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Report of the Study Group on

SOUTHEAST ASIAN TRANSPORT AND COMMUNICATIONS

Agency for International Development
Office of Regional Development

APRIL 1, 1968

CHRONOLOGY

November, 1966

Tun Abdul Razak bin Hussein, Deputy Prime Minister of Malaysia, suggested that a conference be held at Kuala Lumpur to discuss cooperative planning of investment in Transport and Communications in Southeast Asia.

June 18-28, 1967

Pre-Conference Planning Group visited Thailand, Laos, Vietnam, Singapore and Malaysia

July 6-12, 1967

Pre-Conference Planning Group visited Indonesia, the Philippines and Brunei

September 4-7, 1967

Conference of Southeast Asian Officials on Transport and Communications held at Kuala Lumpur

February 12-March 15, 1968

Visit of U.S. Regional Transport and Communications Study Team to Thailand, Laos, Singapore, Malaysia, Indonesia, Brunei, the Philippines and Japan

March 12-13, 1968

First meeting of the Coordinating Committee of Southeast Asian Officials on Transport and Communications at Manila

May 15-17, 1968

Second meeting of Coordinating Committee of Southeast Asian Officials on Transport and Communications at Bangkok

MEMORANDUM

TO : Mr. Thomas C. Niblock
Director, Office of East Asia Regional Development
Agency for International Development

FROM : Regional Transport and Communications Study Team

SUBJECT: Report of the Study Team

The 95 projects presented at the Conference of Southeast Asian Officials on Transport and Communications, held at Kuala Lumpur, September 4-7, 1967, were referred by the Conference to over a score of potential donor sources (including the U.S.) with a request for assistance in the implementation of the program. Several donor countries and institutions have indicated a positive interest in the program. Additional donor countries and institutions are expected to become involved after they have had an opportunity to investigate projects of particular interest to them. In an initial response to this request, the United States in early February initiated a technical review of the 95 projects. The immediate purpose of the review was to identify projects for which feasibility studies might be performed since A.I.D. had indicated to the Kuala Lumpur conference it would finance up to $5 million of feasibility studies over the next two years, subject to availability of funds. The projects were examined in the field during the period February 12 to March 16, 1968. In addition, several new projects which emerged during the course of our review were also examined. The report of the Study Team is transmitted herewith.

The Study Team made a rapid review of projects in each of seven program-participating countries: Laos, Thailand, Singapore, Malaysia, Brunei, Indonesia, and the Philippines. The eighth country, South Vietnam, was not visited at this time by the Study Team, at the request of the South Vietnamese Government, because of the security problems existent at the time the Team was scheduled to arrive. The Team traveled some 27,750 miles and interviewed perhaps 250 persons, the great majority host country officials and officials of U.S. missions.

Each project for which a U.S. financed feasibility study is recommended has been endorsed by both host country officials and officials of the pertinent U.S. Country Team. In addition, the Eight-Country Coordinating Committee has endorsed the projects which we propose from the standpoint both of regionality and priority. The Study

Team discussed its conclusions with the staff of the Asian Development Bank, and the Bank has noted that it is prepared to play an appropriately active role as may be authorized by the Board of Directors. Finally, the program was discussed with representatives of the United Kingdom and the Netherlands, in Singapore and Bangkok respectively, and with officials of the Japanese Government in Tokyo. There are at present no conflicts of which we are aware between the projects which we are recommending and those which other countries are prepared to undertake.

In costing out the program which we have recommended, the Study Team was inevitably drawn into the question of how the U.S. Government would propose to undertake the various individual studies. Accordingly, in addition to recommending which studies should be carried out in the immediate future, we have also recommended methods of carrying out the studies. Further, we have been mindful of current U.S. budgetary restrictions and our goal has been to achieve the most at the least cost without in any way sacrificing the quality of the end product. For this reason, we have included several projects in our recommendations for which we feel talents now available in the field can be used.

In the field of telecommunications, the Study Team identified at least one project which it felt could be done by the U.S. Reg. Telecommunications Advisor. It was clear to us that some of the projects which were proposed call for special expertise which might most readily be found within the U.S. Government. This includes Marine Navigation (the Coast Guard), Flight Inspection (the FAA), and Air Telecommunications (the FAA). By proposing such a pragmatic approach to the carrying out of these studies, the Study Team was able to propose some 20 projects to be launched initially for the relatively small budgetary figure of $1,300,000. As we get further along in developing the terms of reference for feasibility studies of the individual projects, we may find that a larger budget is required for the first group of projects.

In closing, the Study Team would like to express its appreciation to the many U.S. and host country officials who have assisted us in making our review. We were encouraged by the enthusiasm for this program which we encountered all over Southeast Asia, and we were indeed impressed by the cooperation and support we received. We feel that we have made a justifiable selection of projects which have been requested by the eight Southeast Asian Countries, and it is our hope that this important program may soon be launched and these individual projects brought to the construction stage as soon as possible.

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THE US STUDY TEAM REPORT ON REGIONAL TRANSPORT AND COMMUNICATIONS PROJECTS PROPOSED BY SOUTHEAST ASIAN GOVERNMENTS

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SECTION III
TERMS OF REFERENCE

The Study Team considered its terms of reference to include the following:

(a) To conduct a field review of the 95 projects proposed at Kuala Lumpur and new projects proposed since the Kuala Lumpur meeting by the Cooperating Southeast Asian Governments, and endorsed by U.S. Country Teams;

(b) To prepare a listing of projects considered by the Team to be both Regional and fundable and of a sufficiently high priority to justify United States assistance in the development of capital financing proposals; for budgetary purposes, proposals were divided into categories of (i) those that required immediate financing; and (ii) those that could be deferred until a second field review could be carried out during FY 1969;

(c) To reach agreement in each country with the concerned host country officials that projects shown on the listing for immediate study should in fact be studied;

(d) To reach similar agreement with each individual U.S. Country Team;

(e) To review the immediate project listing with the Eight Country Coordinating Committee and to obtain the Coordinating Committee's endorsement of the program from the standpoint both of regionality and priority;

(f) To review the work and findings of the Study Team with the Asian Development Bank (ADB) in order to encourage the Bank to play an appropriately active role in the development of the project program; and finally,

(g) To review project proposals with the Japanese Government in order to determine that there are no overlaps or conflicts with projects of interest to the Japanese Government.

SUMMARY OF RECOMMENDATIONS

FEASIBILITY STUDIES RECOMMENDED BY THE U.S. STUDY TEAM

FOR IMMEDIATE IMPLEMENTATION

COUNTRIES	EST. STUDY COST	EST. PROJECT COST
LAOS		
Telecommunications network (Vientiane-Pakse)	$200,000 (U.S.)	$4,000,000 (U.S.)
Nam Ngum and Nam Cadinh Bridges (3)	TTB or other	4,000,000
THAILAND		
Second International Airport	250,000	70,000,000
Air Sea Rescue	*	*
Marine Navigation Improvements, Gulf of Thailand, Reconnaissance only	*	*
SINGAPORE		
Marine Navigation Improvements (Straits of Malacca)	70,000	1,000,000
East-West Links Johore Bahru-Singapore Highway	TTB or other	2,000,000
Air Sea Rescue	*	*
Flight Inspection	*	*
MALAYSIA		
Kuching-Brunei-Jesselton Microwave	see Brunei	--
Straits of Malacca	see Singapore	--
Air Sea Rescue	*	*
Air Telecom Improvement	*	*

COUNTRIES	EST. STUDY COST	EST. PROJECT COST
Flight Inspection	*	*
Kuantan-Sagamat Road	200,000	15,000,000
Port Studies (Sandakan and Jesselton)	50,000	22,000,000
INDONESIA		
Straits of Malacca	see Singapore	--
Medan-Port Swettenham and Medan-Penang-Butterworth Ferry Services	70,000	5,000,000
Marine Navigation Improvements	*	*
Flight Inspection	*	*
BRUNEI		
Kuching-Brunei-Jesselton Microwave	200,000	5,000,000
Flight Inspection	*	*
PHILIPPINES		
Telecom Link Zamboanga-Jesselton	5,000 (or TADDE)	1,000,000
Flight Inspection	*	*
Expansion Mariveles Ship Repair Facilities, Reconnaissance only	25,000	2,000,000
La Mao/Mariveles Port, Reconnaissance only	25,000	1,000,000
UMBRELLA PROJECTS	200,000	*
	$1,295,000	$132,000,000 **
TOTAL Say	$1,300,000	

*Umbrella Study Project to include countries noted. Study to be carried out by U.S. Department of Transportation experts for an estimated total cost of $200,000.

** Plus cost of Umbrella Study Project recommendations. Note most of cost involves Thai second International Airport which would probably be financed by several donors.

FEASIBILITY STUDIES RECOMMENDED BY THE U.S. STUDY TEAM

FOR FURTHER CONSIDERATION IN FY 1969

COUNTRIES	EST. STUDY COST	EST. PROJECT COST
MALAYSIA		
Haadyai-Kota Bharu Telecommunications	$ 100,000	$ 1,000,000
East-West Highway	300,000	36,000,000
INDONESIA		
Telecommunications Link Djakarta-Singapore and Sumatra Backbone System; Requirements and Management Study - Indoresian Telecommunications	2,000,000	40,000,000
Airports	300,000	8,360,000
BRUNEI		
Connector Roads	125,000	5,000,000
PHILIPPINES		
Mindanao Telecommunications	200,000	3,000,000
Zamboanga Airport Expansion	100,000	2,000,000
LAOS		
Wattay Airport Expansion	150,000	4,000,000
TOTAL	$3,275,000	$99,360,000

SECTION V
THE CONCEPT OF REGIONAL DEVELOPMENT

Not until recent years has the term "regionalism" had significant meaning for Southeast Asia. For centuries numerous wars were fought across the face of the region and the animosities of that period are reflected in some form to this day. Then came the colonial influence of the 19th and 20th centuries with its further devisive effects. For decades these countries have been tied politically, economically and culturally with Western colonial powers. Not only has contact between the Southeast Asian countries themselves been almost non-existent, but their economic development was along competitive lines and their political relationships tended to reflect the tensions between Western powers.

Under these circumstances it is hardly surprising that national independence in the region was not immediately followed by the formation of effective regional institutions, even though the benefits of regional cooperation in various spheres are real and potentially significant. Indeed what is striking is the existence of the Asian Development Bank, the Association of Southeast Asia (ASA), the Association of Southeast Asian Nations (ASEAN), the Central Bankers' Association, etc., only a decade or two after the countries were in a position to chart their own courses. Would anyone familiar with the region have predicted these developments 10-15 years ago? Obviously only a beginning of truly regional cooperation has been made by the formation of these organizations. However, it is a very important beginning. Some illustrations are appropriate.

The Standing Committee of ASEAN has recently approved a list of projects aimed at liberalizing trade among the member countries and opening wider markets for their exports. According to the communique issued at the recent meeting in Djakarta, 10 projects were adopted subject to ratification by a ministerial meeting scheduled for August. Further, members of the Central Bankers' Association at their last meeting in Kuala Lumpur decided not only to continue their discussions of the IMF groupings for Southeast Asia, as well as other monetary and fiscal matters, but also agreed to the establishment of a training center for Central Bankers. These and other efforts show that SEA countries are taking seriously the concept of regionalism. Further, the creation of the Asian Development Bank clearly is the most significant development in the region since the formation of ECAFE and it shows every promise of becoming the dominant force in promoting regionalism in this part of the world. However, while the seeds of regionalism have been planted, much care will be needed if there is to be a bountiful harvest.

In recognition of these developments, the President in his message to Congress on Special Funds for the Asian Development Bank said:

"Free Asia has done more in the last two years to create a true community of interest among its peoples than in all the long centuries that went before. . .

"These are the beginnings of peaceful revolution in Asia - a constructive revolution which serves not just the interest of the United States, but of all humanity.

"It is a revolution which seeks to build, not to destroy; to succor, not to subvert.

"But planning is only the first stage. Blueprints must become bricks and mortar."

Similarly, Mr. Eugene Black's statement to the Senate Foreign Relations Committee Hearing on ADB Special Funds cites this evidence:

"One of the strongest impressions from my three trips to Asia - since the President's appeal at Baltimore 30 months ago for expanded cooperative development programs - has been the growing interest, I might say fascination, which so many leaders of free Asia have in increased regional cooperation. This is a major theme of public pronouncements emanating from Asian capitals, and is currently the topic of a large number of conferences and meetings in Asia. New regional organizations have been formed and cooperative development programs and projects have been planned. In my opinion, this is the most hopeful and promising trend in Asia. I think this is a truly historic event which deserves our most careful and sympathetic attention. This interest in regionalism builds upon the success being recorded by vigorous national development efforts in countries such as Thailand, Malaysia, Singapore, Korea, and Taiwan. These countries have before them the example of fruits of successful economic cooperation in Europe. They are searching for the pattern of cooperation best suited for them."

The importance of these developments has been further underscored in a recent statement by Mr. Eugene Black to Congress:

"This developing regionalism will make an important contribution to the cause of peace and social progress in Asia by:

Bridging over age-old rivalries and divisions among the peoples of Asia;

Accelerating social and economic progress;

Committing the leaders of the Asian nations even more strongly to the cause of development as their principal national objectives;

Creating a sense of increased self-confidence and solidarity among the nations of free Asia; and

Helping to build a community of more independent and economically viable nations capable of meeting the aspirations of their peoples and less susceptible to destructive Communist agression and ideology."

Malaysian efforts to further regional cooperation in the fields of transport and communications should be encouraged because of the enormous importance of these sectors to economic development. Again quoting Mr. Black:

"Transportation is one of the basic requirements for economic development. This need is particularly great in Southeast Asia. Existing systems there, dating from the colonial period, were built largely to carry export products to ports for shipment to metropolitan markets. Better internal transport systems are needed to give rural areas access to urban centers and to create national markets in the countries of Southeast Asia. Better facilities are also needed for travel, trade and communications between the countries of Southeast Asia. As the area develops, its trade with the U.S. and other developed countries will expand."

The importance of transportation and communications to each country is shown clearly by the substantial portion of their respective national budgets devoted to these sectors. Figures are not available in all instances but the proportion is probably between 15 and 25 per cent for the region as a whole. Despite the large investment in transportation and communications over the last number of years, the level of investment required in ensuing years in the region is of even greater magnitude. The projects submitted in Kuala Lumpur, representing only a fraction of the total requirements in transportation and communications will cost over $1 billion. Obviously the requirement will be beyond the means of these countries for years to come. Financing from the ADB, IBRD, and other lending agencies will continue to play a crucial role in these investment plans.

Not only are these sectors important to the development of national economies, but important regional benefits potentially exist through cooperation in these fields. Railroads, highways and telecommunications links between certain countries are still missing. As is evidenced by the Kuala Lumpur meeting in September 1967, there is a desire on the part of the Asians to close these gaps. A telecommunications link tying Thailand

with Malaysia and Singapore now in the design stage provides an excellent example of a project strongly supported and well coordinated. Similarly the telecommunications link between Sarawak, Brunei, and Sabah now proposed for study in this document also has generated considerable interest by the Governments of Malaysia and Brunei. In financing the study, the U.S. can clearly increase the pace of this project towards completion. In the same way, other projects proposed for study in this report will move sooner to the construction stage and the region will derive not only important advantages but the countries of Southeast Asia will be linked together for the first time in history. Such a development is necessary if the spirit of regional cooperation in Southeast Asia is to come in to full bloom.

DEVELOPMENT OF THE REGIONAL TRANSPORT AND COMMUNICATIONS PROGRAM

The development of Transport and Communications on a regional basis in Southeast Asia, long discussed but never achieved, has received considerable impetus as a result of initiatives recently undertaken by the Government of Malaysia.

In accordance with a suggestion made by the Deputy Prime Minister, the Government of Malaysia in early 1967 invited other governments in the area to attend a conference of Southeast Asian Transport and Communications officials to be held in Kuala Lumpur. Seven countries - Brunei, Indonesia, Laos, the Philippines, Singapore, Thailand and South Vietnam - accepted the invitation.

Non-regional governments and international organizations and institutions regarded as sympathetic to the objectives of the conference were invited to send observers.

To facilitate preparations for the Kuala Lumpur meeting, a Pre-Conference Planning Group was established. The Group visited all of the eight countries, including Malaysia, which had agreed to participate in the meeting. In the eight countries, the Planning Group held discussions with a total of 48 officials. Most of these officials were high level administrators from ministries concerned with Transport and/or Communications. However, other agencies also were represented; for example, the State Secretariat in Brunei, the Department of Foreign Affairs in Indonesia, the Directorate of Housing and City Planning in Laos, the Prime Minister's Department in Malaysia, the Presidential Economic Staff in the Philippines and the Deputy Prime Minister's office in Singapore.

