

JAPAN INTERNATIONAL COOPERATION AGENCY

No. 2

FOLLOW-UP STUDY
OF
DEVELOPMENT STUDIES

MARCH 1997

JAPAN INTERNATIONAL COOPERATION CENTER
INTERNATIONAL DEVELOPMENT CENTER OF JAPAN

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PREFACE

Japan International Cooperation Agency (JICA) has conducted a large number of development studies as part of the technical cooperation program for developing countries to assist in their nation building.

A development study is basically completed when a final report is completed and submitted to the recipient government. However, since a development study is conducted at the preparatory stage of a project, it can contribute to the progress of developing countries only when the result of the study is utilized into a project, enabling effective technology transfer.

The results of the development studies and advice from the studies are utilized according to the recipient governments' initiative and are used in a wide variety of ways. As gathering information regarding completed studies can be difficult, JICA has been conducting follow-up studies annually since fiscal 1984 to gather and compile relevant information regarding completed development studies.

As in previous years, we prepared this year's report by gathering information from implementing agencies of recipient governments and from consultants in charge of the specific projects, and also by sending study teams to conduct follow-up studies in specific fields and specific countries.

The procedures for conducting follow-up studies and the results of the studies have room for improvement as understanding and analyzing the progress of projects can be difficult. We welcome your comments and suggestions for improving future follow-up studies. We hope this report can be used as a reference for the promotion, rationalization and enhancement of your activities.

This study was entrusted to Japan International Cooperation Center and International Development Center, and the contents of this report was approved by JICA.

March 1997

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CHAPTER 1. OUTLINE OF THE STUDY

1. Background and Purpose of the Follow-up Study

1-1. Background of the Follow-up Study

Once the development studies were completed, it had been often difficult for JICA to grasp the progress of the proposed projects and the extent of the utilization of the results of the study, due to such factors that it usually takes considerable time before the implementation of the proposed projects and it is difficult to trace a variety of ways to utilize the results of the study, and to obtain sufficient information from the side of the recipient countries. The Follow-up Study of Development Studies was started in 1984 to tackle these problems.

1-2. Purpose of the Study

The purpose of the Follow-up Study is to ascertain the outcome, and the circumstances thereof, of each completed development study systematically, to feed back the findings toward the improved performance of future development studies in terms of project identification, study design and execution, and project analysis and evaluation, and thereby to enhance the realization of the proposed projects/programs.

The FY 1996 Follow-up Study gathered and compiled relevant information on the development studies initiated its preliminary stage after August 1 of 1974 and completed by the end of FY 1995 (the end of March 1996). The result of the analysis are presented by country and region; by year of completion as well as by type of study and by sector. This report provides a clear definition of each concept concerning the present status of the use of study results and/or proposed project (s), and compiles and analyzes the relevant data on development studies in concern based on these concepts.

2. Methods Used in the Follow-up Study

2-1. Guidelines of the Follow-up Study

The FY 1996 Follow-up Study is composed of the following surveys as well as collection of information from other relevant sources such as JICA internal materials.

- 1) A questionnaire survey addressed to the consulting firms which undertook the respective development studies.
- 2) A questionnaire survey to relevant government agencies of the recipient countries through JICA overseas offices.
- 3) A survey conducted by JICA's overseas follow-up missions and/or by appointed local consultants in the selected sectors and countries.

2-2. Coverage

The FY 1996 Follow-up Study covers those development studies which were financed by the development study budget under the purview of the Social Development Study Department and the Agriculture, Forestry and Fisheries Development Study Department, Mining and Industries Development Study Department of Japan International Cooperation Agency (JICA), and were initiated their preliminary stage after August 1 of 1974 and completed by the end of FY 1995 (the end of March 1996). A number of studies are excluded from coverage: basic design studies and special project studies conducted as part of the grant aid program.

The total number of studies in concern comes to 1,375 (665 in Social Development Sectors, 274 in Agriculture, Forestry and Fisheries Sectors and 436 in Mining and Industrial Development Sectors).

(1) Classification of Development Studies by FY of Completion

The FY of Completion is defined as the FY during which the final report of the respective development study was submitted to JICA. Financial statements and attached specification and Annual Report of JICA in respective fiscal year, and the replies of consulting firms to the follow-up questionnaire are referred to for determining the FY of completion.

(2) Classification of Development Studies by Country and by Region

The country and region of development studies are shown by the name listed in the most recent issue (January 1993) of JICA Practical Handbook on Statistics. Those studies on the site or area of which ranges cover several countries or regions are classified into "plural countries".

(3) Classification by Type of Study

Studies are classified into seven types as shown below.

Table 1-1 Type of Studies

Type of Study	Definition
1. M/P	Studies for formulating master plans
2. M/P+F/S	Studies which comprise M/P and F/S
3. F/S	Feasibility studies
4. D/D	Studies for detailed designs
5. Basic Studies	Studies to provide basic data, such as maps of various types, nautical charts and groundwater surveys, forestry and fishery resource studies, and agricultural verification studies
6. Chinese Factories	Studies on modernization of existing factories
7. Others*	Studies for Aftercare Services, etc.

Foot Note: * Indicates Other Studies under the Social Development Sector and Agriculture, Forestry and Fishery Sector, also M/P and F/S under the Mining and Industrial Sector, unless specific explanation is given.

(4) Definition of Development Studies by Type of Studies

The definition of each of the above-mentioned types of development studies is given according to the objectives as follows.

i) Master Plan Studies (M/P)

A master plan study is carried out to determine a basic development strategy by formulating a comprehensive sectional or regional plan. The formulation of a master plan is the first stage in the development project cycle. It serves to coordinate and facilitate efficient implementation of various individual projects. The project proposed by a master plan study may be implemented in line with the recommendation of the study immediately after the completion of the study or may be carried out several years after its implementation.

ii) Master Plan/Feasibility Studies (M/P+F/S)

These are studies in which both the master plan and feasibility studies are undertaken.

iii) Feasibility Studies (F/S)

A feasibility study is the one to examine the rationale, appropriateness, investment effects, etc. of a particular development project. In general, it is to determine systematically and objectively whether the proposed project is viable and feasible socially, technically, economically and financially as well as from other important consideration, e.g. operation and maintenance, organization and institution, and preservation of social and natural environment. A feasibility study report serves as important reference for the concerning government agencies and officials to make a policy decision whether the country should proceed to the implementation of the given proposed project(s). It also provides the bilateral and multilateral aid agencies to which a request for financial assistance is addressed with necessary information to examine whether the proposed project is appropriate to be given such assistance.

iv) Detailed Design Studies (D/D)

A detailed design study is used to develop the design documents (including data and specific draft drawings and specifications) needed to begin project construction work as planned. In this phase, since the study has to cover all the detailed investigations related to a project's detailed design, considerable cost and a long study period are generally required. This type of studies are followed by the selection of the contractor through competitive bidding, and the actual construction. Detailed design studies are indispensable to implement the project orderly and to facilitate the effectiveness of financial assistance.

v) Basic Studies (Long-term Studies, Topographical Studies, Ground-water Development Studies, Forestry and Fishery Resources Studies, Agricultural Verification Studies etc.)

Long-term Studies

Formulation of region-wide plans such as river water management or irrigation plan and of integrated regional resource development plan and examination of alternative policy measures for environmental protection often require long-term and continuous accumulation of relevant basic data. The lack of such data or of abilities to collect and compile such data may become a major impeding factor against the implementation of development plans. In this type of studies, a team of experts are sent to stay in the recipient country for a long period, and collect, record, compile and analyze relevant basic data through long-term observations.

Topographical Studies

The presence of basic maps of national land and cities is a necessary condition for planning and implementation of development projects. However in many regions of developing countries, topographical drawings of national territories and cities have been virtually non-existent, or not appropriate for practical use if ever exist, due to the lack of standardized method to draw and information to fill in. This situation leads to difficulty in formulating and implementing development projects as well as in coping with urban problems that are becoming increasingly serious. The results of these studies greatly serve to overcome such difficulties in developing countries by providing basic data and information.

Ground-water Development Studies

These studies survey prospect for ground water and investigate the feasibility of its utilization for irrigation, the supply of drinking water and the supply of water for industry. It is an urgent task to secure the supply of drinking water in such places as the dry land where severe drought hits frequently or as the regions where the quality of water is not suitable for drinking. Also, some regions face such problems that drinking water is being deteriorated in its quality or is being dried up due to overconsumption. Thus, the ground-water development is urgently needed in order to improve the lives of the residents in those regions.

Forestry and Fishery Resources Studies

These studies aim at the basic data enrichment of forestry and fishery resources and contribute to various development planning based on appropriate control of resource through the studies.

Agricultural Verification Studies

These studies aim to collect basic data on meteorology, hydrology, pedology and other natural conditions, and to conduct verification studies such as experiments on introduction of new varieties, experiments on the methods of cultivation of new varieties under different conditions and experiments on the introduction of the methods of transplants.

