	Kriengkrai Techakanont (Chapter 1)
	Graduate Student, Hiroshima University
	Narayan P. Baral (Chapter 4)
	Graduate Student, Saitama University
	HARADA Mariko (Chapter 5)
	Graduate Student, Hiroshima University
	TAKAHASHI Keiko (Chapter 7)
	Graduate Student, Kobe University
	IIDA Jun (Chapter 1)
	Graduate Student, Hiroshima University

(as of March 31, 2001)