The discussions were cordial and constructive. The date for the Kuala Lumpur conference was fixed for early September; criteria for projects to be submitted at Kuala Lumpur were outlined; the inclusion or non-inclusion of certain projects in country submissions was discussed, and an agenda acceptable to all countries was prepared.

The members of the Planning Group played a dual role in this exercise - as emissaries to countries other than their own, and as welcoming officials with access to appropriate colleagues in their own countries.

In addition to participating governments, the Planning Group also held discussions with ECAFE in Bangkok and with the Asian Development Bank (ADB) and the U.S. Director of the Bank and his staff in Manila.

Bank officials and the U.S. Director emphasized the necessity of exploring all possible sources of financing for Transport and Communications projects, including the regular operations of the Bank.

At the conclusion of their tours, members of the Planning Group met for two days in Kuala Lumpur to assess the results of the tours, to finalize plans for the Kuala Lumpur meeting and to discuss possible approaches to potential donors.

The Kuala Lumpur meeting - described officially as the Conference of Southeast Asian Officials on Transport and Communications - was held from September 4 to September 7, inclusive. The meeting was attended by 47 delegates and 10 advisers from the participating countries; by 20 observers from 12 other countries (Australia, Belgium, Canada, Denmark, Germany, Italy, France, Japan, Netherlands, New Zealand, United Kingdom, United States); by six representatives of five international organizations (ECAFE, Asian Development Bank, International Civil Aviation Organization, International Telecommunications Union, UN Development Program), and by four Speaker-Consultants (Dr. Klaas Vonk, Dr. Susumu Kobe, Dr. Wilfred Owen, Harvey Klemmer).

The Kuala Lumpur meeting was a worthwhile undertaking which brought the Transport and Communications officials of Southeast Asia together, on a regional basis, for the first time; which focussed attention on the possibilities of and the need for harmonizing national programs; which alerted potential donors to the need for external assistance if Southeast Asia is to develop on a regional basis; and which, lastly, produced a large number of projects of significance not only to individual countries but to the region as a whole.

A total of 95 projects was submitted at the conference for the eight participating countries. Sixty-eight of these projects were concerned with Transport, 27 with Communications.

Cost figures - which should be regarded as rough approximations rather than detailed estimates - were supplied for 81 of the 95 projects. The estimated cost of the 81 projects for which figures are available is U.S. $980 million. Inclusion of the 14 projects for which estimates are not available would yield a figure in the neighborhood of, say, $1.1 billion.

Land transport projects, of which there were 25 (21 highway, four railway), accounted for more than half of the cost of projects for which estimates were made. A breakdown of projects, by categories, follows:

Category	No. of Projects	Cost (US$ million)
Land Transport	25	507.10
Civil Air Transport	23	202.64
Water Transport	22	180.15
Communications	25	90.20
Totals	95	980.09

It should be noted that the foregoing figures do not include cost estimates for four land transport projects, two civil air projects, one water transport project and seven communications projects.

The largest number of projects was submitted by Malaysia; the most expensive projects, based on estimated costs and taken as a whole, were submitted by Indonesia. A breakdown of projects, by countries, follows:

Country	No. of Projects	Cost (US$ million)
Brunei	5	--
Indonesia	14	254.70
Laos	14	129.32
Malaysia	29	163.27
Philippines	3	11.60
Singapore	8	52.07
Thailand	9	218.95
Vietnam	13	150.18
Totals	95	980.09

Here again, it should be noted that cost figures do not include 14 projects for which estimates are not available. These projects were submitted by Brunei (5), Laos (1), Malaysia (6) and Singapore (2).

The 95 projects do not constitute a plan or even, strictly speaking, a program. Nevertheless, they provide a unique opportunity for a coordinated attack on the problem of improved Transport and Communications in Southeast Asia.

Criteria established by the Planning Group specified that projects submitted at the Kuala Lumpur Conference must (1) be regional in character; (2) be economically justified and technically feasible; (3) be within the capability of recipient countries to administer; and (4) be suitable for external financing.

A project was considered to be regional if it involved two or more countries. Most of the projects meet this criterion; some - involving several countries, or even all eight countries - more than meet it; a few, as previously pointed out, are of doubtful regionality.

The 95 projects were broken down into groups and referred to appropriate committees, or working groups, for consideration. There were four of these committees, composed of experts from the following fields:

1. Land Transport
2. Civil Air Transport
3. Ports and Water Transport
4. Communications

A fifth group, the Policy Issues Committee, was set up to deal with broad questions of policy and with proposals which could not properly be handled by any of the modal groups. The committee agreed unanimously that it would be desirable to have the Asian Development Bank administer the funds for the regional program. With regard to financing, the committee noted the United States Government intention to seek U.S. $200 million for Special Funds to be administered by the ADB, and expressed the hope that "timely commitments of financial support" could be obtained from other developed countries and international aid organizations. The committee recommended that programs developed at the conference be "immediately" presented to the governments and international organizations represented at the conference, with a request for assistance in the implementation of the programs; that a regional transport survey be initiated "forthwith," and that a Coordinating Committee (consisting of one Senior Official from each of the eight countries) be established to follow through on conference actions.

The role of the United States in the implementation of a regional program came in for considerable discussion at the conference. Although the United States observers were unable to make any large-scale commitments, they were able to assure the participating countries of our continued interest and to offer support for the survey and for feasibility studies.

Projects submitted at the Kuala Lumpur Conference can be divided, for purposes of implementation, into three groups:

1. Projects at the pre-investment (or feasibility) study stage
2. Projects at the detailed engineering stage
3. Projects ready for construction

The number and magnitude of projects falling within the different groups is shown below:

Status of Projects	No.	Cost (US$ million)
Pre-investment study stage	62	756.84
Detailed engineering stage	6	77.61
Ready for construction	27	145.64
Totals	95	980.09

Tabulations showing the status of individual projects, by modes and by countries, will be found in the Report of the Conference. Discrepancies (if any are noted) between these tabulations and the above breakdown are due to uncertainty regarding the status of certain projects.

The Regional Transport Survey should be started as soon as possible in order to obtain basic data needed for the formulation of a sound regional plan. The survey should include, but not be limited to, an analysis of the prospects for economic development in Southeast Asia; recommendations for the financing of individual projects and the program as a whole; determination of priorities within and between modes and within and between countries; and recommendations on government policies and measures required for the development of Transport and Communications on a regional basis.

The end result of the survey should be a regional plan which, subject to periodic review, would provide guidance for a period of 10-15 years.

Estimates of the cost of the survey run from $300,000 to $2.5 million, depending on the scope of work. A regional plan based largely on existing material could be put together for $300,000-400,000. However, a survey which would include in-depth studies of each country would cost several million dollars. Fortunately, several countries either have been surveyed in recent years, are in process of being surveyed or are about to be surveyed. Use of material developed and to be developed by these surveys should bring the cost of the survey, including a long-range regional plan, down to a figure in the neighborhood of $1.5-2 million.

Feasibility studies logically should await, and be based upon, the results of the survey. However, it will be some time - perhaps two or three years - before a survey of this magnitude can be financed, mounted, completed and evaluated. In order to preserve the momentum generated at Kuala Lumpur, it is desirable that high-priority feasibility studies be undertaken as soon as practicable.

Several projects submitted at the conference are now being studied. These include the Nong Khai-Vientiane Bridge (Thailand-Laos), which is being studied by a Japanese firm; the Chumporn-Pattalung Highway (Thailand), under study by an American company; and the proposed port at Phuket (Thailand), being studied by a New Zealand team.

Malaysia, meanwhile, has continued to act as the focal point for the regional Transport and Communications effort initiated at Kuala Lumpur. Since the Conference, the Government of Malaysia has:

1. Provided an Interim Secretariat for carrying on the work of the conference;

2. Edited, printed and distributed copies of the Conference Report;

3. Printed and distributed a separate volume of Project Briefs submitted at the conference;

4. Requested countries which sent observers to the conference to assist in the implementation of the program;

5. Requested the Asian Development Bank to administer the regional survey;

6. Held informal meetings with the ADB;

7. Made arrangements for the establishment of the Coordinating Committee and for the first meeting of the committee in Manila.

The Coordinating Committee is now a reality. The members are senior officials of appropriate ministries in the different countries. The committee has met once, has acted decisively on the list of projects recommended by the Study Team, and plans to play an active role in the conduct of the Regional Survey. The Government of Malaysia will continue to provide an Interim Secretariat until a Permanent Secretariat can be established.

Sixty-two of the 95 projects submitted at Kuala Lumpur, as has been pointed out, were classified as being at the Pre-investment - or Feasibility - Study stage. It was hoped that priorities within this group could be determined on the basis of data made available at the conference, and that a limited number of feasibility studies could be undertaken without delay. This did not prove to be practicable. As a result, it was necessary - in order to reach sound conclusions - to obtain additional information from participating countries and to hold discussions with appropriate officials and United States missions in each country. This could best be accomplished, it was decided, by sending a small Study Team on a tour of the area.

The countries of Southeast Asia are not interested in studies for studies' sake. Some of them, in the words of a recent dispatch from the field, have been "studied to death." The countries realize, however, that feasibility studies are required in order to obtain external financing for project construction, and they are prepared to assist in financing the studies recommended by the Study Team and others which may become necessary as the regional program unfolds.

An indispensible ingredient in the development of a regional Transport and Communications system in Southeast Asia, as elsewhere, is money. The 95 projects presented at Kuala Lumpur are far beyond the capacity of the participating countries to finance, construct or administer. External assistance will be required in all three categories.

The participating countries have been warned against undue reliance on external assistance and advised to use existing sources of financing so far as practicable. This is, of course, sound advice. However, it must be realized that most of the countries already have tapped existing sources and that the regional program, if it is to get anywhere at all, will require careful treatment. The success of this program will depend in large measure on the degree of leadership which the developed nations are prepared to assume.

SUMMARY OF THE MARINE TRANSPORT MODE IN SOUTHEAST ASIA

Water transport is important to most of the countries of Southeast Asia. In some cases - for example, Thailand and Vietnam - inland waterway transport is relied upon for the carriage of large quantities of bulky commodities. In other cases - notably Indonesia and the Philippines - inter-island shipping is of primary importance. Coastal shipping is used, but not to the extent that it should be used, in several areas. Deep-sea shipping has not been developed to any great extent except in the Philippines.

There is a great need for the improvement of water transport, including port development, throughout Southeast Asia. Inland waterways need to be improved and expanded; inter-island shipping, particularly in Indonesia, must be rehabilitated; coastal shipping, especially in Thailand and Vietnam, should be improved.

Deep-sea shipping should be approached with caution by developing countries. International shipping is a fiercely competitive business long dominated by powerful and in some cases highly-subsidized overseas carriers. The countries of Southeast Asia would be justified in attempting to participate in overseas shipping in order to save foreign exchange, where necessary, and to have a voice in the determination of freight rates. This participation initially should be carried out in cooperation with experienced foreign carriers. Meanwhile, primary emphasis in the field of water transport should be placed on the improvement of inland waterways and of coastal, inter-island and regional shipping.

There has been considerable activity during recent years in behalf of a regional shipping line to be operated as a joint venture by several countries. The prospects for successful operation of a shipping line under multi-national auspices are not good; however, such a line might prove feasible if it were run as a business with autonomy in day-to-day operations and with supervision by participating governments confined to policy matters.

Donor countries and lending institutions should not encourage SEA countries to embark prematurely on overseas shipping ventures by extending financial assistance in this area. However, assistance to other forms of water transport is very much in order.

The port situation in Southeast Asia is definitely bad. Existing ports need to be improved and in some instances, notably Thailand and Malaysia, there is or soon will be a requirement for additional ports.

Thailand needs a second deep-water port to relieve congestion at Bangkok and to serve the Eastern and Northeastern regions of the country. Eventually, a deep-water port will be required in the South. In Malaysia, an East Coast port would help to open up undeveloped areas in that part of the country.

It is difficult to put a price tag on the amount of money which could usefully be spent in the improvement of water transport in Southeast Asia. Certainly the requirement - including ports, which constitute the major part - would total at least $200 million.

CIVIL AIR TRANSPORT

Air transportation in Southeast Asia has grown rapidly during recent years. However, SEA airports and airways facilities, always below standard, have been far outpaced by increased requirements. In at least one instance (Bangkok), there is an urgent requirement for a new airport to serve as a hub for regional as well as international traffic.

Some of the region's airlines need all new equipment, while others need only additional equipment. Aeronautical communications, navigation aids and air traffic control facilities are particularly in need of improvement.

As with shipping, SEA countries should be encouraged to develop domestic and regional services before embarking on ambitious plans for operation to distant points. The high cost of supersonic transport will tend to limit the participation of SEA countries in overseas service; nonetheless, there is a danger that some countries will be tempted to invest large sums of money in the new aircraft, to the detriment of domestic and regional services greatly in need of new equipment, facilities and procedures.

The developed countries should actively participate in the continued development of civil aviation in Southeast Asia - with special reference to domestic and regional services which, in addition to benefiting the area, can also act as "feeders" for the large, long-distance carriers.

The principal requirement for the development of civil aviation on a regional basis in Southeast Asia is improvement of the airways system. This comprises the entire complex of designated controlled air space, air traffic control, aeronautical fixed and mobile communications services and navigational aids that are required for the safe and expeditious flow of air traffic under all weather conditions. These facilities and activities, together with the supporting ground services, runways, and terminal areas and structures, comprise the aeronautical system.

Certain safety standards as established by the International Civil Aviation Organization (ICAO) are prerequisites to the air navigation and air traffic processes. Navigation aids and communications equipment must be adequate, accurate and reliable and air traffic service must be provided in a safe manner.

Much of the ICAO recommended system in Southeast Asia is either non-existent or does not meed safety standards. Flight inspection of airways system components (VOR's, ILS, NDB's) is spotty - with the exception of Singapore, where a contract for inspection service has been entered into with the USFAA - at considerable cost to the Singapore government ($33,000 per year) and considerable inconvenience to the FAA. Thailand has been equipped by USAID/FAA with a DC3 (EC47) and will begin routine flight inspection as soon as a ground calibration laboratory is installed. Malaysia has no flight inspection program; however, the Instrument Landing System (ILS) at Kuala Lumpur was given a commissioning flight check by USFAA in September 1967. Indonesia has a DC3 donated by Garuda and has purchased airborne electronics equipment from Germany, but the implementation date is unknown. Australia provided a commissioning flight check for Djakarta's VOR last year, but the VOR has not been flight checked since.

Search and Rescue organizations, either on a national or regional basis, are non-existent in Southeast Asia. Indonesia and Laos have no facilities whatever. Singapore depends on the RAF and Malaysia has a communications circuit to Butterworth where the Australian Air Force can be called upon for assistance. These are, of course, temporary arrangements since the RAF and the RAAF are leaving the area. Thailand depends upon the RTAF and the USAF but has no rescue coordination center.

Few components of the airways system in Southeast Asia can be considered <u>purely national</u> in character. Navigational, communications and weather facilities are essential to long range high-altitude flights as well as to local operations. Many purely intra-state flights cross boundaries of adjacent states, causing deep concern for national security when the communications systems are not capable of notifying the responsible flight information centers of the existence or identity of the flights. This situation is particularly dangerous in the LAO-THAI area where lack of LAO communications facilities results in frequent Thai and USAF intercepts at considerable expense - not to mention the ever present threat to life and property.

With the exception of Bangkok and Singapore, long-haul Aeronautical Fixed Telecommunications Network (AFTN) and Mobile (Air to Ground) communications facilities are inadequate to meet the needs of

inter-continental as well as intra-regional flights. For example, to reach any adjacent flight information center, Kuala Lumpur must relay through Singapore. To reach Bangkok, Vientiane sends messages by radiotelegraph to Saigon which in turn relays to Bangkok, with the result that aircraft frequently arrive before messages announcing their departure are received. Djakarta, serving 14 international carriers, relies for its international aeronautical communications on a radioteletype circuit to Singapore and radiotelegraphy to Darwin, Bangkok and Manila. International flights from the north, south and east are consistently out of air-ground communications with Djakarta, or with anyone else for that matter, for significant periods of time.

From an intercontinental, regional and domestic standpoint, Indonesia presents the most disturbing aspect of any country in the region. Under the Colombo Plan, equipment has been procured and technical assistance provided amounting to approximately $2.5 million. Equipment valued at $7,200,000 has been purchased for use at Kemayoran and Tuban airports. Delivery on this equipment has been made with the exception of items to the value of $2,300,000 which are either now on board ship or in Hamburg and require payment of $475,000 before final delivery.