Resources Studies

A type of Pre-Feasibility Studies which are conducted usually in an assessment of mineral resources deposit in the expected project areas to review the development probability.

vi) Studies on Factories Modernization Program in China

The studies have been conducted since May 1981 with the aim at researches on modernization procedure in the existing Chinese factories following the proposal of the Chinese National Economic Commission addressed to the Ministry of International Trade and Industry at the Japan-China High Level Administrative Meeting.

vii) Other Studies (Studies for Aftercare Services, etc.)

Studies for Aftercare Services are carried out when a review on the same project is required several years after the completion of the former study due to the change of socio-economic or natural conditions. There are two types of studies for Aftercare Services, which are undertaken in response to the request made by a recipient country. The first type is to be conducted for a short period and relatively small in scale because it is considered as a supplement to a previous study. The second type of study is to be undertaken with the objective of the promotion of a project proposed by a previous study which has been classified into the group of "Delayed Studies". In this case, the Aftercare Services study is relatively large in scale so as to reformulate a project on the basis of the results of such Aftercare Services study. The Aftercare Services studies are considered to be quite important to facilitate the utilization of the study results by a

recipient country. Pre-feasibility studies are also classified into “Other Studies”.

(5) Classification by Sector

The sectors are shown by the following classification employed by JICA Practical Handbook on Statistics.

Table 1-2 Sector of Studies

Sector	Subsector	Sub-subsector
1. Planning & Administration	(1) Development Plan	1) General 2) Integrated Regional Development Plan
	(2) Administration	1) General 2) Public Finance & Banking 3) Environmental Problems 4) Statistics 5) Information & Public Relations
2. Public Works & Utilities	(1) Public Utilities	1) General 2) Water Supply 3) Sewerage 4) Urban Sanitation
	(2) Transportation	1) General 2) Road 3) Land Transportation 4) Railway 5) Marine Transportation & Ships 6) Port 7) Air Transportation & Ships 8) Urban Transportation 9) Meteorology
	(3) Social Infrastructures	1) General 2) River & Erosion Control 3) Water Resources Development 5) Architecture & Housing 6) Survey & Mapping
	(4) Communications & Broadcasting	1) General 2) Post 3) Telecommunication 4) Broadcasting

3. Agriculture, Forestry & Fisheries	(1) Agriculture	1) General 2) Sericulture 3) Irrigation, Drainage & Reclamation 4) Agricultural Machinery 5) Agricultural Processing
	(2) Animal Husbandry	1) Animal Husbandry 2) Animal Health 3) Livestock Processing
	(3) Forestry	1) Forestry & Forest Conservation 2) Timber processing
	(4) Fisheries	1) Fisheries 2) Fish Processing
4. Commerce & Tourism	(1) Tourism	1) General 2) Tourism Infrastructure
5. Mining, Industries & Energy	(1) Mining	1) Mining
	(2) Industries	1) General 2) Chemical 3) Metal · Non-Ferrous 4) Ceramics 5) Machine Industry 6) Others
	(3) Energy	1) General 2) Hydraulic Power 3) Thermal power 4) Transmission · Distribution 5) Gas, Coal, Oil 6) New · Recycled Energy
6. Others	(1) Others	1) Others

3. Criteria for Classification of Present Status on Use of Study Results

Two sets of criteria for classification of the present status on the use of the study results are defined and used according to the types of development studies.

3-1. Group A Studies

Master plan studies (M/P), basic studies (B/S) and other studies are collectively named Group A Studies. Information is sought on whether or not their recommendations (including overall plans and priority programs) or outputs (such as maps, bodies of basic data, and guidelines) have been adopted or utilized toward the realization of development goals. The present status is classified into three categories: 1) In progress or in use, 2) Delayed, and 3) Discontinued.

The criteria for determining the present status for Group A Studies is as shown in the Table 1-3.

Table 1-3 Status for Group A Studies

Present Status	Criteria
a. In progress or In use	<p>A study is classified into this category when its results or proposals are satisfactorily utilized in the following manner.</p> <ol style="list-style-type: none"> 1) Based on the proposals, more specific and detailed studies are, or have been, undertaken. Or, the study results are utilized to undertake some development study or planning. 2) Japanese technical cooperation is started on the basis of the proposals or study results. 3) Proposals are incorporated into the development policy or plan of the recipient country. Or, study results are utilized to formulate the development policy or plan. 4) The government of the recipient country is taking some preparatory step to utilize the proposals.
b. Delayed	<p>A study is classified as "delay", when its results or proposals are in one of the following conditions.</p> <ol style="list-style-type: none"> 1) No significant action has been taken by the government of the recipient country to utilize the proposals or results. 2) The government of the recipient country began to act on the proposals, or utilize the results, but the effort was halted for some reason.
c. Discontinued or Canceled	<p>A study is classified as "discontinued", when its results or proposals are in one of the following conditions.</p> <ol style="list-style-type: none"> 1) The government of the recipient country made an explicit decision not to act on the proposals. 2) The government decided to act on, or utilize, different proposals or results from other sources. 3) No actions "for the considerable period of time".

3-2. Group B Studies

Feasibility studies (F/S), master plan/feasibility studies (M/P+F/S) and detailed design studies (D/D) are collectively named Group B Studies. Information is sought on whether or not the projects or programs they appraised or proposed have been implemented. The present status is classified into four categories: A) Completed or in progress, B) Promoting, C) Delayed or suspended, and D) Discontinued or canceled. The category of "Completed or in progress" is further divided into four sub-categories: A1) Completed, A2) Partially completed, A3) Implementing, and A4) Processing.

The criteria for classification of proposed project(s) are shown in the Table 1-4.

Table 1-4 Status for Group B Studies

Present Status	Criteria
A. Completed or in progress	
A1. Completed	The proposed development project has been already completed and in use.
A2. Partially Completed	The proposed development project is partially completed and in use.
A3. Implementing	The implementation of the project is underway.
A4. Processing	<p>The project is at one of the following stages.</p> <ol style="list-style-type: none"> 1) Tenders have been invited. 2) Financing of the project has been secured. * 3) Following the completion of the JICA feasibility study, the basic design study or some other specific step is being undertaken with bilateral or multilateral financial assistance. 4) For some other reasons, the project concerned is considered highly likely to be implemented in the future.

B. Promoting	<p>The project concerned is at one of the following stages.</p> <ol style="list-style-type: none"> 1) The government of the recipient country is requesting financial support from international organizations and/or foreign governments including Japan. 2) The government of the recipient country has been undertaking the detailed design study or other additional studies subsequent to the JICA feasibility study. 3) The recipient country is otherwise actively promoting the implementation of the project.
C. Delayed or Suspended	<p>The project concerned is at one of the following stages.</p> <ol style="list-style-type: none"> 1) The government of the recipient country has not taken any specific action after the completion of the JICA study. 2) The government of the recipient country has at one point promoted the proposed project but suspended the effort for some reason.
D. Discontinued or Canceled	<p>The project concerned is at one of the following stages.</p> <ol style="list-style-type: none"> 1) The government of the recipient country officially canceled the proposed project. 2) The government of the recipient country implemented the alternative which was substantially different from the proposal of the JICA study. 3) No actions "for the considerable period of time".

Foot Note : * Either the loan agreement is signed or the government commitment is confirmed in the form of official pledge.

4. Related Information

As for the collection of related information, various internal materials and reports were utilized to supplement what had not been included in the previous reports.

CHAPTER 2. A FULL VIEW OF COMPLETED DEVELOPMENT STUDIES

1. Classification of Development Studies by Year of Completion

The total number of development studies completed by the end of FY 1995 (the end of March 1996) is 1,375; 665 in Social Development Sector, 274 in Agriculture, Forestry and Fisheries Sector and 436 in Mining and Industrial Development Sector (See Table 2-1). The number of studies was around 20-30 per annum during the 1970s, and has been settled around 60-80 per annum since the 1980s.

Table 2-1 Time Trend of the Number of Development Studies

Fiscal Year Completed	Social Development	Agriculture, Forestry and Fisheries Development	Mining and Industrial Development	Total
1974	1	0	1	2
1975	5	0	9	14
1976	9	4	9	22
1977	20	7	15	42
1978	25	7	12	44
sub total	60	18	46	124
1979	24	12	17	53
1980	30	7	20	57
1981	27	9	22	58
1982	34	18	20	72
1983	32	13	21	66
sub total	147	59	100	306
1984	39	15	23	77
1985	39	12	26	77
1986	28	12	23	63
1987	43	10	23	76
1988	30	19	29	78
sub total	179	68	124	371
1989	45	23	16	84
1990	36	23	23	82
1991	31	14	27	72
1992	40	17	20	77
1993	41	12	24	77
sub total	193	89	110	392
1994	42	22	29	93
1995	44	18	27	89
sub total	86	40	56	182
Total	665	274	436	1375

2. Classification of Development Studies by Region

The number of studies carried out in Asia is 832, which accounts for 60.5% of the total. It indicates that development studies have been centered in Asia. The seven countries of ASEAN account for 38.9% (535 studies) of the total. Central and South America ranks next (16.8%) while Middle East and Africa have a share of about 10% respectively.

A marked difference can not be seen in the distribution of type of study across different regions except Oceania and Europe where a limited number of studies were dealt with. All of studies, M/P, M/P+F/S and F/S, are concentrated in Asia, especially in the ASEAN countries. Also, there is no significant difference in the distribution of studies by sector across different regions. Transportation has the largest share in every region.

However, difference can be observed at the sub-subsector level of Transportation. In the ASEAN countries and Africa, the share of Road is the largest while, in non-ASEAN countries in Asia and in Central and South America, a largest portion of studies have been conducted in Port. Likewise, in ASEAN countries, Social Infrastructures, Communication & Broadcasting have a high share, while the share of Agriculture is small compared with other regions.

Table 2-2 Classification by Region

Region	Social Development	Agriculture, Forestry and Fisheries Development	Mining and Industrial Development	Total
Asia	398 (59.8%)	151 (55.1%)	283 (64.9%)	832 (60.5%)
ASEAN	292 (43.9%)	99 (36.1%)	144 (33.0%)	535 (38.9%)
Others	106 (15.9%)	52 (19.0%)	139 (31.9%)	297 (21.6%)
Middle East	60 (9.0%)	30 (10.9%)	41 (9.4%)	131 (9.5%)
Africa	69 (10.4%)	34 (12.4%)	32 (7.3%)	135 (9.8%)
Central & South America	112 (16.8%)	52 (19.0%)	67 (15.4%)	231 (16.8%)
Oceania	11 (1.7%)	6 (2.2%)	4 (0.9%)	21 (1.5%)
Europe	9 (1.4%)	1 (0.4%)	9 (2.1%)	19 (1.4%)
Plural Countries	6 (0.9%)	0 (0.0%)	0 (0.0%)	6 (0.4%)
Total	665 (100.0%)	274 (100.0%)	436 (100.0%)	1375 (100.0%)

3. Classification of Development Studies by Country

The seven countries of ASEAN have completed 535 studies. It is a region that have received a bulk of development studies within the Asian region. Among them Indonesia has received the largest number of studies (195 studies), followed by Thailand (130 studies), Philippines (127 studies) and Malaysia (63 studies). China boasts a larger number of 144 studies. Apart from these countries, the following 11 countries have had more than 20 development studies conducted: Bangladesh, Nepal, Pakistan and Sri Lanka (in Asia); Egypt (in Middle East), Kenya and Tanzania (in Africa); Bolivia, Columbia, Mexico and Paraguay (in Central and South America).

Table 2-3 Classification by Country

	Planning and Administration	Public Works and Utilities	Transportation					Social Infrastructure	Communication and Broadcasting	Tourism	Agriculture	Animal Husbandry	Forestry	Fishing	Mining	Industrial	Energy	Others	Total
			Road	Railroad	Port	Air Transportation and Airports	Others												
Bangladesh			1	1	2	1	1	5	1		6				5	2		25	
Bhutan								1			1							2	
Brunei*							1	1				1			1			4	
Cambodia		1							1	1						1		4	
China	5	1	4	5	5	3	1	7	2		11	1			1	91	5	2	144
India				3	2		1				1				4	1		12	
Indonesia*	5	9	12	7	11	5	7	31	19	3	23		5	1	19	32	6	195	
Korea		1		1				2			1				1	1		7	
Laos		1	1					3			3						2	10	
Malaysia*	2	4	7	3	4		3	12	4	1	4		2	2	7	7	1	63	
Malaysia*		1		1							1				1			5	
Maldives								1										1	
Myanmar				2		1	2			4					3	2		14	
Nepal			2			3		5	2		4				3	5		24	
Pakistan		1		1	3		5	1	1		9				2	4		27	
Philippines*	4	5	15	1	6	1	7	19	3		26	2	4	1	9	22	2	127	
Singapore*			1		1		1		1								2	6	
Sri Lanka		2	1		4	1			3		8		1		2	1		23	
Thailand*	5	10	16	5	5	1	10	10	5	3	27		1		14	15	3	130	
Viet Nam*			1	1	1		1	1			1				1	2		9	
Algeria							1				1				2			4	
Egypt	3	5		1	3	1	4	1	3		8	1			5	1		36	
Iran					1						2				2	1		6	
Iraq							1	1			1				1			4	
Jordan	2		1		1			3		1	2				1			11	
Morocco				1		1		2			2		1					7	
Oman			1		1			1			4				3	2	1	13	
Qatar		1																1	
Saudi Arabia								2							2		1	5	
Sudan			2								2				1			5	
Syria																1	1	1	
Tunisia			1					3				1				3	1	9	
Turkey	1	1	1		1						2		1		1	9		17	
United Arab Emirates								2					1		1	1		5	
Yemen			2		1		1		1		1				1			7	
Burkina Faso											1							1	
Cameroon											1					1		2	
Djibouti					1													1	
Ethiopia								2			1					1		4	
Gabon												1						1	
Ghana											1							1	
Guinea							1	1			1							3	
Ivory Coast											2							2	
Kenya	1	3	5				1	3		1	3				3	2		22	
Liberia			1													1		2	
Madagascar		1	1		1				1								1	5	
Malawi											1					2		3	
Maldives											4					1		6	
Mali								1										1	
Mauritius		2	2					1										5	
Niger							1	1			3				1			6	

	Planni ng and Admi nistrat ion	Publi c Work s and Utiliti es	Transportation					Social Infrastr ucture	Com muni cation and Broad castin g	Touris m	Agric ulture	Anima l Husba ndry	Forest ry	Fishe ries	Minin g	Indust rial	Energy	Others	Total
			Road	Railro ad	Port	Air Trans portat ion and Airpor t	Others												
Nigeria					1		2			1					1			5	
Rwanda		1					1											2	
Senegal				1			1	2		2							1	7	
Sierra Leone			1							1								2	
Swaziland						1											2	3	
Tanzania	1	1	3				2	3		1	3		1		1	2	5	23	
Uganda									1		1				1			3	
Zaire			1	1			2											4	
Zambia			1			1		2	2		2		1		1	3		13	
Zimbabwe		1		1					2		3					2		9	
Argentina	1			1	1			1	1		1		1			2	4	14	
Bolivia	1	1	4	3		2	2	1		3		1		1	1	1	1	21	
Brazil	3			1	2		1	5								1	2	15	
Chile		1	2	1	1			1		2		1				2	2	13	
Colombia	1		1				2	2			5		1	1		2	5	20	
Costa Rica	1				2	1		1		1			1			4		11	
Dominican Republic					1			1	1		4						2	9	
Ecuador					1		1	2			2		1	1		2	3	13	
El Salvador																1		1	
Guatemala		1			1	1	1	3			2					1	1	11	
Guyana																	1	1	
Honduras					1	1		2	1		5		1	1			1	13	
Jamaica											2							2	
Mexico	2	1		4	3		1				1				3	1	2	20	
Nicaragua		1	1					1										3	
Panama			1		1		3	1	1	1		1	1				1	11	
Paraguay	1	1	1			1	4	1	2		5		2			3	1	22	
Peru		1			1	1		3			1			2	1	1	5	16	
Trinidad and Tobago		1															1	2	
Uruguay					1	1							2			3		7	
Venezuela					1			2							1	2		6	
Cook Island	1				1													2	
Fiji								1					2	1				4	
Kiribati					1												1	3	
Papua New Guinea		1	1			1			1				1				1	6	
Solomon Islands						1			1				1	1				4	
Tonga																		1	1
Western Samoa					1													1	1
Bulgaria		1														1	1	3	
Czech Slovakia																	1	1	
Greece										1								1	1
Hungary	3	1															1	3	
Kyrgyz	1								1									2	
Poland		1					1									1		4	
Portugal																1		1	
Romania		1									1					1		3	
Yugoslavia																	1	1	
Plural Countries							2	2	2									6	
Total	42	67	93	46	75	30	71	164	64	12	222	2	28	22	12	219	182	24	1375

4. Distribution of the Number of Studies by Type of Study

The number of the development studies conducted since 1974 is 1,375, out of which F/S account for 48.1% and M/P for 21.0%, while the combined studies of M/P and F/S account for 13.4%. Average number of studies per annum has increased from 14 cases in FY 1988 to 32 in FY 1995 for M/P while F/S has settled between 22 and 40 during the same period. It is notable that, while F/S and D/D shows a downward trend, M/P plus F/S traces an upward tendency. This may be attributable to the fact that M/P has become increasingly important and also to the practices that feasibility study which follows master plan study is conducted simultaneously with the latter; or otherwise, the results of master plan study are fully utilized in lieu of foreseeable features of feasibility study.