A part of this equipment has already been installed and is in operation. The Civil Aviation authorities, therefore, have either installed or have on hand or almost immediately available the equipment to eliminate almost all the existing deficiencies but cannot use it effectively because of shortage of rupiah funds for works, building, labor, transportation, etc.

It is estimated that a requirement equivalent to approximately $2,500,000, almost all in local currency, would be needed. Additionally, a requirement exists for payment of the $475,000, all in foreign currency, for equipment procured in Germany.

The complexity of the proposed installations should not be minimized and, assuming availability of funds and adequate organization, up to three years or more will be required before these facilities can be installed and made operational. Unfortunately, if the period is prolonged a large amount of the equipment now on hand will inevitably deteriorate and require complete overhaul before it can be used.

The complete installation and implementation of the proposed facilities in Indonesia would be one of the biggest contributions that can be made towards improved safety, reliability and efficiency of air transportation in Southeast Asia. This will take time and a relatively large investment, but if Civil Aviation is to be properly developed, the program must be completed.

Essentially, air system proposals presented to the Survey Team are not fundable in the sense that a commercial bank would provide loans based on direct anticipated revenues. The present system of airports and airways in the region does not have a demonstrated ability to earn sufficient money from user and other charges to show a net gain. This is not an unusual situation since few airports in the world earn enough money to pay their operating overhead, let alone repaying the original investment, and as much may be said for airways. The trend is towards recovery of all costs but fulfillment of this objective is a long way off for most of the airports and airways of the world. The cost of establishing and operating airports and airways is recognizably a social cost, one which nations must be willing and able to underwrite if they expect to participate in the development of Civil Aviation on a substantial basis.

Notwithstanding the cost, benefits accruing to the several states and the region as a whole from the plan of work and needs as established by the Study Team are manifest and real. An improved regional system of air transport can be expected, among other things, to:

1. Minimize aircraft accidents;
2. Increase the capability of systems to handle more aircraft;
3. Permit the wider use of larger, faster aircraft; vis., conventional jet, SST and Jumbo Jet;
4. Reduce flight and ground delays for aircraft;
5. Improve aircraft utilization through expanded capability for all-season night operations.

Assuming for our purposes the loss of two F-27 type turboprop aircraft and 80 human lives in a mid-air collision that could have been avoided through improvements in the regional system of airports and airways, the cost (and conversely the benefits derived had the accidents been avoided) could easily come to $10 million. Modern turbo-powered aircraft of the types presently used in the area are priced in the vicinity of $2 million - if not more - off the shelf. The value of a human life is incalculable. In a recent study, three cost estimates per human fatality were cited from as many sources: $421,000 from Fromm, Economic Criteria; $284,000 from E. Bollay Associates, Economic Impact of Weather; and $16,600 based on liability limits, Hague Protocol. The cost in human lives of an accident of the sort which has been described, using a figure of $50,000 per person, would be $4 million.

An analysis of aircraft accidents occurring in the Philippines from 1962 through 1965 indicates an average estimated loss (all DC-3 aircraft) to the economy as a whole of $1.5 million per year for the four-year period, and this <u>does</u> <u>not</u> take into account the <u>300</u> <u>lives</u> <u>lost</u>.

It is perhaps sufficient to say for our purposes that the cost of air accidents, considering both the direct costs (as represented by the loss of aircraft and human lives) and the indirect costs (as represented, say, by the loss of use of the aircraft and by the adverse effect on ticket sales) is very high and one which invites serious consideration when other investment alternatives are considered.

LAND TRANSPORT

A major requirement in the development of regional transportation in Southeast Asia is improved highway transportation. Most of the countries in the area have been provided with basic highway networks. However, many of the highways are in poor condition, many require upgrading and some need to be extended.

Other than the Asian Highway System, there has been little effort, thus far, to develop highways on a regional basis. This presumably is a consequence of the relatively low level of trade and travel between the countries of Southeast Asia. In some instances, it may also be a cause of a low level of trade and travel.

National highway networks as a rule tend to "peter out" as they approach the borders of neighboring countries. Amalgamation of national networks into a regional network will therefore require the improvement and extension of existing highways at many points.

The Asian Highway is 94 per cent "in being." Construction of missing links and upgrading of sub-standard sections constitute an objective of high priority. Extension of the Asian Highway network, including lateral connections, also is deserving of attention.

Outside the Asian Highway network, highways which lead to neighboring countries should be emphasized, especially if the neighboring countries have completed or are prepared to complete connecting links. The priority of a national highway naturally is enhanced if instead of terminating at a river or a mountain or in a jungle it joins the network of an adjoining country.

Feeder, or farm to market, roads ordinarily do not lend themselves to regional development. However, it may transpire that a feeder road designed to serve a hinterland lying in one country can also be employed to serve a hinterland in an adjoining country. In this case, a feeder road, although justified primarily on national grounds, can also be justified on regional grounds.

A pronounced weakness of the highway picture in Southeast Asia is lack of proper maintenance in several countries. This is due in part to a lack of trained personnel. Any program for the improvement of highway transport should stress training, with particular reference to maintenance.

The magnitude of the highway requirement in Southeast Asia should not be underestimated. Bringing the highway systems of the countries of Southeast Asia up to modern standards would cost several billion dollars. Improvement of existing routes and construction of new routes of regional significance probably would cost in the neighborhood of $500 million.

The problem of railways in Southeast Asia is primarily one of survival. Except for the Trans-Asia Railway proposed by a group of Japanese investors, railway administrators are thinking more in terms of improved efficiency than of expansion. The major construction project with which the area is faced is the rehabilitation of the railway in Vietnam, which has been heavily damaged and rendered almost totally inoperative by Viet Cong attacks.

It was proposed at one time that the Vietnamese railway be abandoned. This would have been a mistake. The transport requirements of Vietnam during the period of reconstruction will be enormous. Since the highway system has been pretty well pounded to pieces, it is imperative that the railway be restored to operation as rapidly as conditions permit.

A regional railway system, like a regional airline or a regional shipping service, captures the imagination. The outlook for a regional railway system does not appear to be very good due to lack of interest on the part of railway management, to varying standards, to the high cost of constructing missing links between national systems and, finally to the poor financial condition of railways in the area.

Justifiable railway expenditures for the area at this time probably do not exceed $50 million.

TELECOMMUNICATIONS

The outlook for the development of communications on a regional basis in Southeast Asia is excellent. This is particularly true of commercial telecommunications which have been growing at the rate of about 10 per cent per year for the last decade and give promise of an even greater rate of growth in the next decade.

The advent of satellite communication across the Pacific and Indian Oceans presents developed nations with an opportunity to make an outstanding contribution to improved communications in Southeast Asia. This rapid exploitation of the western world's most advanced technology offers the developing nations the benefits of years of highly skilled and costly research while at the same time putting them on an equal footing with the rest of the world. A highly sophisticated earth station may as easily be constructed in a country where there is an obsolescent international radio system. But communications planners have also long realized that a point-to-point satellite system is not an economically satisfactory response to the demands of regional communications. What is also needed is a plan by which the national networks of Asian countries may be welded into a single system to permit enjoyment by all countries, and remote areas within countries, of the benefits of satellite communications.

Plans looking toward the establishment of an Asian telecommunications network have been prepared by the International Telecommunications Union (ITU) and the Asian Parliamentary Union (UPU). Although the two plans differ on an overall basis, they are essentially the same so far as Southeast Asia is concerned.

Completion of tie-in projects will contribute substantially to the development of regional telecommunications in Southeast Asia. This development has been stimulated in recent years not only by the efforts of international organizations but also by the efforts of governments and private groups in the area.

The satellite program in Southeast Asia, as elsewhere, has greatly improved the outlook for the development of telecommunications on a regional basis. However, emphasis on satellites and long-haul circuitry presents problems as well as opportunities to the communications planner.

It has been estimated that the yearly cost of operating a microwave system, for example, runs in the order of 15 to 20 per cent of the capital construction cost of the system. Such a long haul system then,

to be economically attractive, must link together a respectable number of subscriber users. It is here that the developing nations need to exercise caution, and it is here that the economic feasibility study is exceptionally useful. Microwave systems should be planned as a complementary part of satellite earth station development while at the same time taking into account the need to increase as early as possible the subscriber base of the system. This can be accomplished through the development of automatic dial exchanges, the growth of outside plant to accomodate new subscribers, use of metered service to increase revenue and to lessen equipment wear, the establishment of equitable rates, and, finally, the development of sound management.

To reap the full benefits of satellite communications, the growth of telecommunications networks must proceed along orderly lines. The first step logically is the connection of national systems into regional networks. For it is through the regional connection that the modest subscriber base in one country is joined with the modest subscriber base in another, thereby allowing the construction cost to be the more easily amortized.

A further problem still facing communications planners is the great need to expand the supply of skilled manpower to operate the present systems as well to meet the requirements of the future. Here Southeast Asian countries have been fortunate. In addition to the ITU sponsored communications schools now operating in Korea, the Philippines, Thailand and Indonesia, most bilateral assistance programs have in recent years included an expensive training component. Also, several countries, notably the U.S., the Netherlands, the United Kingdom, Germany, and Japan, have expressed a continuing interest in providing technical assistance in the communications area to Southeast Asian countries. Even so, however, most Asian nations will require a much greater skilled manpower pool in the future if the full benefits of worldwide communications are to be assured.

Thus, in order effectively to utilize the great benefits to be realized by the advent of satellite communications, planners must proceed along sound economic lines, starting with the connection of national into regional networks, then proceeding to the rapid expansion of the subscriber base, and finally developing feeder networks so as to bring one of the great technologies of the modern world into remote Asian areas.

SECTION VI
METHODOLOGY OF PROJECT SELECTION

As noted earlier, the Study Team conducted a field review of each of the 95 projects proposed at Kuala Lumpur in addition to new projects proposed by the cooperating countries and endorsed by the SEA Transport and Communications Coordinating Committee. In general, the primary bench marks used by the Study Team in evaluating each project were: (1) the regionality of the project (did it substantially benefit more than one country in the region?); and (2) the "financeability" of the project (its inherent ability to attract implementation funding on sound economic and/or financial grounds).

In general, the Study Team found that most of the projects proposed at Kuala Lumpur could not be recommended for one or more of the following reasons:

1. The project was not truly regional in nature;

2. The project was too expensive for the limited funds available for the U.S. Study Program;

3. The project had been studied, was being studies or was about to be studied;

4. The project could not be considered to be of primary importance to a funding institution in that the benefits were marginal and/or the project itself was not a revenue earner; and

5. The project had been withdrawn from further consideration by the Government concerned.

The remainder of the projects have been grouped into Priority One and Priority Two Packages as shown on pages 7 through 9. On the following pages, the Study Team presents in more detail the projects recommended for feasibility studies, and the reasons why the other projects were not recommended at this time. Additional information on the individual projects may be found in the Report entitled Project Briefs which was published in January 1968 by the Secretariat to the Conference of Southeast Asian Officials on Transport and Communications, held at Kuala Lumpur September 4-7, 1967.

SECTION VII
UMBRELLA PROJECT

It was clear to the Study Team as we traversed Southeast Asia that many of the countries visited had a serious need of assistance in roughly similar Public Services areas. The Specific assistance needed by most countries appeared to fall into the following categories:

(a) Air Sea Rescue (SAR)
(b) Flight Inspection
(c) Air Telecommurications
(d) Marine Navigation Aid Improvements

Considering the nature of the services requested, the Study Team was of the opinion that the most likely source available to A.I.D. was probably not in the private contracting community, but rather the use of the specialized expertise available to the U.S. Government by such public entities as the Federal Aviation Administration, the U.S. Coast Guard, etc. Accordingly, the Study Team came to the conclusion that the most expeditious way of handling this Asian requirement was through some sort of a FASA arrangement with appropriate sectors of the U.S. Government.

The Study Team feels that an effective evaluation of the SAR project as well as a closely related project, marine navigational aids improvement for Thailand, Malaysia, Singapore and Indonesia could be conducted by a group of specialists as follows:

1 Aeronautical Telecommunications Specialist (FAA)
2 Search and Rescue Specialists (CG)
2 Marine Navigational Aid Specialists (CG)
1 Maritime Specialist

It is believed that approximately six months should be required for this effort with the various specialists phasing out as their work is concluded. The estimated maximum cost would be about $140,000.

The Flight Inspection project calls for negotiation between the countries of Malaysia, Singapore and Indonesia regarding agreements leading to the establishment of a centrally located Flight Inspection facility complete with ground calibration laboratory, and the subsequent financial arrangements for support through joint use. The objective of a flight inspection program is to periodically check the accuracy of aeronautical aids to navigation used by Regional

and International aircraft. Proposals should also be developed to assist the Philippines in setting up a similar project at Manila. The Study Team recommends that the assistance to be provided by the FAA should consist of a minimum of three specialists in the following categories:

1 Team Leader
1 Flight Inspection Pilot
1 Electronics Specialist

The Team should not require over four months at a total cost of $30,000.

The Air Telecommunications study will require the services of one FAA Aeronautical Telecommunications Specialist and one Electronics Engineer. Estimated duration of the survey would be 6 months at a cost of $30,000 and the objective would be to assist the Malaysians and Indonesians in developing a plan with associated component requirements for reducing aeronautical message delays now incurred through Singapore.

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Search and Rescue (Air/Sea - Thailand, Malaysia, Singapore, Indonesia)

2. Description of project:

   Establishment of the organizational structure and physical plant to permit the countries of Thailand, Malaysia, Singapore and Indonesia to conduct search and rescue operations in accordance with international agreement. Involves rescue and coordination centers (RCC), setting up of adequate communications circuits, provision of appropriate aircraft, helicopters and surface craft as well as UHF/VHF direction finders and HF direction finders for marine use.

3. Estimated cost of project construction:

   Foreign Exchange: $2,200,000

   Local Currency : _____

   Total : _____

4. Estimate of time required to complete project construction: 12 months

5. Justification for project construction:

   (a) Economic: The air/sea search and rescue process (SAR) is essential for the preservation of life and property in the event that aircraft or surface craft are in distress. A purpose of SAR is to give bearings to aircraft or vessels which are off course and presumably lost. Timely assistance to downed aircraft or vessels in distress can result in saving of millions of dollars worth of property and innumerable lives.

   (b) Other: The International Civil Aviation Organization (ICAO) and the Intergovernmental Maritime Consultative Organization (IMCO) require member states to provide SAR facilities.

6. Regional justification for project construction:

(a) **Relationship to projects in other countries:**

This is a regional project involving four adjacent countries - none of which is now equipped to adequately provide the service required. As is the custom throughout the world, contiguous countries assist each other in the SAR effort.

(b) Effect on regional development:

The project will permit more effective navigation of coastal waters of the various adjoining countries of the region. Commercial aircraft operators plying the region will proceed with greater confidence and in greater safety.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Operators of ocean going vessels and intercontinental aircraft will benefit from the project since they can proceed with the knowledge that, should disaster strike, a well-equipped organization will come to their aid.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

Number 2 in the four countries involved.

(b) Projects in other modes of transport and communications:

High priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Project will contribute to development of trade and travel in the area. It will also contribute to the development of fishing in the area.

9. Capabilities for operation and management of project if constructed:

(a) Management: Thailand, Malaysia, Singapore - Good
Indonesia - Fair

(b) Regulation procedures:

The project will involve several public agencies in each country, including the Navy, the Air Force, the Army, police agencies, and the Coast Guard in the SAR effort.

(c) Technical capacity:

The technical capacity exists, but additional training will be required.

10. Problems which may result from implementation and operation of project:

(a) Helicopters are expensive and difficult to maintain unless utilized regularly The same to a lesser degree applies to conventional aircraft. Thus, it is generally preferable to work out an arrangement with some arm of the military service to maintain and operate at least the air portion of the program.

(b) Sometimes adjacent countries disagree over areas of responsibility on search missions.

(c) Budgetary problems often occur in less developed areas.

11. Legislation required (including changes in rates, if any):

Legislation must be passed authorizing the Rescue Coordinating Center (RCC) to call out any or all of the various agencies designated to assist in SAR missions. Satisfactory arrangements must be worked out to reimburse those active in the project for expenses incurred in performance of missions. Also some form of legislation usually must be enacted requiring radiotelephone equipment or automatic SOS equipment on vessels of or over a certain tonnage.

12. Scope of Feasibility Study desired in summary form:

1. Negotiate within the framework of established international guidelines in an attempt to gain agreement between countries involved on areas of responsibility;

2. Determine location of each RCC;

3. Determine agency responsible for operation of RCC;

4. Propose staffing of RCC and training of personnel taking into account the budgetary situation in each country;

5. Determine communications circuitry and equipment required;

6. Determine requirement for and location of various forms of direction finders;

7. Recommend appropriate types of airborne and surface SAR craft;

8. Propose arrangements for operational and maintenance responsibility for SAR craft.

13. Estimated cost of Feasibility Study: $70,000

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 6 months

16. Feasibility Study expertise desired:

Aeronautical Telecommunications specialist (FAA)
Air/Sea Rescue specialist (USCG)
Electronics engineer

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Flight Inspection Service (Malaysia, Singapore, Indonesia, Philippines)

2. Description of project:

   The objective is to assist the four countries involved in the maintenance of a cooperatively operated flight inspection service designed to comply with ICAO standards and recommend practices which will in turn vastly improve the safety of commercial aviation in the region.

3. Estimated cost of project construction:

Foreign Exchange:		Malaysia $46,000; Singapore $747,000; Philippines $747,000; Indonesia $46,000*
Local Currency	:	Housing and operation costs only
Total	:	$1,586,000

   *Depends on the outcome of the current Indonesian flight inspection project; in any event, the Indonesians will need training.

4. Estimate of time required to complete project construction: 24 months from date firm orders placed.

5. Justification for project construction:

   (a) Economic: It is essential that a system of all-weather air navigation be established and maintained in the region. Safety of flight and effective control of aircraft movements necessitates that the components of this air navigation system be accurate and reliable. A flight inspection system, not now in existance, is a prerequisite for accomplishing these objectives, without which an aeronautical system cannot provide safe and economical transportation.

   (b) Other: Compliance with International agreements (ICAO).

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

This is a regional project. There is no local flight inspection activity in operation in this area at present. The nearest permanent facility is located in Japan - with the exception of the USAF and the USFAA services. The basic objective of the latter two is to inspect U.S. Military facilities only; however, at present the USFAA has agreed on a contract basis to provide Singapore with inspection service until they can provide their own. This is costly both to Singapore and the United States.

(b) Effect on regional development:

The region cannot be expected to develop in the aviation sector until a complete air navigation system has been installed and is being adequately and regularly inspected.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Now, 26 international airlines from all parts of the world (6 additional U.S. carriers have applied for rights through the area) criss-cross this region. Anything that contributes to safety and regularity of flight has a very significant effect on their operations.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

This is not a construction project - it is the provision of a service. In the Malaysian, Indonesian and Philippine areas a portion has been installed, and in Malaysia and the Philippines firm plans have been made for installations within the next 24 months. Ordinarily the installation phase would have first priority; since this phase is now under way, provision of the service has first priority.

(b) Projects in other modes of transport and communications:

Very high priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Indonesia has invested heavily in a national aviation development program which, among other things, involves a flight inspection project. The Aviation Authority was given an elderly DC3 by Garuda and has purchased some equipment to outfit it from German sources; but there seems to be slight hope that the program will get off the ground due to a lack of technical know-how.

9. Capabilities for operation and management of project if constructed:

(a) Management:

Singapore - excellent
Malaysia - good to excellent
Indonesia - poor
Philippines - fair with good prospects

(b) Regulation procedures:

Excellent to poor in the above (a) order

(c) Technical capacity:

Malaysia, Singapore and the Philippines have excellent technicians but all will need specialized training for this purpose. The Philippines and Singapore will require four flight inspectors each and four flight inspection technical specialists each. Malaysia and Indonesia would require only two of each. It would also be expected that one calibration laboratory engineer from the Philippines and Singapore would be trained abroad. Further study of the project might develop a capacity for OJT, thus reducing overseas training costs.

10. Problems which may result from implementation and operation of project:

1. Changing political alignments as well as dissatisfaction with the service provided;

2. Difficulty in collecting for service, also currency problems;

3. Keeping high-ranking politicians from using aircraft for personal and other reasons;

4. Maintenance of aircraft and adequate spare parts supply.

11. Legislation required (including changes in rates, if any):

Legislation should be enacted which forbids the use of equipment provided under a loan for this program if such use is not in keeping with the intended purpose of the loan. Any loan should carry a covenant to this effect.

12. Scope of Feasibility Study desired in summary form:

1. Perhaps the most difficult objective would be to seek a cooperative agreement between the countries involved. This would include: (a)Home base of the prime air and ground facility; (b) Number of facilities to be inspected; (c) Probable costs per hour, and (d) Method of payment.

2. Technical program requirements,including type of aircraft, training of personnel and construction and component details of calibration laboratories. Also recommendations for establishment of a flight inspection staff in each DCA.

13. Estimated cost of Feasibility Study: $30,000

14. Cooperating country support to Feasibility Study Group (local expenses:

To be negotiated

15. Estimate of time required to complete Feasibility Study: 4 months

16. Feasibility Study expertise desired:

Team Leader
Flight inspection pilot
Electronics engineer (calibration laboratory)

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Improvement of Aeronautical Telecommunications (Indonesia, Singapore)

2. Description of project:

   Provide assistance in the development of a coordinated plan for the effective handling of aeronautical telecommunications, both fixed and mobile, in the Indonesia, Singapore, Malaysia and East Malaysia areas.

3. Estimated cost of project construction:

   Should not exceed $2 million but due to the fact that equipment is on hand in some cases, and/or funds available in others, it is impossible to make a meaningful estimate without further, more definitive study.

   Foreign Exchange: _____

   Local Currency : _____

   Total : _____

4. Estimate of time required to complete project construction:

   24 months after equipment is in country.

5. Justification for project construction:

   (a) Economic:

   1. Will facilitate the handling of aeronautical messages;
   2. Will reduce delays to aircraft;
   3. Will eliminate unnecessary relay points;
   4. Will utilize leased circuits where available.

(b) Other:

1. Aircraft are now out of contact with ground stations for excessive lengths of time in certain areas. Improved mobile communications would improve safety factors.

2. Will reduce radio interference through economy in radio frequency use.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

The entire Southeast Asia aeronautical telecommunications network was planned originally by ICAO to function as a regional entity. This project would assist individual countries to accomplish this concept. Further, it would tie an integrated system into similar systems at Bangkok, Hong Kong and Manila.

(b) Effect on regional development:

Will improve regularity and safety of intra-regional aviation program.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Intercontinental and inter-region flights transit the area in large numbers. Anything that improves flight regularity and safety in the region will help these operations also.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

Medium priority

(b) Projects in other modes of transport and communications:

Medium priority

(c) **Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):**

Would contribute to improved transport between Indonesia and Singapore, which in turn would contribute to increased trade and travel

9. Capabilities for operation and management of project if constructed:

(a) Management: Malaysia, E. Malaysia - Good;
Indonesia - Fair;

(b) Regulation procedures: Develop uniform "user fee" pattern in region.

(c) Technical capacity: Same as (a) above.

10. Problems which may result from implementation and operation of project:

Nothing serious

11. Legislation required (including changes in rates, if any):

It might be necessary to legislate the fee provisions of the system in some countries.

12. Scope of Feasibility Study desired in summary form:

1. Inventory equipment on hand and determine serviceability;
2. Reach agreement on relay responsibilities, rates, use of commercial or other public facilities where available;
3. Develop cost estimates and equipment and power requirements.

13. Estimated cost of Feasibility Study: $30,000

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 6 months

16. Feasibility Study expertise desired:

International Aeronautical Telecommunications specialist (1)
Electronics engineer (Aeronautical Telecommunications) (1)

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Marine Navigation Aids

2. Description of project:

   To determine the needs and suitable locations as well as types of aids to marine navigation in the Gulf of Thailand and along the coast of Sumatra from the Straits of Malacca to the Java Sea. This project includes the construction of lighthouses, radio beacons, radio direction finders, buoys, and channel markers.

3. Estimated cost of project construction:

   Foreign Exchange: _____

   Local Currency : _____

   Total : not known at this time

4. Estimate of time required to complete project construction: 5 years

5. Justification for project construction:

   (a) Economic: Data obtained from major international oil companies and other sources indicate that improved system of marine navigation aids would reduce operating costs of shipping companies by $1.5 million to $2.5 million per year.

   (b) Other: Project would contribute substantially to the safety of life at sea in the area.

6. Regional justification for project construction:

   (a) Relationship to projects in other countries:

   As it now stands, the Southeast Asian area is deficient in the provision of marine aids to navigation. The development of a

system as envisional in this project would serve as an incentive for similar action in other countries of the region. Project also would contribute to efficiency of Search and Resuce operations.

(b) Effect on regional development:

The project would serve to encourage expanded regional as well as international shipping through enhanced safety and improved reliability.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Adequate channel and obstruction marking, correct placing of lights, and increased range of lights will aid all countries whose ships use the area.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

High priority

(b) Projects in other modes of transport and communications:

High priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Will contribute to national development plans of Thailand, Malaysia, Singapore and Indonesia.

9. Capabilities for operation and management of project if constructed:

(a) Management: Organizational framework exists in countries involved, but project would require training as well as an increased awareness of the importance of regular maintenance.

(b) Regulation procedures: Some improvement may be required.

(c) Technical capacity: Good

10. Problems which may result from implementation and operation of project:

None anticipated

11. Legislation required (including changes in rates, if any):

Development of user charge formulas where none now exist should be examined by Study Team.

12. Scope of Feasibility Study desired in summary form:

1. Analyze effectiveness of present facilities;
2. Formulate program for upgrading existing aids;
3. Determine location and types of additional aids required;
4. Coordinate study with that of Search and Rescue (SAR) specialists;
5. Develop a price tag for each country.

13. Estimated cost of Feasibility Study: $70,000

This project is included in the so-called "umbrella" series - the total cost of which has been estimated at $200,000.

14. Cooperating country support to Feasibility Study Group (local expenses:

To be negotiated

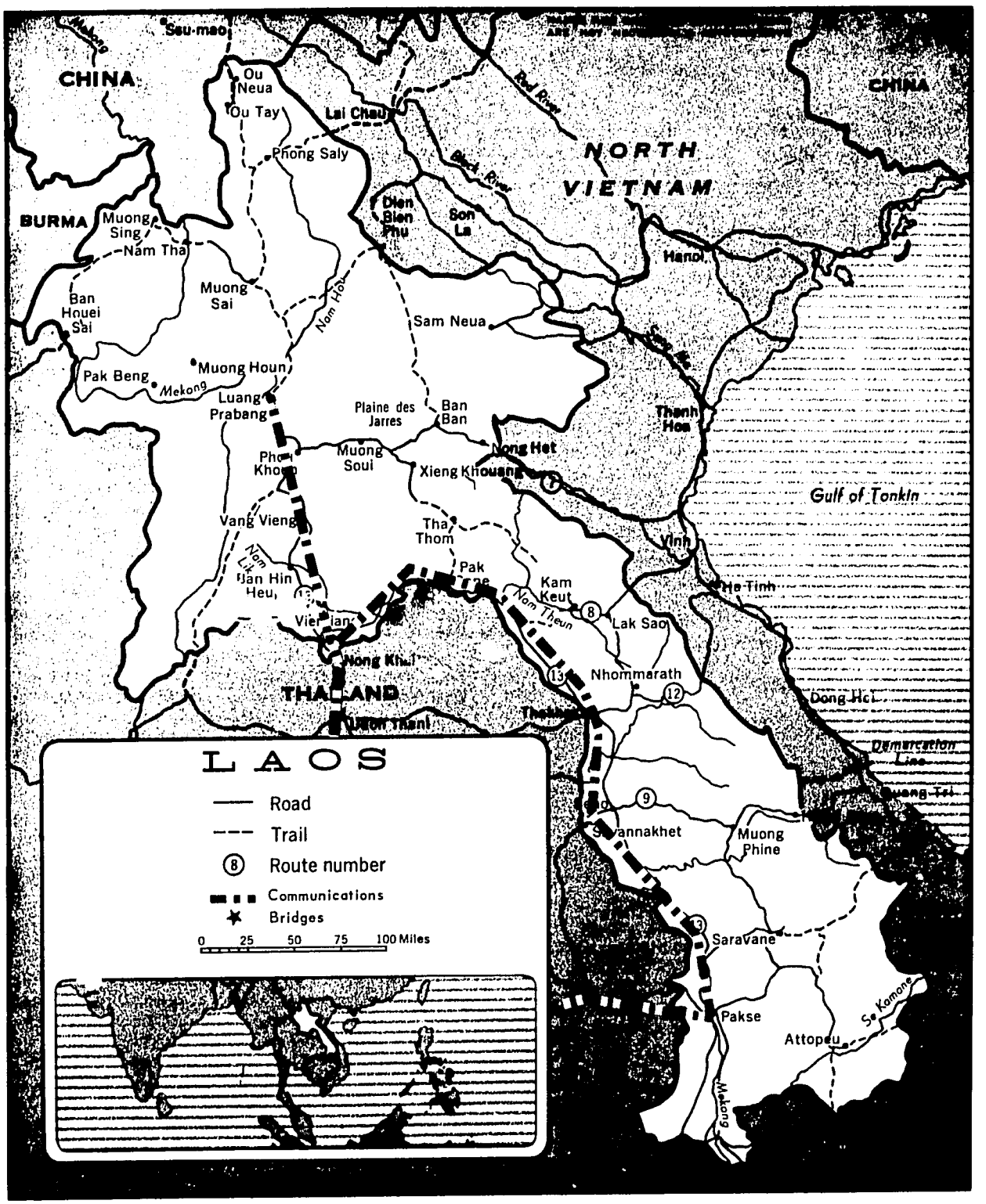
15. Estimate of time required to complete Feasibility Study: 6 months

16. Feasibility Study expertise desired:

Marine navigational aid specialists (USCG - 2)
Maritime specialist (Master Mariner - 1)

NOTE: Above specialists would also work on the Search and Rescue part of the umbrella project.

LAOS


LAOS
Road
Trail
Route number
Communications
Bridges
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CHINA
BURMA
NORTH VIETNAM
THAILAND
Gulf of Tonkin
Demarcation Line
Ou Neua
Ou Tay
Lai Chau
Phong Saly
Dien Bien Phu
Son La
Muong Sing
Nam Tha
Muong Sai
Ban Houei Sai
Sam Neua
Muong Houn
Pak Beng
Luang Prabang
Plaine des Jarres
Ban Ban
Muong Soui
Xieng Khouang
Nong Het
Vang Vieng
Tha Thom
Kam Keut
Lak Sao
Nhommarath
Muong Phine
Saravane
Pakse
Attopeu
Hanoi
Thanh Hoa
Vinh
Ha Tinh
Dong Hoi
Mekong
Red River
Black River
Nam Hou
Nam Theun
Se Kamane

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

Telecommunications System linking Luang Prabang-Vientiane-Paksane-Thakhek-Pakse, thence to Ubol in Thailand; Vientiane to Nong Khai will also form a part of this study.

2. Description of project:

It is proposed to link the presently isolated cities noted above with a "Backbone" microwave system which will tie in with the communications network of Thailand.

3. Estimated cost of project construction:

Foreign Exchange:	$3,000,000
Local Currency :	1,000,000
Total :	4,000,000

4. Estimate of time required to complete project construction: 28months

5. Justification for project construction:

(a) Economic: Linking presently isolated Lao cities with each other, with cities in neighboring countries and (via the satellite earth station in Thailand) with cities in other countries should have a markedly beneficial effect on economic development in Laos.

(b) Other: The Project will provide circuits for the military and for commercial airlines serving the area.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

This project is directly related to projects recommended by ECAFE and ITU for the development of regional telecommunications in SEA.

(b) Effect on regional development:

Greater ease of intra-regional communications will promote trade and travel in the region.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Use of Thailand's satellite earth station by Laos would open up new avenues for trade on a world-wide basis; further, the development of this project opens the hitherto isolated inner area of Southeast Asia.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

First priority

(b) Projects in other modes of transport and communications:

High priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Improved communication facilities will assist in fulfillment of plans now being made for industrial and agricultural development in Laos. Further, construction of this backbone system will avoid the current proliferation of special communications neworks now in use in Laos.

9. Capabilities for operation and management of project if constructed:

(a) Management: May need improvement

(b) Regulation procedures: May need improvement

(c) Technical capacity: May need improvement

10. Problems which may result from implementation and operation of project:

Security must be taken into account in planning for this project.

11. Legislation required (including changes in rates, if any):

To be determined during the Study.

12. Scope of Feasibility Study desired in summary form:

A feasibility study is required to locate sites for repeater and drop stations. This study should also include cost estimates; an analysis of economic benefits expected to accrue from the project; an assessment of management; an assessment of regulatory procedures; a review of present and anticipated traffic; and recommendations with respect to rates.