Table 2-4 Distribution by Type of Study

	M/P	M/P+F/S	F/S	D/D	Basic Studies	Chinese Factories	Other Studies	Total
1974	0	0	1	0	0	0	1	2
1975	2	0	4	0	0	0	1	7
1976	9	0	17	0	2	0	1	29
1977	7	0	24	2	4	0	5	42
1978	6	2	27	0	7	0	2	44
sub total	24	2	73	2	13	0	10	124
1979	11	2	31	0	3	0	6	53
1980	12	2	37	2	1	0	3	57
1981	6	5	39	1	3	0	4	58
1982	5	10	38	2	9	3	5	72
1983	9	5	36	0	6	6	4	66
sub total	43	24	181	5	22	9	22	306
1984	10	6	52	0	3	4	2	77
1985	15	6	40	1	4	8	3	77
1986	12	7	31	1	2	7	3	63
1987	18	6	39	0	4	8	1	76
1988	14	9	36	1	5	8	5	78
sub total	69	34	198	3	18	35	14	371
1989	17	21	37	1	2	4	2	84
1990	14	14	40	1	5	8	0	82
1991	23	8	30	1	2	7	1	72
1992	20	17	28	1	7	4	0	77
1993	24	20	22	2	4	5	0	77
sub total	98	80	157	6	20	28	3	392
1994	23	21	31	1	3	9	5	93
1995	32	23	22	0	4	7	1	89
sub total	55	44	53	1	7	16	6	182
Total	289 (21.0%)	184 (13.4%)	662 (48.1%)	17 (1.2%)	80 (5.8%)	88 (6.4%)	55 (4.0%)	1375 (100.0%)

5. Distribution of the Number of Studies by Sector

As shown in the Table 2-5, Transportation shares the largest number of studies both in sector-wise distribution and the types of the study except the Basic Study in which Social Infrastructure has the greatest share due to the inclusion of the studies conducted in the areas of Groundwater Development · Topographic Mapping, having resulted in 47.5 % of the total basic studies.

It can be observed that F/S is highly demanded by such sectors as Road, Railway, Agriculture, Mining and Energy, in accounting for over 60% of the total. On the other hand, over 50% of all the studies for M/P and M/P+F/S are conducted for the sectors of Planning and Administration, the Public Works, Port and Others of Transportation reflecting the character of the projects under the sector where a more comprehensive development plannings are to be involved, rather than the project-by-project planning.

In other words, M/P and M/P+F/S include more comprehensive studies for planning in such areas as Community Development Program, Urban Transportation Development Program, Urban and Land Development Program, etc.

Table 2-5 Distribution by Sector and Type of Study

	M/P	M/P+F/S	F/S	D/D	Basic Studies	Chinese Factories	Other Studies	Total
Planning and Administration	35 (12.1%)	4 (2.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (5.5%)	42 (3.1%)
Public Work and Utilities	5 (1.7%)	34 (18.5%)	27 (4.1%)	1 (5.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	67 (4.9%)
Road	9 (3.1%)	11 (6.0%)	62 (9.4%)	4 (23.5%)	2 (2.5%)	0 (0.0%)	5 (9.1%)	93 (6.8%)
Railway	6 (2.1%)	3 (1.6%)	30 (4.5%)	1 (5.9%)	1 (1.3%)	0 (0.0%)	5 (9.1%)	46 (3.3%)
Port	7 (2.4%)	32 (17.4%)	30 (4.5%)	1 (5.9%)	0 (0.0%)	0 (0.0%)	5 (9.1%)	75 (5.5%)
Air Transportation and Airport	2 (0.7%)	10 (5.4%)	17 (2.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.8%)	30 (2.2%)
Others	31 (10.7%)	7 (3.8%)	27 (4.1%)	1 (5.9%)	1 (1.3%)	0 (0.0%)	4 (7.3%)	71 (5.2%)
Transportation sub-total	55 (19.0%)	63 (34.2%)	166 (25.1%)	7 (41.2%)	4 (5.0%)	0 (0.0%)	20 (36.4%)	315 (22.9%)
Social Infrastructure	34 (11.8%)	39 (21.2%)	41 (6.2%)	3 (17.6%)	38 (47.5%)	0 (0.0%)	9 (16.4%)	164 (11.9%)
Communication and Broadcasting	13 (4.5%)	10 (5.4%)	36 (5.4%)	3 (17.6%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	64 (4.7%)
Tourism	4 (1.4%)	4 (2.2%)	3 (0.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.8%)	12 (0.9%)
Agriculture	42 (14.5%)	25 (13.6%)	148 (22.4%)	2 (11.8%)	5 (6.3%)	0 (0.0%)	0 (0.0%)	222 (16.1%)
Animal Husbandry	0 (0.0%)	1 (0.5%)	1 (0.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (0.1%)
Forestry	9 (3.1%)	2 (1.1%)	5 (0.8%)	0 (0.0%)	10 (12.5%)	0 (0.0%)	2 (3.6%)	28 (2.0%)
Fishery	4 (1.4%)	2 (1.1%)	5 (0.8%)	1 (5.9%)	8 (10.0%)	0 (0.0%)	2 (3.6%)	22 (1.6%)
Mining	3 (1.0%)	0 (0.0%)	8 (1.2%)	0 (0.0%)	1 (1.3%)	0 (0.0%)	0 (0.0%)	12 (0.9%)
Industrial	45 (15.6%)	0 (0.0%)	83 (12.5%)	0 (0.0%)	0 (0.0%)	87 (98.9%)	4 (7.3%)	219 (15.9%)
Energy	30 (10.4%)	0 (0.0%)	135 (20.4%)	0 (0.0%)	12 (15.0%)	0 (0.0%)	5 (9.1%)	182 (13.2%)
Others	10 (3.5%)	0 (0.0%)	4 (0.6%)	0 (0.0%)	0 (0.0%)	1 (1.1%)	9 (16.4%)	24 (1.7%)
Total	289	184	662	17	80	88	55	1375

6. Distribution of Studies in Major Sub-sector

Transportation

Transportation subsector is further classified into nine sub-subsectors. There have been 315 studies conducted for the last 22 years. There are particularly many studies in three sub-subsectors: 93 studies in Road (29.5%), 75 in Port (23.8%) and 46 in Railway (14.6%). These three sub-subsectors account for 67.9% of the total studies in this subsector. Air Transportation & Airport and Urban Transportation sub-subsectors come

next.

Table 2-6 Transportation

Subsector	Number of Studies
General	15 (4.8%)
Road	93 (29.5%)
Land Transportation	4 (1.3%)
Railway	46 (14.6%)
Marine transportation & Ships	24 (7.6%)
Port	75 (23.8%)
Air Transportation & Airport	30 (9.5%)
Urban Transportation	27 (8.6%)
Meteorology	1 (0.3%)
Total	315 (100.0%)

Social Infrastructure

Social infrastructure subsector comprises six sub-subsectors. There have been 164 studies conducted during the last 22 years. Among these subsectors, the studies are concentrated in two sub-subsectors: 67 in Water Resource Development (40.9%) and 53 in River & Erosion Control (32.3%). These two sub-subsectors account for more than 70% of the total studies in this subsector.

Table 2-7 Social Infrastructure

Subsector	Number of Studies
General	0 (0.0%)
River & Erosion Control	53 (32.3%)
Water Resources Dev't	67 (40.9%)
Urban Planning & Land Dev't	10 (6.1%)
Architecture & Housing	10 (6.1%)
Survey & Mapping	24 (14.6%)
Total	164 (100.0%)

Public Utilities

Public Utilities subsector is divided into four sub-subsectors. There have been 67 studies carried out during the last 22 years. 29 studies (43.3% of total) are in Water Supply, 19 studies (28.4%) in Urban Sanitation and 17 studies (25.4%) in Sewerage. 2 studies have been nominally distributed but not conducted in reality in General (Public Utilities).

Table 2-8 Public Utilities

Subsector	Number of Studies
General	2 (3.0%)
Water Supply	29 (43.3%)
Sewerage	17 (25.4%)
Urban Sanitation	19 (28.4%)
Total	67 (100.0%)

Communications & Broadcasting

Communications & Broadcasting subsector is classified into four sub-subsectors. There have been 64 studies conducted during the last 22 years and the overwhelming studies are in Telecommunication (47 studies, 73.4%).

Table 2-9 Communications & Broadcasting

Subsector	Number of Studies
General	6 (9.4%)
Port	0 (0.0%)
Telecommunication	47 (73.4%)
Broadcasting	11 (17.2%)
Total	64 (100.0%)

Agriculture and Animal Husbandry

Agriculture sub-sector is divided into five subsectors, which are General Agriculture, Sericulture, Irrigation, Drainage and Reclamation, Agricultural Machinery and

Agricultural Processing. For the last 22 years, 224 studies have been carried out, 85.7% of which are in General Agriculture. In particular, no study has been conducted in Sericulture and Agricultural Machinery. In Animal husbandry sub-sector, only two studies have been carried out since 1974.

Table 2-10 Agriculture and Animal Husbandry

Subsector	Number of Studies
General	192 (85.7%)
Sericulture	0 (0.0%)
Irrigation, Drainage & Reclamation	26 (11.6%)
Agricultural Machinery	0 (0.0%)
Agricultural processing	4 (1.8%)
Animal Husbandry	2 (0.9%)
Total	224 (100.0%)

Forestry and Fisheries

Forestry sub-sector comprises two sub-subsectors; Forestry Conservation and Timber Processing. All of 28 studies carried out in Forestry sub-sector for the last 22 years are exclusively in Forestry Conservation. Fisheries sub-sector is also composed of two sub-subsectors; Fisheries and Fish Processing. All of 22 studies conducted in this sub-sector are in Fisheries and no study has ever been conducted in Fish Processing.

Table 2-11 Forestry and Fisheries

Subsector	Number of Studies
Forestry, Forestry Conservation	28 (56.0%)
Timber Processing	0 (0.0%)
Fisheries	22 (44.0%)
Fish Processing	0 (0.0%)
Total	50 (100.0%)

Mining and Industries

Mining has only one subsector and Industries is comprised of six subsectors as General, Chemical Industry, Metal · Non-Ferrous, Ceramics, Machine Industry and Others. 12 Studies are for the Mining and 219 studies for the Industries for the period of last 22 years.

Table 2-12 Mining and Industries

Subsector	Number of Studies
Mining	12 (5.2%)
Industry General	43 (18.6%)
Chemical Industry	40 (17.3%)
Metal · Non-Ferrous	23 (10.0%)
Ceramics	12 (5.2%)
Machine Industry	64 (27.7%)
Others	37 (16.0%)
Total	231 (100.0%)

Energy

182 studies have been conducted in a 22-year time for the six sub-sectors under the Energy; 82 for hydraulic power generation and 20 for thermal power generation respectively in accounting for 56% of the total number of studies conducted.

Table 2-13 Energy

Subsector	Number of Studies
Energy General	20 (11.0%)
Hydraulic Power	82 (45.1%)
Thermal Power	20 (11.0%)
Transmission-Distribution	18 (9.9%)
Gas, Coal, Oil	26 (14.3%)
New-Recycled Energy	16 (8.8%)
Total	182 (100.0%)

CHAPTER 3.

THE PRESENT STATUS ON THE UTILIZATION OF STUDY RESULTS

1. Introduction

The present status on utilization of study results is classified into two sets of categories; Group A Studies and Group B Studies.

The present status of master plan studies, basic studies and other studies (Group A Studies) is classified into the three groups as shown in Table 1-3. Those studies for which information obtained from domestic and overseas surveys is not sufficient are tentatively classified into the category of "Delayed". The present status of feasibility studies, master plan-cum-feasibility studies and detailed design studies (Group B Studies) is classified into the four groups as shown in Table 1-4.

The classification above is based on the fact that Group A and Group B Studies are different in the use of their study results, and thereby in the appraisal of and the criteria for the present status.

The Group A Studies are evaluated with "Utilization Rate" while Group B Studies are assessed with "Realization Rate". Group A Studies classified into "In progress or in use" are regarded as "Utilized". The study is classified into "In progress or in use" if (1) the investment fund is, or has been, secured for a proposed project, and thereby, the proposed project has been either implemented or completed or (2) the study findings are incorporated into the development policy or plan of the recipient country. On the other hand, Group B Studies are regarded as "Realized" if a proposed project has been implemented or is highly likely to be implemented. In this case the study is classified into "Completed or in progress".

The use of the study results of master plan and other Group A Studies is not confined to the implementation of proposed project (s). An even more important role of these studies is to contribute to the policy making of government agencies and to the formulation of development plans both at national and regional levels. Basic Studies and Other Studies are aimed at being used for particular purposes such as facilitation of national land development and development planning by collection and compilation of long-term basic data, and providing recommendations on institutional building by drawing up guidelines, and so forth. On the other hand, it is considered that the implementation of Group B Studies is premised on the assumption that a proposed project will be implemented after a study ascertains technical, economical and financial feasibility

of such project. Therefore, a study is regarded as "Realized" only if a proposed project is, or has been, implemented.

This chapter attempts to analyze the present situation on the use of master plan and other Group A Studies in detail, by noticing the specific nature of these development studies. It also provides analysis of feasibility studies and other Group B Studies by centering on the degree of realization of the proposed project (s).

2. Present Status on the Use of Study Results of Group A Studies (Master Plan Studies, Basic Studies and Other Studies)

The total number of Group A Studies, which have been completed from 1974 to 1995 is 507. 444 out of 507 are classified into "In Progress or In Use". The utilization rate is 87.6%. During the 1970s when the Follow-up Studies was still at the infant stage, because only very few development studies were conducted, the utilization rate of completed studies varied each year. However, since FY 1979, the number of development studies has been consistent, and the utilization rate has been settled at around high figures of 76%. It can be judged that the results of the development studies have been well-utilized by recipient countries.

Table 3-1 Present Status of Group A Studies by the Year of Completion

	In Progress or in Use	Delayed	Discontinued	Total
1974	1	0	0	1
1975	7	1	2	10
1976	1	1	3	5
1977	11	2	3	16
1978	12	0	3	15
1979	17	0	2	19
1980	14	0	2	16
1981	10	0	3	13
1982	20	1	1	22
1983	19	3	3	25
1984	15	1	3	19
1985	25	2	3	30
1986	21	0	1	22
1987	27	0	4	31
1988	29	2	1	32
1989	23	1	0	24
1990	22	5	0	27
1991	29	4	0	33
1992	27	3	1	31
1993	33	0	0	33
1994	38	1	0	39
1995	43	1	0	44
Total	444 (87.6%)	28 (5.5%)	35 (6.9%)	507 (100.0%)

2-1. Analysis by Region

Here the utilization rate is analyzed by region except for the Oceanic and the European regions where the small number of development studies has been conducted. In Asia, 272 out of 304 Group A Studies are classified into "In Progress or In Use" and the utilization rate is 89.5% which is slightly above the average utilization rate of all Group A Studies. The utilization rate in Other Asia region is 90.8%, which is the highest among all the regions. However, even in the African and the Middle East regions where the utilization rates are lower than average, they are still as high as 77.6% and 82.5% respectively. It can be concluded that the results of studies are well-used across the regions.

Table 3-2 Utilization Rate by Region

Present Status	Asia			Middle East	Africa
	ASEAN	Other Asia	Sub Total		
In Progress or in Use	144 (88.3%)	128 (90.8%)	272 (89.5%)	33 (82.5%)	38 (77.6%)
Delayed	11 (6.7%)	8 (5.7%)	19 (6.3%)	0 (0.0%)	4 (8.2%)
Discontinued or Cancelled	8 (4.9%)	5 (3.5%)	13 (4.3%)	7 (17.5%)	7 (14.3%)
Total	163	141	304	40	49

Present Status	Central &	Oceania	Europe	Plural Countries	Total
	South America				
In Progress or in Use	81 (87.1%)	5 (83.3%)	10 (100.0%)	5 (100.0%)	444 (87.6%)
Delayed	5 (5.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	28 (5.5%)
Discontinued or Cancelled	7 (7.5%)	1 (16.7%)	0 (0.0%)	0 (0.0%)	35 (6.9%)
Total	93	6	10	5	507

2-2. Analysis by Type of Studies

The utilization rate of the study results on the Chinese Factories Modernization Program is the highest among the different types of study namely; M/P Study, Basic Study and Other Study. 79 out of 88 (89.8%) are "In Progress or In Use". As for M/P, 254 out of 289 (87.9%) are classified into "In Progress or In Use" while 87.5% of Basic Studies (70 out of 80) are in such status. Other Study accounts for 82.0% in the same status.

Table 3-3 Utilization Rate by Types of Studies

Present Status	M/P	Chinese Factories	Basic Studies	Other Studies	Total
In Progress or In Use	254 (87.9%)	79 (89.8%)	70 (87.5%)	41 (82.0%)	444 (87.6%)
Delayed	14 (4.8%)	6 (6.8%)	6 (7.5%)	2 (4.0%)	28 (5.5%)
Discontinued or Cancelled	21 (7.3%)	3 (3.4%)	4 (5.0%)	7 (14.0%)	35 (6.9%)
Total	289 (100.0%)	88 (100.0%)	80 (100.0%)	50 (100.0%)	507 (100.0%)

2-3. Analysis by Sector

The number of the development studies undertaken in the three Sectors are 224 for Social Development Sector, 82 for Agricultural Development Area and 201 for Mining and Industrial Area with the high utilization rates of 89.7%, 90.2% and 84.1% in the respective study area.