13. Estimated cost of Feasibility Study: $200,000

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 1 year

16. Feasibility Study expertise desired:

Study should be made by senior U.S. consultants who have expertise in telecommunications and have worked overseas, preferably in this region. Team should consist of:

Team Leader
Radio specialist
Outside Plant specialist
Inside Plant specialist
Traffic engineer
Rates specialist
Management specialist

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Nam Ngum and Nam Cadinh bridges (3)

2. Description of project:

   Two bridges on the Nam Ngum and one bridge on the Nam Cadinh to provide a new crossing at one point and to replace inadequate ferry crossings at two other points.

3. Estimated cost of project construction:

   Foreign Exchange: _____

   Local Currency : _____

   Total : $4,000,000

4. Estimate of time required to complete project construction: 24 months

5. Justification for project construction:

   (a) Economic: Construction of bridges would remove present traffic bottlenecks and stimulated economic development in the area. Potential exports from area include timber, minerals, rice.

   (b) Other: Project also important from standpoint of national policy, military security and social progress.

6. Regional justification for project construction:

   (a) Relationship to projects in other countries:

   Project will close gaps in an important segment of the Asian Highway network (Route 3); will tie in with highway projects in Thailand, Cambodia and Vietnam; and will help provide Laos with improved access to the sea through Cambodia and Vietnam.

(b) Effect on regional development:

These bridges will assist in development of the Mekong Basin, including increased trade between Laos and Cambodia and between Laos and Thailand.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Not known at this time.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

Highest priority in land transport

(b) Projects in other modes of transport and communications:

High

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

These bridges tie in with plans for development and exploitation of minerals, timber and other resources.

9. Capabilities for operation and management of project if constructed:

(a) Management: Should be improved

(b) Regulation procedures: Should be improved

(c) Technical capacity: Should be improved

10. Problems which may result from implementation and operation of project:

Security may present difficulties, and should be taken into account in planning for the project construction stage.

11. Legislation required (including changes in rates, if any):

None

12. Scope of Feasibility Study desired in summary form:

Present and projected traffic analyses; economic analysis of developmental and user benefits; foundation study and preliminary design; estimated costs.

13. Estimated cost of Feasibility Study:

The Study Team recommends that this study be carried out by the Transport Technical Bureau of ECAFE. Additional economic analysis could be required; if so, the Study Team recommends that the U.S. provide such additional support.

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 3 months

16. Feasibility Study expertise desired:

Economist (Team Leader)
Engineer

ADDITIONAL PROJECTS INVESTIGATED BY THE STUDY TEAM, BUT WHICH ARE NOT RECOMMENDED FOR CONSIDERATION AT THIS TIME

Land Transport

Ramps and Ferries on Asian Highway Route A-14 (Pakse/Muong Cao)	Feasibility Study now being carried out by Transportation Consultants (TCI) as part of the overall river development scheme recommended by the Mekong Committee. Completion date for study is June 30, 1968. No further investment required at this time
Thanaléng-Nong Khai Bridge	Study of this project is now being carried out by Nippon Koie in concert with the Mekong Committee. No further investment required at this time
Improvement to Vientiane Plain Road	Project not considered suitable for study financing because it involves what can best be described as a circumferential highway in the interior of Laos. As such, project is non-regional in nature
Improvement to Asian Highway Routes A-3, A-11, and A-14	This project offers excellent regional possibilities; however, the cost is too great to permit consideration at this time. The cost is estimated at $70 million and the feasibility study costs would certainly run into the millions as well. With an expanded program, this would make a good project

Civil Air Transport

Extension of Parking Apron at Vientiane Airport	Project of doubtful regional priority at present time

Air Traffic Control Center	A portion of this project has been recommended for further study in the civil communications program. However, at present there is a serious question whether or not the Lao have a strong enough technical base for further assistance in this area. In any case, the project should be structured in a way that would also involve construction and expansion of present facilities so as to make the Vientiane airport more international

Ports and Water Transport

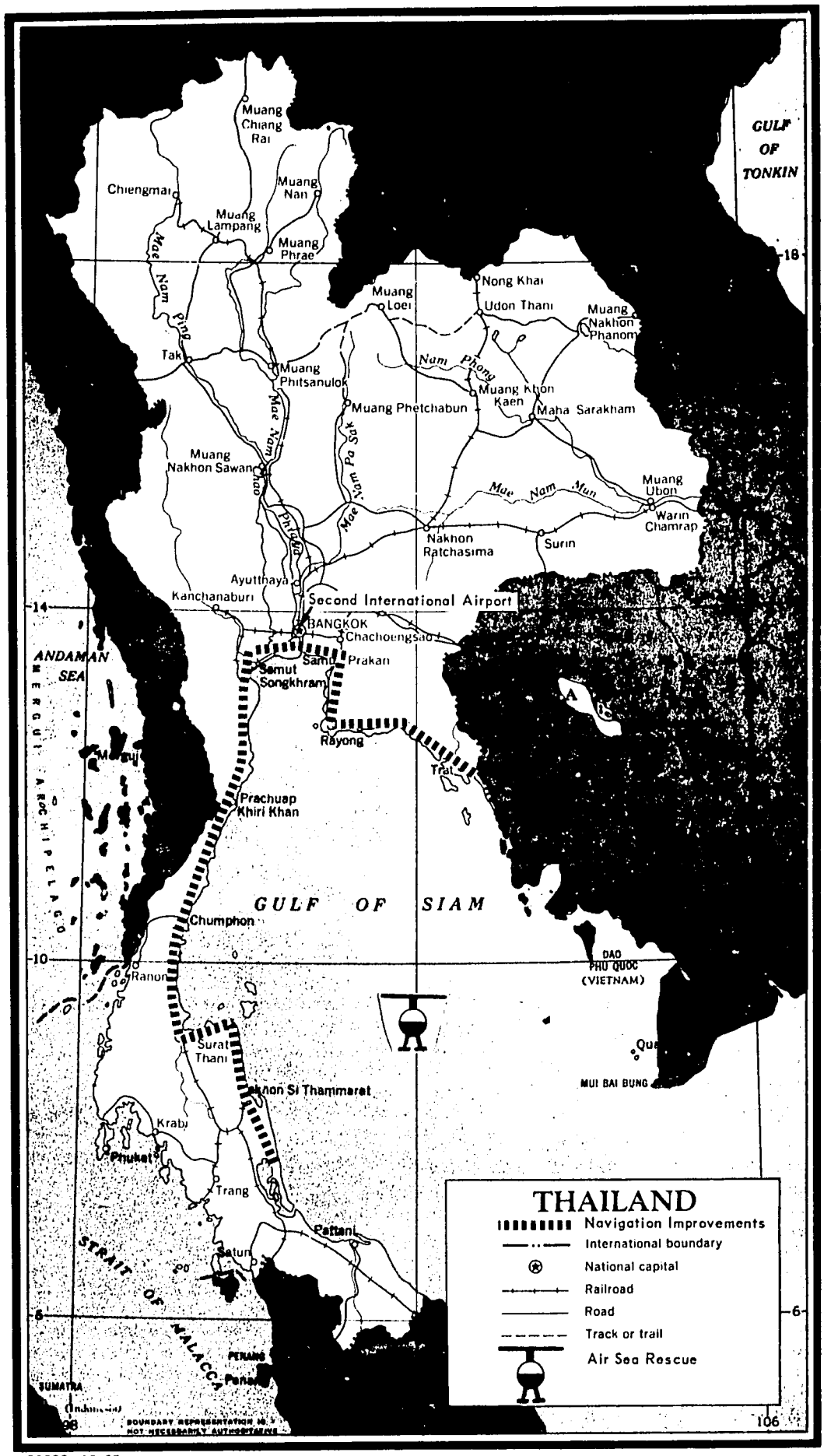
Improvement of Vientiane Port Facilities	Project now under study by TCI
Improvement of Savannakhet Port Facilities	Project now under study by TCI

Additional Projects

Ubol-Lao Border Road Improvement	This project, which would be of enormous benefit to Laos, was also recommended by USAID/Laos. The Study Team recommended it to the Thai Government, which has agreed to pave the road for the first 50 KM during the coming year. The remaining 20 KM will be paved next year.

NOTE: The Government of Laos asked the Study Team to recommend improvement of the road between Ubol and the border in Thailand.

THAILAND


THAILAND
Navigation Improvements
International boundary
National capital
Railroad
Road
Track or trail
Air Sea Rescue
GULF OF TONKIN
GULF OF SIAM
ANDAMAN SEA
MERGUI ARCHIPELAGO
STRAIT OF MALACCA
Muang Chiang Rai
Chiengmai
Muang Nan
Muang Lampang
Muang Phrae
Mae Nam Ping
Tak
Muang Phitsanulok
Muang Loei
Nong Khai
Udon Thani
Muang Nakhon Phanom
Nam Phong
Muang Khon Kaen
Maha Sarakham
Muang Phetchabun
Mae Nam Pa Sak
Muang Nakhon Sawan
Mae Nam Chao Phraya
Mae Nam Mun
Muang Ubon
Warin Chamrap
Nakhon Ratchasima
Surin
Ayutthaya
Kanchanaburi
Second International Airport
BANGKOK
Chachoengsao
Samut Prakan
Samut Songkhram
Rayong
Trat
Prachuap Khiri Khan
Chumphon
Ranong
Surat Thani
Nakhon Si Thammarat
Krabi
Phuket
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Pattani
Satun
Penang
Sumatra
DAO PHU QUOC (VIETNAM)
MUI BAI BUNG
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14
10
6
98
106

52290 10-65

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

(See Attachments A and B)

1. Proposed project for construction:

New International Airport for Bangkok

2. Description of project:

Due to excessive congestion at Bangkok's present International Airport (Don Muang), brought about by unprecedented increases in both military and commercial activity (see Attachment A), Thailand has decided to build a new airport approximately 15 miles ESE of Bangkok. The new airport is planned to accommodate any type of aircraft planned for the foreseeable future. Runways will be 4,000 meters by 60 meters with bearing capacity of at least 200,000 kgs. Separation between parallel runways will be 2,000 meters. The terminal will accomodate not less than 40 airlines.

3. Estimated cost of project construction:

Foreign Exchange: _____

Local Currency : _____

Total : _____

4. Estimate of time required to complete project construction: 8 years

5. Justification for project construction:

(a) Economic:

1. Present Don Muang terminal building is inadequate for traffic load;

2. Parking facilities both for airplanes and automobiles are overcrowded;

3. Proximity (2,000 feet) of parallel runways precludes simultaneous use;

4. Facilities for airline ticketing, baggage handling, and customs, immigration and health inspection are inadequate for presnet traffic loads - let along traffic loads of tomorrow.

(b) Other:

Don Muang is also used by the Royal Thai Air Force, thus creating a very dangerous situation. Military aircraft park along the ramp used by civil aircraft and any military activity causes intolerable delays to civil aircraft approaching the airport as well as deplaning and emplaning passengers.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

Improvement in aircraft and passenger handling at Bangkok will facilitate air commerce in the region. Bangkok is, in effect, the cross-roads of Southeast Asia (see Attachmen B) and as such attracts many tourists and business concerns. Bangkok is the logical staging point for commercial and tourist extension to locations in nearby countries.

(b) Effect on regional development:

See (a)

7. Effect of completed project on countries outside of Southeast Asia, if any:

Improvement in aircraft and passenger handling, as well an enhanced safety both on the ground and in the airspace, will have an influence on all international passengers making use of Bangkok airport facilities.

8. Priroity of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

This is the Number One aeronautical project proposed for Thailand.

(b) Projects in other modes of transport and communications:

High priority, perhaps the highest

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Project will contribute substantially to program for increase in tourism, now one of leading foreign exchange earners. Will also tie in with long-range plans for development of industry and agriculture.

9. Capabilities for operation and management of project if constructed:

(a) Management:

The Thais do not have the capability at present to manage a project as complex as the proposed airport. It would be expected that a great deal of preliminary training would be required, and that an outside firm would be engaged for approximately 5 years to manage the airport and train Thais to take over eventually.

(b) Regulation procedures:

Not applicable

(c) Technical capacity:

The Thais have the technical capacity to provide all of the services required, such as airport maintenance, fuelling, catering, traffic control and communications. As pointed out in (a) it is in the top level management area where expertise is lacking.

10. Problems which may result from implementation and operation of project:

None anticipated

11. Legislation required (including changes is rates, if any):

Provision of external assistance should be made contingent upon adoption of legislation which would exclude any type of military or military training activity on or in the vicinity of the new airport.

12. Scope of Feasibility Study desired in summary form:

(1) Land requirements and availability of additional land for expansion;

(2) Public discomfort: Jet noises, etc.;

(3) Economic conditions: cost of development, cost of land, construction, utilities, etc.;

(4) Justification for second airport;

(5) Anticipated costs and revenues on annual basis;

(6) Construction phasing and proposed method of payment;

(7) Availability of utilities: water, power, fuel, etc.;

(8) Air traffic pattern as related to Don Muang airport;

(9) Access road(s);

(10) Development of industrial park.

13. Estimated cost of Feasibility Study: $250,000*

*The United States Government has offered to loan Thailand funds for this study but the offer has not been accepted. The $250,000 figure is predicated on the availibility, reliability and relevance of material developed in previous studies.

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 6 months

16. Feasibility Study expertise required:

At least the following:

Transportation economists (2)
Airport engineers (2)
Architectural engineer
Urban development specialist

ATTACHMENT A

TRAFFIC OPERATIONS AT BANGKOK INTERNATIONAL AIRPORT

	Military	Percentage of Total	Civil	Percentage of Total	Total	1964 Forecast
1964	12,552	(20%)	40,608	(80%)	53,160	
1965	46,944	(52%)	45,344	(48%)	92,288	(63,700)
1966	76,824	(60%)	54,864	(40%)	131,688	(65,500)
1967	132,384	(67%)	62,952	(33%)	195,336	(66,900)

NOTE: January 1968 figures indicate an additional 12% buildup in the RTAF.

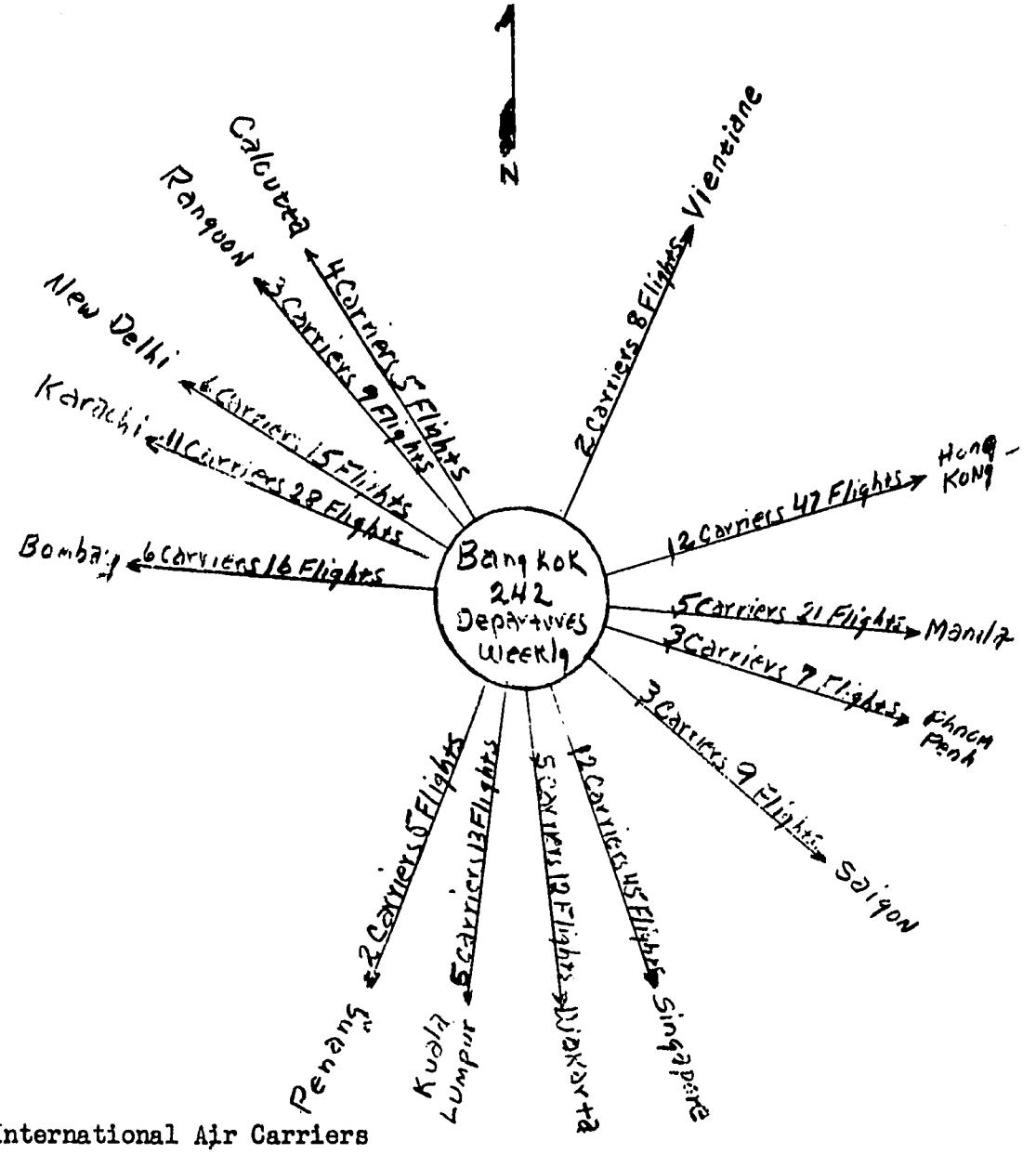
Comment

(1) Figures in brackets at right side of page are total traffic forecasts projected by FAA Study Team in 1964. The prediction was for an anticipated 6% increase.