Studies completed for Social Infrastructure are most popular across the three different Types of Studies. Out of 81 studies, 69 (85.2%) are "In progress or In Use", followed by the Transport sub-sector of which utilization rate is 89.9% (71 out of 79 studies are "In progress or In Use". In conclusion, average utilization rate across the sectors is over 87% without much difference of utilization rate in the individual sector.

Table 3-4 Utilization by Sector

Present Status	Social Development				Sub Total	
	M/P	Basic Studies	Other Studies			
In Progress or In Use	131 (89.1%)	42 (95.5%)	28 (84.8%)	201 (89.7%)		
Delayed	5 (3.4%)	0 (0.0%)	1 (3.0%)	6 (2.7%)		
Discontinued or Cancelled	11 (7.5%)	2 (4.5%)	4 (12.1%)	17 (7.6%)		
Total	147 (100.0%)	44 (100.0%)	33 (100.0%)	224 (100.0%)		

Present Status	Agriculture, Forestry & Fisheries Development				Sub Total	
	M/P	Basic Studies	Other Studies			
In Progress or In Use	51 (92.7%)	20 (87.0%)	3 (75.0%)	74 (90.2%)		
Delayed	3 (5.5%)	3 (13.0%)	0 (0.0%)	6 (6.9%)		
Discontinued or Cancelled	1 (1.8%)	0 (0.0%)	1 (25.0%)	2 (2.4%)		
Total	55 (100.0%)	23 (100.0%)	4 (100.0%)	82 (100.0%)		

Present Status	Mining & Industrial Development					Total
	M/P	Chinese Factories	Basic Studies	Other Studies	Sub Total	
In Progress or In Use	72 (82.8%)	79 (89.8%)	8 (61.5%)	10 (76.9%)	169 (84.1%)	444 (87.6%)
Delayed	6 (6.9%)	6 (6.8%)	3 (23.1%)	1 (7.7%)	16 (8.0%)	28 (5.5%)
Discontinued or Cancelled	9 (10.3%)	3 (3.4%)	2 (15.4%)	2 (15.4%)	16 (8.0%)	35 (6.9%)
Total	87 (100.0%)	88 (100.0%)	13 (100.0%)	13 (100.0%)	201 (100.0%)	507 (100.0%)

Among the sub-sectors in the Agriculture, Forestry and Fisheries Sector in which 82 development studies have been completed, 47 studies are in the Agriculture sub-sector. The Forestry sub-sector comes next and the Fisheries comes after that. There is no significant difference concerning the utilization rate of each sub-sectors, which is well over 80%, except 50% in the Mining sub-sector.

Table 3-5 Utilization Rate by Sub-sector

	Planning and Administration	Public Works and Utilities									Total
		Public Utilities	Transportation					Social Infra-structures	Communications & Broadcasting		
			Road	Railway	Port	Air Transportation & Airport	Other			Sub Total	
In Progress or In Use	36 (91.7%)	5 (100.0%)	15 (93.8%)	11 (91.7%)	10 (83.3%)	3 (100.0%)	32 (88.9%)	71 (89.9%)	69 (85.2%)	14 (93.3%)	
Delayed	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (2.8%)	1 (1.3%)	5 (6.2%)	0 (0.0%)	
Discontinued or Cancelled	2 (5.3%)	0 (0.0%)	1 (6.3%)	1 (8.3%)	2 (16.7%)	0 (0.0%)	3 (8.3%)	7 (8.9%)	7 (8.6%)	1 (6.7%)	
Total	38 (100.0%)	5 (100.0%)	16 (100.0%)	12 (100.0%)	12 (100.0%)	3 (100.0%)	36 (100.0%)	79 (100.0%)	81 (100.0%)	15 (100.0%)	

	Agriculture, Forestry & Fisheries						Mining & Industrial Development				Total
	Tourism	Other	Agriculture	Animal Husbandry	Forestry	Fisheries	Mining	Industrial	Energy	other	
In Progress or In Use	5 (100.0%)	1 (100.0%)	43 (91.5%)	0 (0.0%)	19 (90.5%)	12 (85.7%)	2 (50.0%)	113 (85.0%)	37 (82.2%)	17 (89.5%)	444 (87.6%)
Delayed	0 (0.0%)	0 (0.0%)	4 (8.5%)	0 (0.0%)	1 (4.8%)	1 (7.1%)	2 (50.0%)	10 (7.5%)	3 (6.7%)	1 (5.3%)	28 (5.5%)
Discontinued or Cancelled	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.8%)	1 (7.1%)	0 (0.0%)	10 (7.5%)	5 (11.1%)	1 (5.3%)	35 (6.9%)
Total	5 (100.0%)	1 (100.0%)	47 (100.0%)	0 (0.0%)	21 (100.0%)	14 (100.0%)	4 (100.0%)	133 (100.0%)	45 (100.0%)	19 (100.0%)	507 (100.0%)

2-4. Details of "In Progress or In Use" Studies

As for Group A Studies, 444 out of 507 are classified into "In Progress or In Use": 289 for M/P, 88 for Chinese Factories Modernization Program, 80 for basic studies and 50 for other studies. In general 444 studies are fallen into either or both of the following two categories:

1. A proposed project has been implemented after the finance for the project was secured; and/or
2. Proposals are incorporated into the development policy or plan of the recipient country. Or, study results are consulted to formulate the development policy or plan.

The largest number of "In Progress or In Use" studies is in category 1. 230 out of 444 studies (51.8%) have been reported to be secured the finance for the proposed projects. In particular, 64.6% of the Factories Modernization Program in China (51 out of 79 studies) have been already financed since their completion. On the contrary, only 30.0% of basic studies have been financed in the Basic Study. This is because basic studies focus on the provision of the basic data or the formulation of topographical map, etc. Proposals made by 88 out of 444 "In Progress or In Use" studies (19.8%) are incorporated into the development policy or plan of the recipient country. Especially, 40.0% of "In Progress or In Use" basic studies are utilized in the formulation of development policy or plan of the recipient country. There are development studies, the projects proposed by which have been implemented as well as whose proposals are incorporated into the development policy or plan of the recipient country.

Concerning Other Studies, Japanese technical cooperation has been undertaken for the 78 development studies.

Table 3-6 Details of "In Progress or In Use" Studies of Group A

Details	M/P	Basic Studies	Chinese Factories	Other Studies	Total
Subsequent Studies	83 (32.7%)	10 (14.3%)	0 (0.0%)	9 (22.0%)	102 (23.0%)
Financed	135 (53.1%)	21 (30.0%)	51 (64.6%)	23 (56.1%)	230 (51.8%)
Technical Cooperation	61 (24.0%)	7 (10.0%)	0 (0.0%)	10 (24.4%)	78 (17.6%)
Nat'l Dev't Policy/Plan	54 (21.3%)	28 (40.0%)	2 (2.5%)	4 (9.8%)	88 (19.8%)
Others	60 (23.6%)	36 (51.4%)	28 (35.4%)	13 (31.7%)	137 (30.9%)
Total	393	102	81	59	635
The number of Studies	254	70	79	41	444

* Because of the multiple entries, the sum is larger than 100%.

3. Present Status on the Use of Study Results of Group B Studies (Feasibility Studies, Master Plan / Feasibility Studies and Detailed Design Studies and Other studies)

The number of Group B Studies which was completed from 1974 to 1995 is 868. 662 of them are F/S (76.3%), 184 are M/P+F/S (21.2%) , 17 are D/D (2.0%) and 5 are Others (0.5%). The number of the development studies which are classified into the category of "Completed or In Progress" is 486 (56.0%) of total. The number of the "Promoting" Studies is 168 (19.4%). 110 studies (12.7%) are fallen into "Delayed or Suspended" because no significant action has been undertaken by the government of the recipient country to utilize their proposals or results. And 104 development studies (12.0%) are considered to be "Canceled" on the ground that the government of the recipient country made an explicit decision not to act on the proposals, or no significant action has been undertaken by the government for the considerable period of time.

Table 3-7 Present Status of Group B Studies by the Year of Completion

Year of Completion	Completed or In Progress	Promoting	Delayed or Suspended	Discontinued or Cancelled	Total
1974	1	0	0	0	1
1975	2	0	1	1	4
1976	13	0	2	2	17
1977	17	1	5	3	26
1978	21	1	1	6	29
1979	21	0	3	10	34
1980	21	1	4	15	41
1981	30	4	4	7	45
1982	32	3	4	11	50
1983	18	5	8	10	41
1984	37	4	9	8	58
1985	27	1	9	10	47
1986	24	2	9	6	41
1987	28	3	9	5	45
1988	23	9	11	3	46
1989	41	9	8	2	60
1990	38	10	4	3	55
1991	16	14	8	1	39
1992	21	20	5	0	46
1993	24	17	3	0	44
1994	18	34	1	1	54
1995	13	30	2	0	45
Total	486 (56.0%)	168 (19.4%)	110 (12.7%)	104 (12.0%)	868 (100.0%)

The Table 3-7 shows the number of studies and their present status according to the year of completion. For the first five years, the annual number of development studies

completed was 77 and the realization rate was notably high with over 70%. As the increase of the number of development studies from the late 1970s to the 1980s, the realization rate shows the downward tendency. Most of these studies completed lately are classified into "Promoting" because few years have passed since their completion. It is considered a few more year will be taken before the implementation of the projects proposed by these studies.