(2) The Study Team could not forsee the military buildup.

(3) The increase in Civil Activity shows a steady 10% buildup, some of which can be attributed to fallout from the war effort. The 1964 FAA Study predicted total operations at Don Muang of 108,000 by 1980.

ATTACHMENT B



International Air Carriers
Utilizing Bangkok

Air France	JAL	THAI
Air Laos	KLM	TWA
Air Vietnam	Lufthansa	UBA
Alitalia	MSA	
BOAC	PAA	
China Airlines	PIA	
CAT	Gantas	
CPA	SAS	
Garuda	Swissair	

International flights, non-stop segments either originating or transiting Don Muang locations indicated. Figure of 242 indicates outgoing flights or one "operation." For airport utilization computation weekly international operations 242 should be doubled.

As of March 6, 1968

ADDITIONAL PROJECTS INVESTIGATED BY THE STUDY TEAM, BUT WHICH ARE NOT RECOMMENDED FOR CONSIDERATION AT THIS TIME

Land Transport

Chumporn-Pattalung Road	Now under study by Louis Berger, Inc. No further effort required at this time
Railway Link with Vientiane	This project was initially requested as a railway link between Nong Khai and Vientiane, but it has now been expanded to include all of the western portion of Thailand and connections with Burma. Project not considered suitable for investment at this time because of its high cost. In addition, the Japanese Government has already offered assistance in this sector

Civil Air Transport

Air Traffic Control	This project is now underway. The United Kingdom has contracted with the RTG for the equipment. In addition, the USAF has agreed to loan some equipment to the RTG. No further investment required

Ports and Water Transport

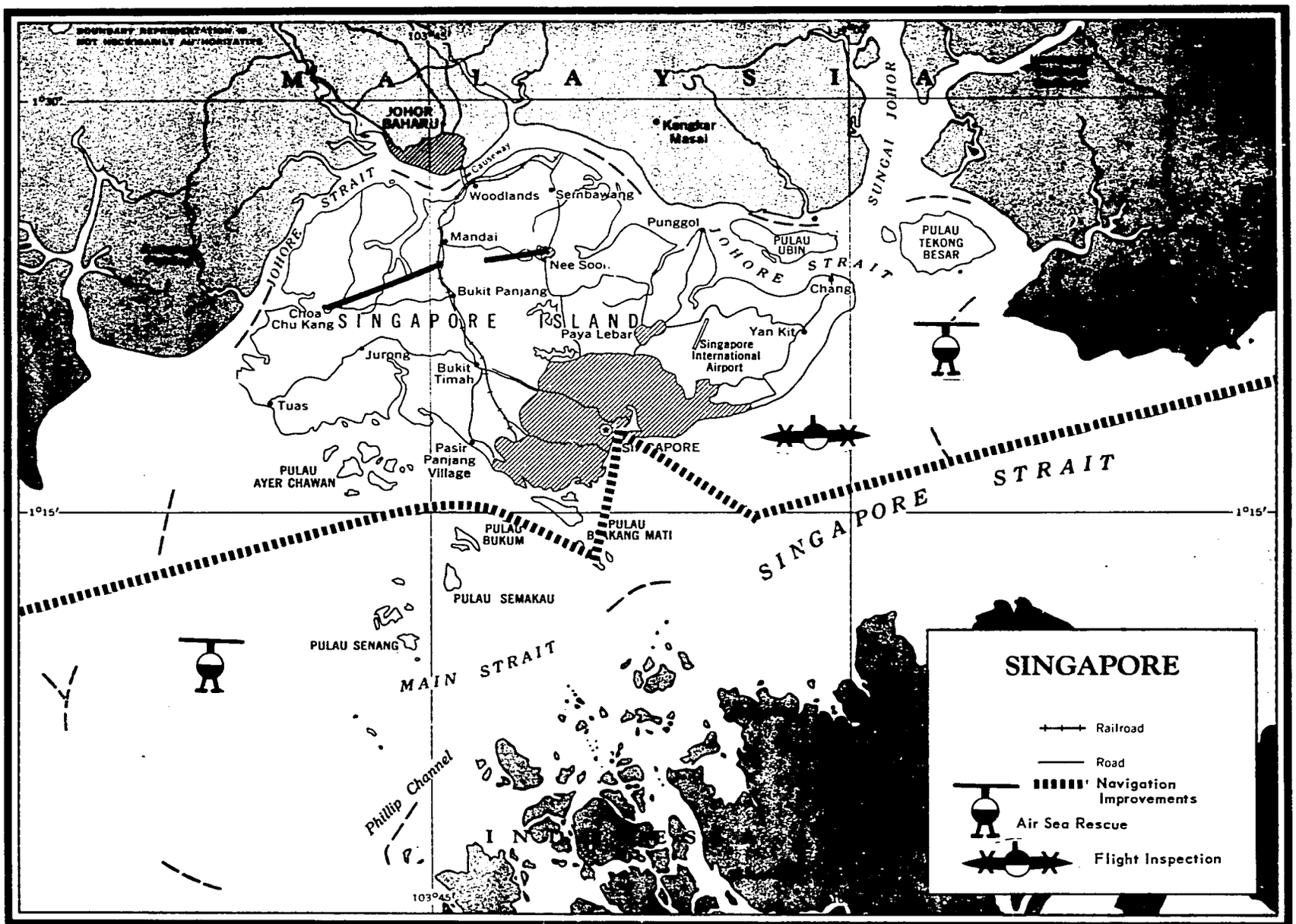
Seaports at Laem Trabang, Songkhla, Puket	The RTG has withdrawn these projects from further consideration as the Japanese and New Zealand governments have offered to perform whatever remaining surveys are necessary

Communications Projects

Penang-Haadyai Microwave Link	A study suitable for obtaining external financing has been done on this project by the Thai Telecommunications Bureau

Second Earth Station for Indian Ocean Satellite	The Study Team was of the opinion that no assistance was required here by potential suppliers; in the case of the U.S., this would be an Export-Import Bank project

SINGAPORE


BOUNDARY REPRESENTATION IS NOT NECESSARILY AUTHORITATIVE
103°45'
1°30'
1°15'
M A L A Y S I A
JOHOR BAHARU
Kangkar Masai
Causeway
Woodlands
Sembawang
Punggol
Mandai
Nee Soon
Bukit Panjang
Choa Chu Kang
SINGAPORE ISLAND
Paya Lebar
Jurong
Bukit Timah
Tuas
Pasir Panjang Village
PULAU AYER CHAWAN
PULAU BUKUM
PULAU BAKANG MATI
PULAU SEMAKAU
PULAU SENANG
PULAU UBIN
PULAU TEKONG BESAR
Changi
Yan Kit
Singapore International Airport
JOHOR STRAIT
SUNGAI JOHOR
SINGAPORE STRAIT
MAIN STRAIT
Phillip Channel
SINGAPORE
Railroad
Road
Navigation Improvements
Air Sea Rescue
Flight Inspection

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SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Marine Navigation Improvements (Straits of Malacca)

2. Description of project:

   Improvement of the existing Marine Navigation aids (lighthouses, beacons, markers, buoys); provision where necessary of additional aids. A Requirements Study of this project has already been made by the Shell Oil Co.

3. Estimated cost of project construction:

   Foreign Exchange: _____

   Local Currency : _____

   Total : $1,000,000

4. Estimate of time required to complete project construction: 12 months

5. **Justification for project construction:**

   (a) Economic: Large vessels (200,000 tons and over) are unable to transit the Straits at night due to the inadequacy of existing navigation aids. All vessels run the risk of hitting poorly marked obstructions. Savings in vessel time, and probable savings in insurance rates, would pay for proposed improvements in a short time.

   (b) Other: Project will contribute to safety of life at sea.

6. Regional justification for project construction:

   (a) Relationship to projects in other countries:

Project related to Air Sea Rescue Project (Thailand, Singapore, and Malaysia) and Marine Navigation Improvement Project (Thailand, Singapore, and Indonesia). Also related to the Medan-Malaysia Ferry Project recommended by the Study Team.

(b) Effect on regional development:

Project would contribute to the development of shipping (including ancillary industries) and trade in the area.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Completed project would benefit all countries whose ships use the Straits, particularly Japan, the United Kingdom and the United States.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

Highest priority of any Water Transport project at feasibility study stage in the area.

(b) Projects in other modes of transport and communications:

A high priority in relation to projects in all modes.

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Project in line with trend toward investment in larger ships.

9. Capabilities for operation and management of project if constructed:

(a) Management: Adequate

(b) Regulation procedures: Adequate

(c) Technical capacity: Installation of more sophisticated equipment, if needed, may require some training of personnel.

10. Problems which may result from implementation and operation of project:

Amortization of investment will be principal problem. It is believed that this can be accomplished through collection of light dues from shipping companies whose vessels use the Straits.

11. Legislation required (including changes in rates, if any):

Administration of the project by more than one country would require an agreement which in turn might require legislation.

12. Scope of Feasibility Study desired in summary form:

Examination of traffic, present and potential, using the Straits; examination of trade and shipping plans of user nations, such as Japanese long-range intentions with regard to procurement of oil and iron ore, and economic feasibility of project construction.

13. Estimated cost of Feasibility Study: $70,000

14. Cooperating country support to Feasibility Study Group (local expenses):

Local personnel; office space; local transportation; special status for consultants.

15. Estimate of time required to complete Feasibility Study: 3 months

16. Feasibility Study expertise desired:

Transport specialist (Team Leader)
Economist
Navigation aid specialist

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

East-West Links Johore Bahru-Singapore Highway

2. Description of project:

Two arms connecting Route A-2 with the Jurong industrial and port area to the west and the airport area in the east

3. Estimated cost of project construction:

Foreign Exchange: _____

Local Currency : _____

Total : $2,000,000

4. Estimate of time required to complete project construction: 18 months

5. Justification for project construction:

(a) Economic: Would permit traffic now forced to enter central city (ADT at one point 52,000 v.p.d.) to proceed direct to peripheral destinations

(b) Other: Relief of traffic congestion in central city would yield social and administrative benefits

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

Would tie in with contemplated improvement of west and east coast highways, and with construction of Kuantan-Segamat highway, in Malaysia

(b) Effect on regional development:

Route A-2 is one of two main "prongs" of Asian Highway System, serving as a link between Singapore and Malaysia, Thailand and other countries in the area.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Not measurable

8. Priority of proposed construction in relation to:

(a) Projects in the same modes (air, land, water, communications):

Highest priority

(b) Projects in other modes of transport and communications:

Medium priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Will contribute substantially to industrial development, urban development and port improvement programs

9. Capabilities for operation and management of project if constructed:

(a) Management: Very good

(b) Regulation procedures: Very good

(c) Technical capacity: Very good

10. Problems which may result from implementation and operation of project:

None foreseen

11. Legislation required (including changes in rates, if any):

None, so far as is known now

12. Scope of Feasibility Study desired in summary form:

1. Analyze traffic figures;
2. Estimate increased traffic likely to result from development programs now under way and projected;
3. Estimate road user benefits;
4. Estimate project construction costs.

13. Estimated cost of Feasibility Study: To be done by TTB

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 2 months

16. Feasibility Study expertise desired:

Economist (Team Leader)
Highway engineer

ADDITIONAL PROJECTS INVESTIGATED BY THE STUDY TEAM, BUT WHICH ARE NOT RECOMMENDED FOR CONSIDERATION AT THIS TIME

Land Transport	
Second Causeway	This project, spanning the Selat-Johore River on the northwest end of the island has been withdrawn by the GOS from the regional program, pending completion of arrangements with the Government of Malaysia
Civil Air Transport	All projects approved as part of the Regional Air Facilities Requirements Survey recommended by the Study Team
Ports and Water Transport	
Regional Warehousing Complex	Project withdrawn from further consideration inasmuch as capital financing is now only requirement
Modernization of Coastal Qual and Shore Facilities	Already studied by Port of Singapore Authority, and the project is ready to be financed by the GOS
Wharf Facilities and Regional Container Terminal Services	Project has already been studied and an IBRD loan has been arranged
Communications	No projects proposed by Singapore although the GOS endorsed fully the request of the Indonesian Government for a Singapore-Djakarta communications connection, and the request of the Malaysian Government for a Kuala Lumpur-Singapore 2nd Microwave connection (The GOS is now studying the latter project)

NOTE: The GOS also requested that the U.S. consider the financing of a navigation improvement study of the Straits of Malacca.

MALAYSIA

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   The Kuantan-Segamat Highway

2. Description of project:

   Improvement of Route 3 from Kota Bharu to Kuantan and extension (80 miles) from Kuantan, Pahang to Segamat, Johore.

3. Estimated cost of project construction:

   Foreign Exchange: $7.5 million

   Local Currency : $7.5 million

   Total : $15 million

4. Estimate of time required to complete project construction: 24 months

5. Justification for project construction:

   (a) Economic: The road passes through one million acres of gently rolling forested country slated for agricultural smallholder and plantation development.

   (b) Other: Malaysia has developed a unique capability in agricultural development through the 15 years of experience of the Federal Land Development Authority in smallholder resettlement schemes. The private sector plantation firms are modern, efficient companies in a competitive world. Malaysia has just received an IBRD loan of US $3.66 million for a 300,000 acre land development scheme for smallholders in the Jengka Triangle in central Pahang. Schemes of a similar scope are being planned for southern Pahang and eastern Johore.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

The project proposes the widening, strengthening, and realignment of existing roads on Route 3 which runs along the East Coast of West Malaysia. Improvements would commence at Kota Bharu and connect with the State capitals of Kuala Trengganu and Kuantan. The link between Kota Bharu and the Thai border would also be improved. From Kuantan to Segamat, through South Pahang, Route 3 would be extended with most of it being new construction. Route 3 when complete to Segamat would provide a highway link running along the East Coast of Malaysia, from the Thai border to Singapore. Viewed in the context of a through route, from the Thai border to Singapore, the project could have significant regional influence. The main link, however, the Kuantan-Segamat route, will service on intensive local agricultural development scheme.

(b) Effect on regional development:

Singapore, which handles about 30 per cent of West Malaysia's total imports and exports by value and particularly that trade in the southern part of the peninsula, would benefit economically from handling the export commodities generated - forest products as the land is cleared and palm oil and other products as they come into production.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Non-SEA countries would benefit as consumers of the above-mentioned products.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

First priority

(b) Projects in other modes of transport and communications:

High priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

High priority

9. Capabilities for operation and management of project if constructed:

(a) Management: Good

(b) Regulation procedures: Good

(c) Technical capacity: Good

10. Problems which may result from implementation and operation of project:

None forseeable

11. Legislation required (including changes in rates, if any):

The States concerned, Pahang and Johore, must alienate the land for non-Malay use.

12. Scope of Feasibility Study desired in summary form:

An economic and engineering feasibility study for the design and construction of a new road. Economic analysis of agricultural potential primarily - then some analysis of timber and minerals exploitation; and road user benefits.

13. Estimated cost of Feasibility Study: $200,000

14. Cooperating country support to Feasibility Study Group:

To be negotiated

15. Estimate of time required to complete Feasibility Study: 8 months

16. Feasibility Study expertise desired:

Usual highway engineering and economic staffs, with emphasis on the economic in order to determine the validity of the benefits proposed for the area.

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction: East Malaysia Ports.

   (a) Sandakan (construction of 4 new wharves)
   (b) Kota Kinabalu (Jesselton) (extension of wharf)

2. Description of project:

   (a) Sandakan - to construct a new port of 4 wharves, 4 miles from existing port which cannot be expanded. New construction is to be at Allard Bay and will include provision for sucillary facilities including containerization.

   (b) Jesselton - to extend and rebuild the present wharf. Extension will be in two stages of 500 feet, making a total extension of 1,000 feet.