3-1. Analysis by Regions

Table 3-8 shows the realization rate by regions. In Asia 326 out of 528 studies are in "Completed or In Progress". The realization rate is 61.7% which is higher than the average of Group B Studies (56.0%). No difference in the realization rate is observed concerning the ASEAN countries and the non-ASEAN countries in Asia. In both regions, the realization rate are 61.5% and 62.4%. In Middle East, the realization rate is slightly lower than the one in Asia. 52 out of 91 studies are classified into "Completed or In Progress". The realization rate is 57.1%. In Africa, it is 46.5% and in Central and South America, it is 43.5%. Because the number of studies completed in Oceania, Europe and Plural countries is very small, it is difficult to make any generalization concerning the realization rate of those regions. Focusing on the difference in the present status of studies in the Asian region and other regions, 16.9% of studies conducted in Asia are in "Promoting" while in Central and South America 23.9% of studies are in "Promoting", which means more studies in Central and South America are in process for implementation. In Africa and in Central and South America, 31.4 % and 32.6% are classified into either "Delayed or Suspended" or "Canceled" respectively. This is the major factor to lower the realization rate of these regions. This is because in these regions the economic situation became worsen from the 1980s, which resulted in the difficulty to obtain the required amount of foreign currencies to promote the proposed projects. However, in Central and South America, the improvement of both economic condition and political situation has been observed since the mid-1990s. Therefore, it is highly likely that the "Promoting" studies will become implemented and the realization rate will be improved.

Table 3-8 Realization Rate by Region

Present Status	Asia			Middle East	Africa	Central & South America	Oceania	Europe	Plural Countries	Total
	ASFRAN	Other Asia	sub total							
Completed or In Progress	228 (61.5%)	98 (62.4%)	326 (61.7%)	52 (57.1%)	40 (46.5%)	60 (43.5%)	7 (46.7%)	1 (11.1%)	0 (0.0%)	486 (56.0%)
Completed	79 (21.3%)	30 (19.1%)	109 (20.6%)	16 (17.6%)	18 (20.9%)	17 (12.3%)	1 (6.7%)	0 (0.0%)	0 (0.0%)	161 (18.5%)
Partially Completed	56 (15.1%)	30 (19.1%)	86 (16.3%)	20 (22.0%)	8 (9.3%)	7 (5.1%)	2 (13.3%)	0 (0.0%)	0 (0.0%)	123 (14.2%)
Implementing	57 (15.4%)	25 (15.9%)	82 (15.5%)	9 (9.9%)	6 (7.0%)	15 (10.9%)	3 (20.0%)	1 (11.1%)	0 (0.0%)	116 (13.4%)
processing	36 (9.7%)	13 (8.3%)	49 (9.3%)	7 (7.7%)	8 (9.3%)	21 (15.2%)	1 (6.7%)	0 (0.0%)	0 (0.0%)	86 (9.9%)
Promoting	59 (15.9%)	30 (19.1%)	89 (16.9%)	20 (22.0%)	19 (22.1%)	33 (23.9%)	2 (13.3%)	5 (55.6%)	0 (0.0%)	168 (19.4%)
Delayed or Suspended	30 (8.1%)	20 (12.7%)	50 (9.5%)	10 (11.0%)	17 (19.8%)	26 (18.8%)	4 (26.7%)	3 (33.3%)	0 (0.0%)	110 (12.7%)
Discontinued or Cancelled	54 (14.6%)	9 (5.7%)	63 (11.9%)	9 (9.9%)	10 (11.6%)	19 (13.8%)	2 (13.3%)	0 (0.0%)	1 (100.0%)	104 (12.0%)
Total	371	157	528	91	86	138	15	9	1	868

3-2. Analysis by Type of Studies

Table 3-9 shows the realization rate by type of studies. 486 out of 868 completed studies are considered "Completed or In Progress". The realization rate is 56.0%. 76.5% of D/D are classified into "Completed or In Progress". The realization rate of D/D is highest among the three types of Group B Studies. The realization rate of F/S and M/P+F/S are 53.9% and 62.0% respectively.

Table 3-9 Realization Rate by Type of Studies

Present Status	M/P+F/S	F/S	D/D	Others (F/S)	Total
Completed or In progress	114 (62.0%)	357 (53.9%)	13 (76.5%)	2 (40.0%)	486 (56.0%)
Completed	11 (6.0%)	142 (21.5%)	7 (41.2%)	1 (20.0%)	161 (18.5%)
Partially Completed	45 (24.5%)	76 (11.5%)	2 (11.8%)	0 (0.0%)	123 (14.2%)
Implementing	35 (19.0%)	78 (11.8%)	3 (17.6%)	0 (0.0%)	116 (13.4%)
Processing	23 (12.5%)	61 (9.2%)	1 (5.9%)	1 (20.0%)	86 (9.9%)
Promoting	53 (28.8%)	111 (16.8%)	3 (17.6%)	1 (20.0%)	168 (19.4%)
Delayed or Suspended	11 (6.0%)	98 (14.8%)	0 (0.0%)	1 (20.0%)	110 (12.7%)
Discontinued or Canceled	6 (3.3%)	96 (14.5%)	1 (5.9%)	1 (20.0%)	104 (12.0%)
Total	184	662	17	5	868

3-3. Analysis by Sector

Out of 868 Group B Studies, 441 are in the Social Development Sector, 192 are in the Agriculture, Forestry and Fisheries Sector and 235 are in the Mining and Industrial Sector. Each realization rate is 65.5%, 56.8% and 37.4%. In the Social Development Sector, the realization rate of F/S is 66.7% and of M/P+F/S is 63.0% while that of D/D is 71.4%. The reason why the realization rate of D/D is much higher than the rest is because D/D is undertaken on condition that the proposed project will be financed after the completion of study. The similar tendency is observed in the Agriculture, Forestry and Fisheries Sector in which the realization rate of D/D is remarkably higher than that of F/S and M/P+F/S. The "Promoting" rates for M/P+F/S and F/S in the Agriculture, Forestry and Fisheries are 36.7 % and 23.3%, and these outnumber the counterpart figures in the Social Development Sector which are 27.3% and 10.3%.

The "Promoting" rate in the Mining and Industries is 20% for F/S. As shown in the Table 3-10, the "Promoting" rates are relatively high across the Sectors and Types of Study. It should be noted that any appropriate counter measures are expected to undertake in order to enhance the realization rate further.

Table 3-10 Realization Rate by Sector

Present Status	Social Development				Agriculture, Forestry & Fisheries			
	M/P+F/S	F/S	D/D	sub total	M/P+F/S	F/S	D/D	sub total
Completed or In progress	97 (63.0%)	182 (66.7%)	10 (71.4%)	289 (65.5%)	17 (56.7%)	89 (56.0%)	3 (100.0%)	109 (56.8%)
Completed	10 (6.5%)	63 (23.1%)	5 (35.7%)	78 (17.7%)	1 (3.3%)	28 (17.6%)	2 (66.7%)	31 (16.1%)
Partially Completed	40 (26.0%)	42 (15.4%)	2 (14.3%)	84 (19.0%)	5 (16.7%)	34 (21.4%)	0 (0.0%)	39 (20.3%)
Implementing	30 (19.5%)	45 (16.5%)	2 (14.3%)	77 (17.5%)	5 (16.7%)	17 (10.7%)	1 (33.3%)	23 (12.0%)
Processing	17 (11.0%)	32 (11.7%)	1 (7.1%)	50 (11.3%)	6 (20.0%)	10 (6.3%)	0 (0.0%)	16 (8.3%)
promoting	42 (27.3%)	28 (10.3%)	3 (21.4%)	73 (16.6%)	11 (36.7%)	37 (23.3%)	0 (0.0%)	48 (25.0%)
Delayed or Suspended	9 (5.8%)	17 (6.2%)	0 (0.0%)	26 (5.9%)	2 (6.7%)	20 (12.6%)	0 (0.0%)	22 (11.5%)
Discontinued or Cancelled	6 (3.9%)	46 (16.8%)	1 (7.1%)	53 (12.0%)	0 (0.0%)	13 (8.2%)	0 (0.0%)	13 (6.8%)
Total	154 (100.0%)	273 (100.0%)	14 (100.0%)	441 (100.0%)	30 (100.0%)	159 (100.0%)	3 (100.0%)	192 (100.0%)