3. Estimated cost of project construction:

	(a) Sandakan	(b) Jesselton 1st stage	(b) Jesselton 2nd stage
Foreign Exchange:	US$5.85 m.	1.95 m.	5.38 m.
Local Currency :	US$3.90 m.	1.30 m.	3.59 m.
Total :	US$9.75 m.	3.25 m.	8.79 m.

4. Estimate of time required to complete project construction: 24 months

5. Justification for project construction:

   (a) Economic:

   (a) Sandakan - With tonnage expanding at 10 per cent p.a.. the maximum capacity of the present port has almost been reached.

   (b) Jesselton - With tonnage expanding at 10 per cent p.a., the maximum capacity of the present port has almost been reached.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

No direct relationship to another SEA country project, but this project will be part of an overall regional plan to upgrade existing port facilities.

(b) Effect on regional development:

Because a substantial amount of East Malaysian imports and exports are handled by Singapore, both East Malaysia and Singapore would benefit by improved port facilities. Philippine trade will also benefit.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Tonnage figures for these two ports indicate that a substantial amount of tonnage moves through these ports which is shipped in from outside the region. Thus, countries outside the region will benefit as well as the SEA countries.

8. Priority of proposed construction in realtion to:

(a) Projects in the same mode (air, land, water, communications):

First priority (upgraded since the Kuala Lumpur meeting)

(b) Projects in other modes of transport and communications:

High priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

High priority

9. Capabilities for operation and management of project if constructed:

(a) Management: Good

(b) Regulation procedures: Good

(c) Technical capacity: Good

10. Problems which may result from implementation and operation of project:

None other than the usual project implementation difficulties

11. Legislation required (including changes in rates, if any):

The enactment of laws authorizing Port Authorities in Sarawak and Sabah to run the ports. (This is not an obstacle.)

12. Scope of Feasibility Study desired in summary form:

(a) Investigation of present and projected traffic;
(b) Sandakan - site investigation of the new wharves;
(c) Jesselton - site investigation of, first, expansion of the present port and, second, possible relocation of port;
(d) Estimated costs of proposed improvements;
(e) Economic feasibility of projects.

13. Estimated cost of Feasibility Study: (a) Sandakan - $25,000
(b) Jesselton - $25,000

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 4 months

16. Feasibility Study expertise desired:

Civil engineer
Marine specialist
Transport economist

17. NOTES: Existing reports on these ports: "Development of Sandakan," December 1963, Sir Bruce White, Wolfe Barry and Partners, London; "Development of Jesselton," February 1967, Sir Bruce White; report on Lubuan, Jesselton, Sandakan & Tawau, June 1965, H.J. Shailes, Ministry of Transport.

Material in this form is based on the Kuala Lumpur Conference Report and the Malaysia Transport Survey "Inception Report" of December 1, 1967.

ADDITIONAL PROJECTS INVESTIGATED BY THE STUDY TEAM, BUT WHICH ARE NOT RECOMMENDED FOR CONSIDERATION AT THIS TIME

Land Transport

Route 1	Already studied in depth. Project awaiting completion of overall transport study being done by Robert R. Nathan Associates.
East-West Highway	Study would be too expensive at this stage of program (2nd priority)
West Coast Road in East Malaysia	Included in Nathan study, summer of 1968

Civil Air Transport

Radio Navigation Aids	Study not required. Detailed engineering completed, and contract being executed
Penang Airport Improvements	Study not required. Detailed engineering completed and construction underway
Aeronautical Mobile Service	Ready for construction
Radar Surveillance Unit	GOM requested deferment to FY 69 (2nd priority)
Aeronautical Fixed Tele-communications Network	Planning completed - nothing further required
Meteorological Facilities and Services	Planning completed - no further study required

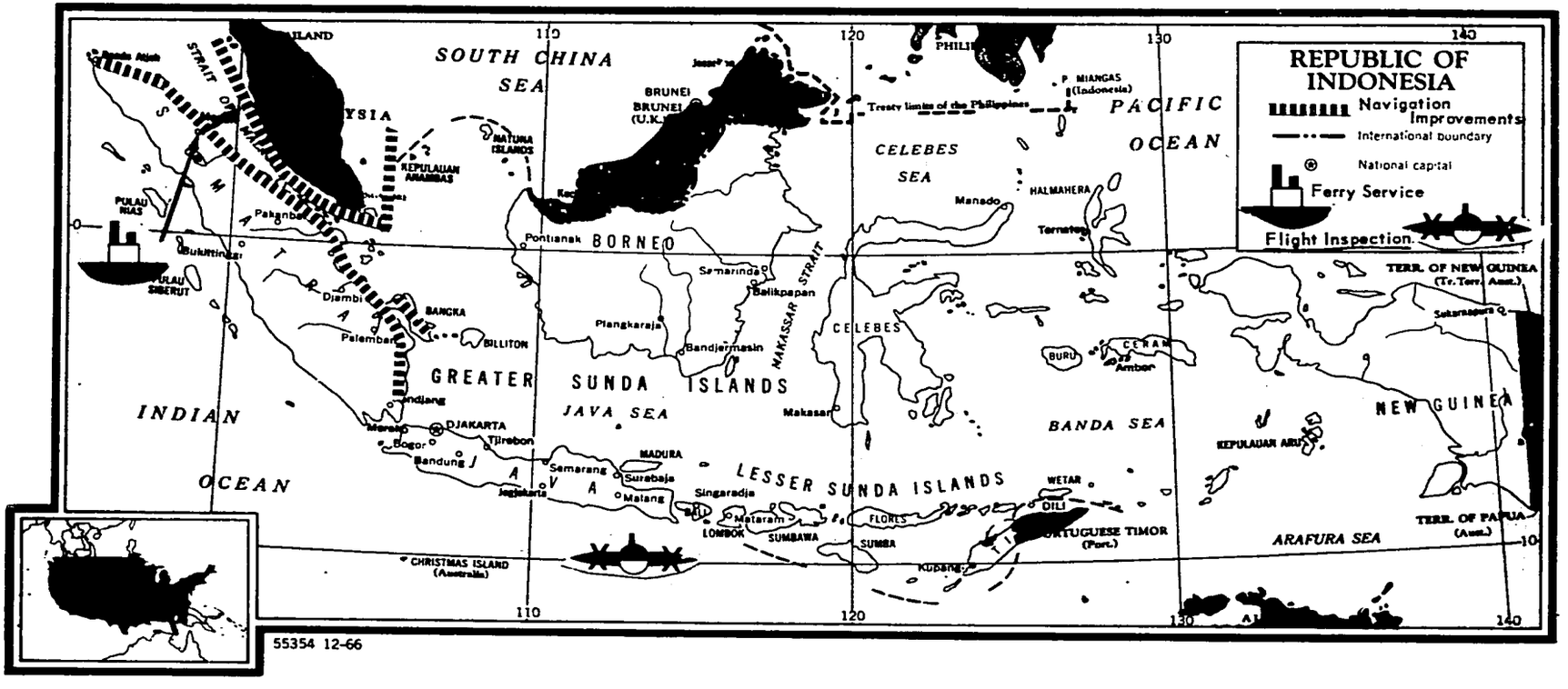
Water Transport

East Coast Port (West Malaysia)	Project awaiting completion of Nathan study
Port Swettenham	Consultants already appointed
Kuching Port Expansion	Consultants already appointed

Communications

Penang-Haadyai Telecommunications link	Planning completed
Haadyai-Kota Bharu Telecommunications link	Study required (2nd priority)
Penang-Medan VHF	Feasibility study completed
Satellite Earth Station	Feasibility study completed
Kuala Lumpur-Singapore 2nd Microwave	Engineering completed

INDONESIA


REPUBLIC OF INDONESIA
Navigation Improvements
International boundary
National capital
Ferry Service
Flight Inspection
SOUTH CHINA SEA
PACIFIC OCEAN
INDIAN OCEAN
CELEBES SEA
BANDA SEA
JAVA SEA
ARAFURA SEA
GREATER SUNDA ISLANDS
LESSER SUNDA ISLANDS
BORNEO
CELEBES
NEW GUINEA
TERR. OF NEW GUINEA (Tr. Terr. Aust.)
TERR. OF PAPUA (Aust.)
PORTUGUESE TIMOR (Port.)
BRUNEI
BRUNEI (U.K.)
PHILIPPINES
P. MIANGAS (Indonesia)
Treaty limits of the Philippines
NATUNA ISLANDS
KEPULAUAN ANAMBAS
PULAU NIAS
PULAU SIBERUT
Bukittinggi
Pakanbaru
Pontianak
Samarinda
Balikpapan
Djambi
BANGKA
BILLITON
Palembang
Pangkalan
Bandjermasin
MAKASSAR STRAIT
Makassar
Manado
HALMAHERA
Ternate
BURU
CERAM
Amber
KEPULAUAN ARU
Sukarnapura
Lindjang
Merak
Bogor
DJAKARTA
Tjirebon
Bandung
Semarang
Jogjakarta
Surabaja
MADURA
Malang
Singaradja
BALI
Mataram
LOMBOK
SUMBAWA
FLORES
SUMBA
WETAR
DILI
Kupang
CHRISTMAS ISLAND (Australia)
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SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Medan-Port Swettenham and Medan-Penang-Butterworth Ferry Services

2. Description of project:

   Operation of vehicle and passenger-carrying ferries between Medan, in Northeastern Sumatra, and Port Swettenham and Penang-Butterworth on the West Coast of Malaysia.

3. Estimated cost of project construction:

   Foreign Exchange: _____

   Local Currency : _____

   Total . $5,000,000

4. Estimate of time required to complete project construction: 12-18 mos.

5. Justification for project construction:

   (a) Economic: Traffic between Sumatra and Malaysia now is carried, on an intermittent basis, by small coastal or inter-island type vessels. Use of specially designed ferries would assist materially in the expansion of trade and travel between Sumatra and Malaysia. This is particularly true of perishable commodities.

   (b) Other: Project, by facilitating trade and travel between Indonesia and Malaysia, will contribute to better relations between the two countries. Project also may facilitate trade and travel between Sumatra and Thailand, and between Sumatra and Singapore, by providing improved gateways via Penang-Butterworth and Port Swettenham.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

This project is related to Indonesian proposals for improvement of the airport at Medan; for improvement of land transport in Sumatra, and for improved communications between Indonesia and Malaysia. It is also related to port improvement projects now underway at Butterworth and Port Swettenham.

(b) Effect on regional development:

Project, by facilitating trade and travel between two or more countries, will contribute positively to regional development.

7. Effect of completed project on countries outside of Southeast Asia, if any:

No discernible effect

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

Highest priority in relation to other projects at feasibility study stage in same mode.

(b) Projects in other modes of transport and communications:

High priority in relation to projects in other modes.

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Project ties in with plans for development of Sumatra through improved transport. Indoneisan private investors are already interested in the project.

9. Capabilities for operation and management of project if constructed:

(a) Management: Adequate

(b) Regulation procedures: Adequate

(c) Technical capacity: Adequate

10. Problems which may result from implementation and operation of project:

Project will require cooperation between Indonesia and Malaysia, especially if operated as a joint venture.

11. Legislation required (including changes in rates, if any):

Joint-venture operation probably will require enabling legislation.

12. Scope of Feasibility Study desired in summary form:

Investigate present and potential traffic between Sumatra and Malaysia; also present and potential traffic between Sumatra and Thailand and between Sumatra and Singapore. Recommend type of vessels to be used. Recommend type of operation (public or private, one country or joint venture).

13. Estimated cost of Feasibility Study: $70,000

14. Cooperating country support to Feasibility Study Group (local expenses):

Usual support

15. Estimate of time required to complete Feasibility Study: 3 months

16. Feasibility Study expertise desired:

Transport specialist (Team Leader)
Economist
Marine specialist (Ship operation)
Marine specialist (Ship design)

ADDITIONAL PROJECTS INVESTIGATED BY THE STUDY TEAM, BUT WHICH ARE NOT RECOMMENDED FOR CONSIDERATION AT THIS TIME

Land Transport

Southeast Asian Railway Network	The Study Team concluded that this project, the construction costs of which are estimated at $150 million, would be too large for us to undertake at this time. The studies that have been requested would clearly cost several million dollars, or far beyond the scope of the present US study program
Regional Railway Training Center	The Study Team reviewed this project and concluded that such a regional center would be highly desirable. However, it was felt that such a project might more properly be implemented under the aegis of ECAFE, or some other agency more concerned with technical assistance. In short, we felt that such a project would be less attractive to a Bank than some of the revenue earning projects proposed by the Government of Indonesia, and that, therefore, this project should be deferred

Civil Air Transport

Upgrading of Air Academy	The Study Team felt that this project was much like the Regional Railway Training Center in that, although badly needed, it would be best considered as a second priority project

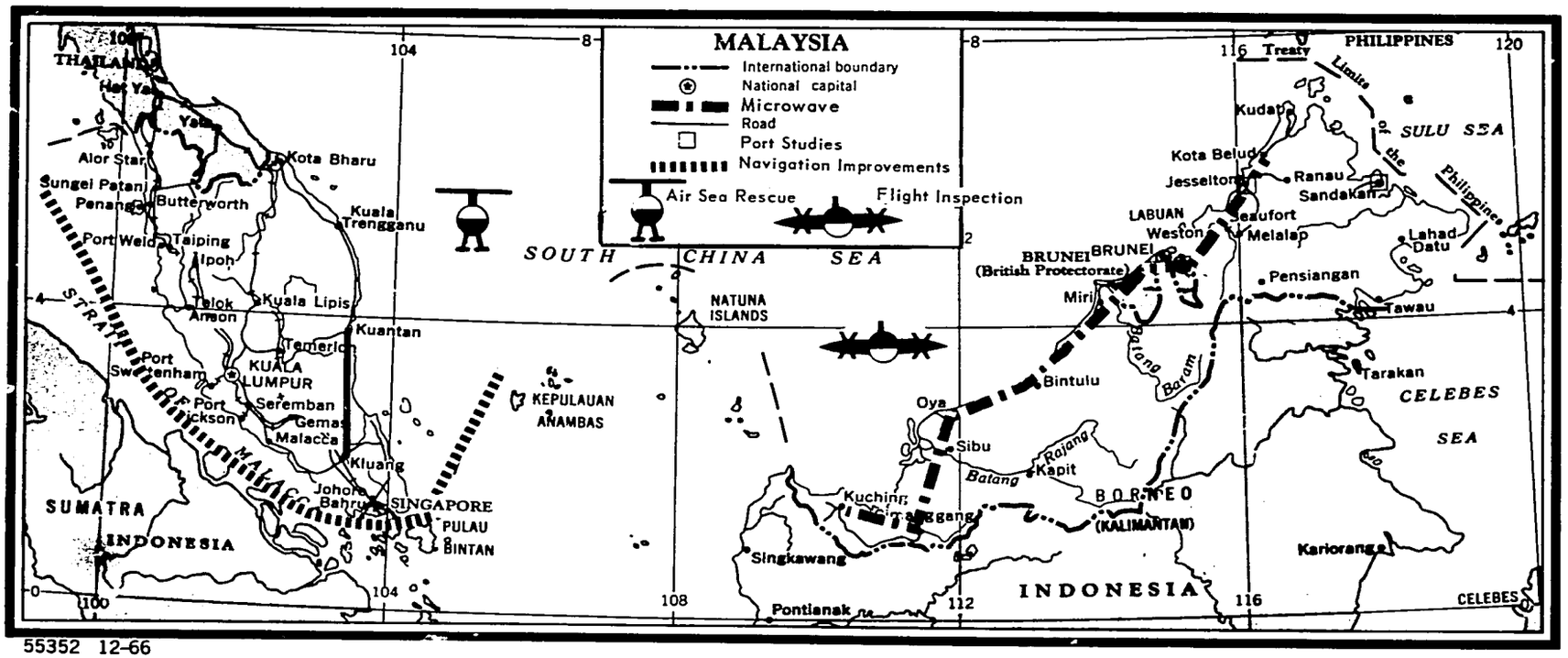
Ports and Water Transport

Various	The Indonesian Government reported to the Study Team that other than Search and Rescue and Marine Aids to Navigation, there was no further study effort required at this time

Communications

Research Center	The Study Team was of the opinion that this project should be deferred inasmuch as the ITU would be a more proper source for the funding of such a facility

BRUNEI


MALAYSIA
International boundary
National capital
Microwave
Road
Port Studies
Navigation Improvements
Air Sea Rescue
Flight Inspection
THAILAND
Hat Yai
Yala
Alor Star
Sungei Patani
Penang
Butterworth
Kota Bharu
Kuala Trengganu
Port Weld
Taiping
Ipoh
Telok Anson
Kuala Lipis
Kuantan
Temerloh
Port Swettenham
KUALA LUMPUR
Port Dickson
Seremban
Gemas
Malacca
Kluang
Johore Bahru
SINGAPORE
PULAU BINTAN
SUMATRA
INDONESIA
STRAITS OF MALACCA
SOUTH CHINA SEA
KEPULAUAN ANAMBAS
NATUNA ISLANDS
Oya
Sibu
Kapit
Bintulu
Miri
BRUNEI
BRUNEI (British Protectorate)
LABUAN
Weston
Beaufort
Melalap
Jesselton
Kota Belud
Kudat
Ranau
Sandakan
Pensiangan
Lahad Datu
Tawau
Tarakan
Kariorang
CELEBES
CELEBES SEA
SULU SEA
PHILIPPINES
Treaty Limits of the Philippines
BORNEO (KALIMANTAN)
Kuching
Sri Aman
Singkawang
Pontianak
INDONESIA
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SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

A telecommunications system linking Sabah with Sarawak through Brunei. The system would terminate at Kuching on the southern end and at Jesselton on the northern end where it would connect into the existing international submarine cable to Hong Kong and Guam.