Present Status	Mining & Industrial Development				Total
	M/P+F/S	F/S	D/D	sub total	
Completed or In progress	0 (0.0%)	88 (37.4%)	0 (0.0%)	88 (37.4%)	486 (56.0%)
Completed	0 (0.0%)	52 (22.1%)	0 (0.0%)	52 (22.1%)	161 (18.5%)
Partially Completed	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	123 (14.2%)
Implementing	0 (0.0%)	16 (6.8%)	0 (0.0%)	16 (6.8%)	116 (13.4%)
Processing	0 (0.0%)	20 (8.5%)	0 (0.0%)	20 (8.5%)	86 (9.9%)
promoting	0 (0.0%)	47 (20.0%)	0 (0.0%)	47 (20.0%)	168 (19.4%)
Delayed or Suspended	0 (0.0%)	62 (26.4%)	0 (0.0%)	62 (26.4%)	110 (12.7%)
Discontinued or Cancelled	0 (0.0%)	38 (16.2%)	0 (0.0%)	38 (16.2%)	104 (12.0%)
Total	0 (0.0%)	235 (100.0%)	0 (0.0%)	235 (100.0%)	868 (100.0%)

Among the sub-sectors in each Sector, Transportation sub-sector under the Social Development Sector has the largest number of development studies completed and its realization rate is 65.3%, which is higher than that of all Group B Studies (Table 3-11). In Transportation, relatively large number of studies have been conducted in Road sub-sector and the realization rate is higher (75.3%) than that of all Group B Studies. In the Agriculture, Forestry and Fisheries Sector the overwhelming number of studies has

been completed in the Agriculture sub-sector (175 out of 192 studies). The realization rate in this sub-sector is 58.3% which is higher than that of each sub-subsector of the sector. The number of development studies completed in Animal Husbandry, Forestry and Fisheries has been so small that no proper interpretation of realization rate can be obtained.

Studies completed for Energy are the largest under the Mining and Industrial Sector. 137 out of 235 are "Completed or In Progress" and the realization rate is 37.4% although the rate is lower than that of all Group B Studies. Realization rate of Industries is 39.5%, higher than Energy. Generalization of Mining is negligible due to the limited number of studies completed.

Table 3-11 Realization Rate by Sub-sector

	Public Works and Utilities											
	Planning & Administration	public Utilities	Transportation					sub total	Social Infrastructure	communications & Broadcast	Tourism	sub total
			Road	Railway	Port	Air	others					
Completed or In progress	2 (50.0%)	44 (71.0%)	58 (75.3%)	16 (47.1%)	39 (61.9%)	23 (85.2%)	18 (51.4%)	154 (65.3%)	44 (53.0%)	40 (81.6%)	5 (71.4%)	289 (65.5%)
Completed	1 (25.0%)	6 (9.7%)	15 (19.5%)	4 (11.8%)	9 (14.3%)	3 (11.1%)	6 (17.1%)	37 (15.7%)	9 (10.8%)	24 (49.0%)	1 (14.3%)	78 (17.7%)
Partially Completed	1 (25.0%)	18 (29.0%)	18 (23.4%)	5 (14.7%)	12 (19.0%)	3 (11.1%)	4 (11.4%)	42 (17.8%)	13 (15.7%)	10 (20.4%)	0 (0.0%)	84 (19.0%)
Implementing	0 (0.0%)	10 (16.1%)	17 (22.1%)	6 (17.6%)	8 (12.7%)	13 (48.1%)	4 (11.4%)	48 (20.3%)	13 (15.7%)	4 (8.2%)	2 (28.6%)	77 (17.5%)
Processing	0 (0.0%)	10 (16.1%)	8 (10.4%)	1 (2.9%)	10 (15.9%)	4 (14.8%)	4 (11.4%)	27 (11.4%)	9 (10.8%)	2 (4.1%)	2 (28.6%)	50 (11.3%)
promoting	2 (50.0%)	11 (17.7%)	10 (13.0%)	4 (11.8%)	12 (19.0%)	0 (0.0%)	5 (14.3%)	31 (13.1%)	25 (30.1%)	3 (6.1%)	1 (14.3%)	73 (16.6%)
Delayed or Suspended	0 (0.0%)	5 (8.1%)	2 (2.6%)	2 (5.9%)	3 (4.8%)	1 (3.7%)	5 (14.3%)	13 (5.5%)	7 (8.4%)	1 (2.0%)	0 (0.0%)	26 (5.9%)
Discontinued or Canceled	0 (0.0%)	2 (3.2%)	7 (9.1%)	12 (35.3%)	9 (14.3%)	3 (11.1%)	7 (20.0%)	38 (16.1%)	7 (8.4%)	5 (10.2%)	1 (14.3%)	53 (12.0%)
Total	4	62	77	34	63	27	35	236	83	49	7	441

	Agriculture, Forestry & Fisheries					Mining & Industrial Development					Total
	Agri-culture	Animal Husbandry	Forestry	Fishery	sub total	Mining	Industrial	Energy	others	sub total	
Completed or In progress	102 (58.3%)	0 (0.0%)	4 (57.1%)	3 (37.5%)	109 (56.8%)	2 (25.0%)	34 (39.5%)	51 (37.2%)	1 (25.0%)	88 (37.4%)	486 (56.0%)
Completed	29 (16.6%)	0 (0.0%)	1 (14.3%)	1 (12.5%)	31 (16.1%)	2 (25.0%)	27 (31.4%)	23 (16.8%)	0 (0.0%)	52 (22.1%)	161 (18.5%)
Partially Completed	38 (21.7%)	0 (0.0%)	0 (0.0%)	1 (12.5%)	39 (20.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	123 (14.2%)
Implementing	21 (12.0%)	0 (0.0%)	2 (28.6%)	0 (0.0%)	23 (12.0%)	0 (0.0%)	3 (3.5%)	13 (9.5%)	0 (0.0%)	16 (6.8%)	116 (13.4%)
Processing	14 (8.0%)	0 (0.0%)	1 (14.3%)	1 (12.5%)	16 (8.3%)	0 (0.0%)	4 (4.7%)	15 (10.9%)	1 (25.0%)	20 (8.5%)	86 (9.9%)
promoting	41 (23.4%)	1 (50.0%)	3 (42.9%)	3 (37.5%)	48 (25.0%)	1 (12.5%)	10 (11.6%)	35 (25.5%)	1 (25.0%)	47 (20.0%)	168 (19.4%)
Delayed or Suspended	20 (11.4%)	0 (0.0%)	0 (0.0%)	2 (25.0%)	22 (11.5%)	2 (25.0%)	24 (27.9%)	34 (24.8%)	2 (50.0%)	62 (26.4%)	110 (12.7%)
Discontinued or Canceled	12 (6.9%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	13 (6.8%)	3 (37.5%)	18 (20.9%)	17 (12.4%)	0 (0.0%)	38 (16.2%)	104 (12.0%)
Total	175	2	7	8	192	8	86	137	4	235	868

3-4. Details of "Completed or In Progress" Studies

486 out of 868 completed studies are classified into "Completed or In Progress" and the realization rate is 56.0%. Most of "Completed or In Progress" studies have been already secured the finance for the proposed projects. It is considered that once the finance is secured, the project is implemented smoothly. However, a few studies are classified into this category without having had a funding secured. However, the realization of the project proposed by these studies are determined to be highly likely although their financial sources have been yet to be confirmed. One of these studies for example is "Development of Chittagong Airport" in Bangladesh, in which the subsequent studies has been already implemented and the finance for which is likely to be secured in near future.

The financial sources of these studies vary; OECF, the Japanese grant aid, the World Bank, the Asian Development Bank, other donor countries etc. Among the various financial sources, the OECF loan, Yen Credit, has been the most important source of fund. However, recently the number of projects implemented with Japanese grant aid or domestic funding has been increasing as well as the number of projects undertaken with private capital. This is because the Asian countries (especially the ASEAN countries) have been making steady economic growth, which enables them to implement projects with domestic funding or private capital without receiving the loan from donors. Also, in non-ASEAN countries and Africa, more projects, mainly the projects in the Agriculture, Forestry and Fisheries, which can be realized with a small amount of capital investment, are now implemented with Japanese grant aid.

In order to facilitate the implementation of the proposed projects it is crucial that the projects are conformed to the development objective and policies of the country and receive high priority among alternative development programs/projects. It is most desirable that each development study propose projects with appropriate scale and design during the stage of the survey and a prompt step toward implementation be taken soon after the survey is completed.

CHAPTER 4. TECHNICAL TRANSFER

In general, technical transfer is carried out in the way of either the provision of OJT or the holding of the seminar at the study period in the recipient country or the provision of technical training in Japan. The technology transferred is expertise or method which can be utilized in research or planning. While the recipient country is usually contented with technical transfer conducted by the Japanese experts, some express their dissatisfaction. The training in Japan as well as OJT in the recipient country have been widely carried out as a method of technical transfer. To make technical transfer more useful to counterparts, it shall be necessary to improve the quality of the training and to conduct the training which is carefully planned for each participants. It should be considered to have counterparts participate into the seminar initiated by JICA.