2. Description of project:

It is proposed to link together presently isolated cities on the north coast of Borneo and to give them good access to international communications networks.

3. Estimated cost of project construction:

Foreign Exchange:	$3,500,000
Local Currency :	$1,500,000
Total :	$5,000,000

4. Estimate of time required to complete project construction: 18 months

5. Justification for project construction:

(a) Economic: Linking together the presently isolated cities in North Borneo with each other, with cities in neighboring countries, and via the Jesselton Cable with cities in other countries should have a markedly beneficial effect on economic development of the North Coast.

(b) Other: The project will also provide circuits for commercial airlines serving the area.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

This project is directly related to projects recommended by ECAFE and the ITU for the development of regional telecommunications in SEA.

(b) Effect on regional development:

Greater ease of intra-regional communications will promote trade and travel in the region.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Additional revenues can be derived at either the Hong Kong satellite earth station, or the Kuala Lumpur earth station from the 17,000 subscribers to this toll system. Use of these high quality international circuits will promote trade with the countries outside the region.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

First priority

(b) Projects in other modes of transport and communications:

High priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Improved communications facilities will assist greatly in the fulfillment of plans now being made for industrial and agricultural development of the north coast of Borneo.

9. Capabilities for operation and management of project if constructed:

(a) Management: Good

(b) Regulation procedures: Not known

(c) Technical capacity: Good

10. Problems which may result from implementation and operation of project:

A good coastal highway now exists from Kuching to Sibu and from Miri to Jesselton. However, the connection between Miri and Sibu will be over terrain not presently traversed by roads. Unattended repeater stations may be necessary for this portion of the project.

11. Legislation required (including changes in rates, if any):

To be determined during the study

12. Scope of Feasibility Study desired in summary form:

The study is required to locate sites for repeater and drop stations. This study should also include cost estimates; an analysis of economic benefits expected to accrue from the project; an assessment of management; an assessment of regulatory procedures; a review of present and anticipated traffic; and recommendations with respect to rates.

13. Estimated cost of Feasibility Study: $200,000

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

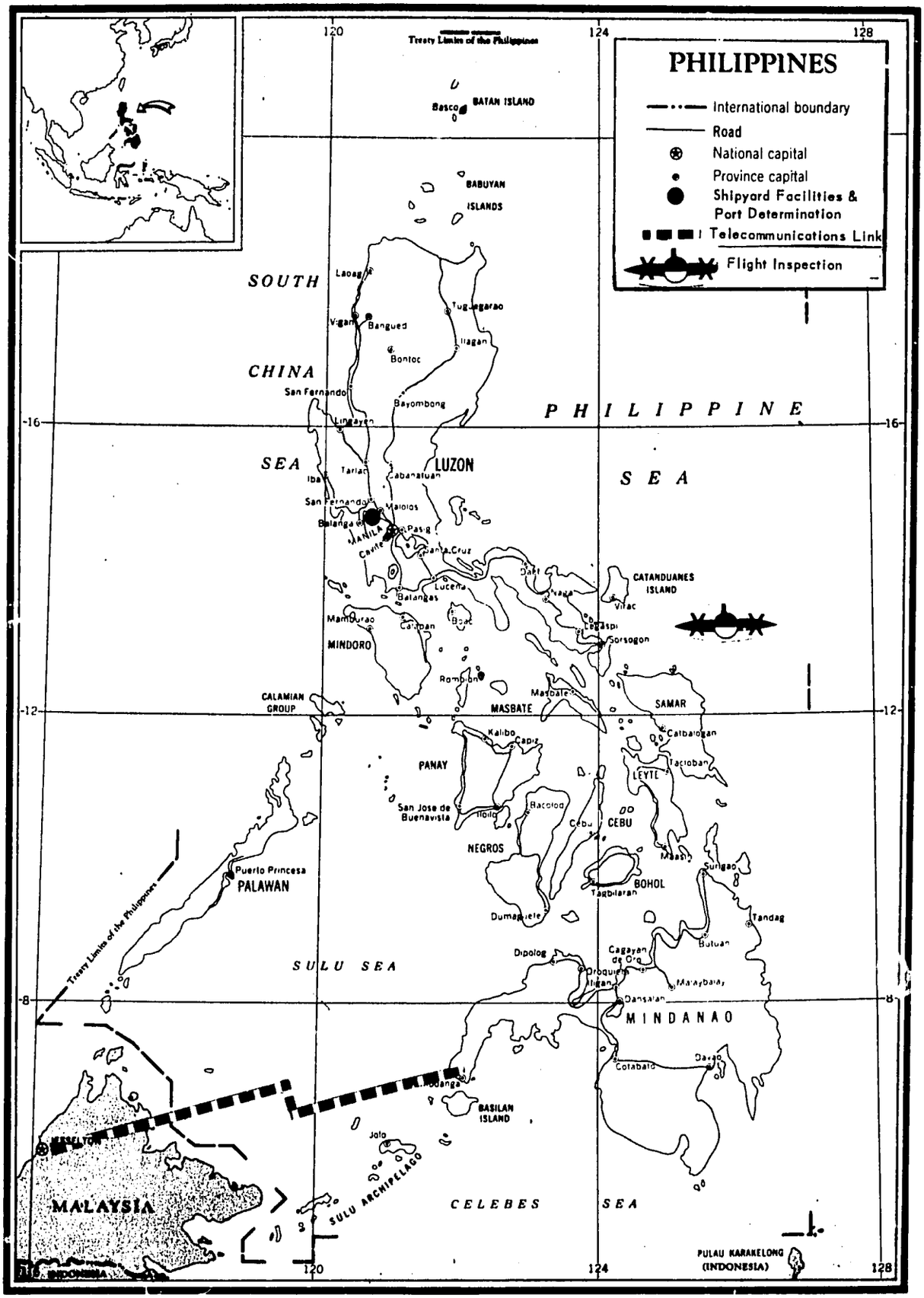
15. Estimate of time required to complete Feasibility Study: 1 year

16. Feasibility Study expertise desired:

Study should be made by senior U.S. consultants who have expertise in telecommunications and have worked overseas, preferably in the region. Team should consist of:

Team Leader
Radio specialist
Outside plant specialist
Inside plant specialist
Traffic engineer
Rates specialist
Management specialist

PHILIPPINES


PHILIPPINES
International boundary
Road
National capital
Province capital
Shipyard Facilities & Port Determination
Telecommunications Link
Flight Inspection
Treaty Limits of the Philippines
BATAN ISLAND
BABUYAN ISLANDS
SOUTH CHINA SEA
PHILIPPINE SEA
LUZON
MANILA
CATANDUANES ISLAND
MINDORO
CALAMIAN GROUP
MASBATE
SAMAR
LEYTE
PANAY
NEGROS
CEBU
BOHOL
PALAWAN
Puerto Princesa
SULU SEA
MINDANAO
BASILAN ISLAND
SULU ARCHIPELAGO
CELEBES SEA
MALAYSIA
KESELTON
PULAU KARAKELONG (INDONESIA)
INDONESIA
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SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Zamboanga (Philippines)-Jesselton (East Malaysia) Tropospheric Scatter System.

2. Description of project:

   A 24 Channel Telecommunications system (Tropo Scatter) linking the Philippines with East Malaysia and Brunei and the tying together, via the submarine cable at Jesselton and the Satellite at Djakarta, of an intra-regional system with an international telephone system.

3. Estimated cost of project construction:

   Foreign Exchange: _____

   Local Currency : _____

   Total : $1,000,000

4. Estimate of time required to complete project construction: 12 months

5. Justification for project construction:

   (a) Economic: At present there is no circuitry between Mindanao and Sabah. Leased lines are urgently needed by the commercial airlines operating south of the Philippines. Further commercial traffic projections indicate that this project is financially viable.

   (b) Other: There is at present no way out of the Mindanao telephone network other than Manila. The Zamboanga-Jesselton link would directly tie Borneo and Mindanao together for the first time.

6. Regional justification for project construction:

(a) Relationship to projects in other countries:

It is a part of the ITU and ECAFE plan for regional development.

(b) Effect on regional development:

Greater ease of intra-regional communications would promote intra-regional trade, particularly between the Philippines and Brunei and East Malaysia.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Access to the satellite ground station in Manila could facilitate international trade into these areas from without the region.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

First priority

(b) Projects in other modes of transport and communications:

High priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

High priority

9. Capabilities for operation and management of project if constructed:

(a) Management: Good

(b) Regulation procedures: Good

(c) Technical capacity: Very good

10. Problems which may result from implementation and operation of project:

None, other than normal project implementation problems

11. Legislation required (including changes in rates, if any):

None known at this time

12. Scope of Feasibility Study desired in summary form:

A surveillance type of study is required to determine the engineering and economic feasibility of a Tropospheric Scatter system.

(This study can be performed by Mr. Tadde of the Regional Office, Bangkok, at very little cost; as FAA is involved, the assistance of Mr. E.K. Shinn would be desirable in conducting this study.)

13. Estimated cost of Feasibility Study: $5,000

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 3-4 mos.

16. Feasibility Study expertise desired:

Telecommunications specialist (Team Leader)
Civil aviation specialist

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   Expansion of Marivelas Ship Repair Facilities

2. Description of project:

   Expansion of existing facilities to handle larger vessels

3. Estimated cost of project construction:

   Foreign Exchange: _____

   Local Currency : _____

   Total : $2,000,000

   *Project could exceed this cost - one important purpose of study would be to fix cost estimate.

4. Estimate of time required to complete project construction: 2 months

5. Justification for project construction:

   (a) Economic: Existing facilities are unable to handle vessels of more than 10,000 tons. This means that large vessels must proceed - and in some cases be towed - to Hong Kong, Singapore or elsewhere for repairs.

   (b) Other: Project will "round out" facilities required for operation of a large port.

6. Regional justification for project construction:

   (a) Relationship to projects in other countries:

Project would facilitate maintenance of national and regional shipping services in the area

(b) Effect on regional development:

Project would augment limited and at times inadequate facilities, now available for repair by vessesl in the area.

7. Effect of completed project on countries outside of Southeast Asia, if any:

Project would benefit countries trading with or maintaining shipping services to the area.

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

High national priority and regional priority

(b) Projects in other modes of transport and communications:

Medium priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Project would assist the Philippines, the leading maritime nation in SEA, to continue to develop in this field.

9. Capabilities for operation and management of project if constructed:

(a) Management: Adequate

(b) Regulation procedures: No new regulations required

(c) Technical capacity: Adequate

10. Problems which may result from implementation and operation of project:

Maintenance of an adequate supply of parts and materials could be a problem.

11. Legislation required (including changes in rates, if any):

None

12. Scope of Feasibility Study desired in summary form:

Analyze present and potential volume of shipping using Philippine ports, with particular reference to trend toward larger vessels; discuss ship repair requirements actual and potential with shipping companies and agents; estimate cost of delays resulting from lack of adequate repair facilities at Manila; estimate cost and earnings of project if constructed. In general, project analysis should be reconnaissance level only.

13. Estimated cost of Feasibility Study: [illegible]

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 2 months

16. Feasibility Study expertise desired:

Team Leader
Marine Specialist (ship repair)
Economist

SOUTHEAST ASIA REGIONAL TRANSPORT AND COMMUNICATIONS

PROJECTS AT FEASIBILITY STUDY STAGE

1. Proposed project for construction:

   La Mao-Marivelas Port

2. Description of project:

   Selection of site for port facility to serve Export Processing Zone

3. Estimated cost of project construction:

   Foreign Exchange: _____

   Local Currency : _____

   Total : $1,000,000

4. Estimate of time required to complete project construction: 12months

5. Justification for project construction:

   (a) Economic: Would aid domestic industry and foreign trade by facilitating importation of raw materials and exportation of finished manufactured goods resulting from the proposed Export Processing Zone

   (b) Other: Would contribute to development of Philippines as a maritime nation.

6. Regional justification for project construction:

   (a) Relationship to projects in other countries:

   Would contribute to development of regional shipping line.

(b) Effect on regional development:

Would facilitate sale of raw materials required by factories in Export Processing Zone; would facilitate purchase by other SEA countries of finished products

7. Effect of completed project on countries outside of Southeast Asia, if any:

Would encourage trade between Philippines and supplier and/or consumer trading partners

8. Priority of proposed construction in relation to:

(a) Projects in the same mode (air, land, water, communications):

High priority

(b) Projects in other modes of transport and communications:

Medium priority

(c) Current national development plans and/or public and private investment schemes, including projects in other sectors of the economy (industry, agriculture, etc.):

Would assist in industrial development of country

9. Capabilities for operation and management of project if constructed:

(a) Management: Good

(b) Regulation procedures: No new regulations required

(c) Technical capacity: Good

10. Problems which may result from implementation and operation of project:

No unusual problems foreseen

11. Legislation required (including changes in rates, if any):

Legislation may be required if port made integral part of Free Zone

12. Scope of Feasibility Study desired in summary form:

1. Analyze present pattern of foriegn and domestic commerce;

2. Analyze potential transport requirements of Export Processing Zone;

3. Compare advantages of a new port facility located at La Mao (adjacent to Zone) with advantages of adding a berth or two to existing facilities at Marivelas;

4. Make recommendations regarding type of management (public or private).

13. Estimated cost of Feasibility Study: $25,000

14. Cooperating country support to Feasibility Study Group (local expenses):

To be negotiated

15. Estimate of time required to complete Feasibility Study: 2 months

16. Feasibility Study expertise desired:

Team Leader
Marine specialist (Ports)
Economist

ADDITIONAL PROJECTS INVESTIGATED BY THE STUDY TEAM BUT WHICH ARE NOT RECOMMENDED FOR CONSIDERATION AT THIS TIME

Land Transport

(The GOP did not propose any land transport projects at the Kuala Lumpur Meeting for the reason that they would be impossible to justify as regional projects).

Civil Air Transport

(The GOP proposed only Flight Inspection at the Kuala Lumpur Meeting and this has been included in the Study Team recommendations).

Water Transport

(No water transport projects were proposed by the GOP at the Kuala Lumpur Meeting, but during the field review in Manila, the GOP proposed two new water transport projects. These projects have been included in the Study Team recommendations for study).

Communications Projects

Philippines-Thailand Submarine Cable System	The Study Team reviewed this project with the GOP and concluded that because of the recent installation of the Bangkok and Manila earth stations, satisfactory facilities now exist between Thailand and the Philippines

SECTION XV
MEETING OF STUDY TEAM WITH COORDINATING COMMITTEE

The Conference of Southeast Asian Officials on Transport and Communications, held at Kuala Lumpur in September 1967, recommended that a Coordinating Committee of Senior Officials be formed to continue with work initiated at the conference. In accordance with this recommendation, the eight countries which participated in the Kuala Lumpur conference were invited by the Government of the Philippines to send representatives to a meeting held in Manila in conjunction with the visit of the Study Team on March 11 and 12.

At this meeting the Coordinating Committee of Southeast Asian Senior Officials on Transport and Communications, as it has been designated, was established. Col. Alfredo Kagawan, the delegate of the Philippines, was elected Chairman, while Lt. Comdr. Aree Satayamana of Thailand was elected Vice-chairman. The Government of Malaysia agreed to continue to provide on Interim Secretariat pending the establishment of a Permanent Secretariat and selection of a Coordinator by the participating countries.

Subjects discussed by the committee at its first meeting included relations with the Asian Development Bank, the Regional Transport Survey, feasibility studies for priority projects, and methods of obtaining external assistance for soundly-conceived regional projects.

The Study Team met with the Coordinating Committee on March 12. The meeting was devoted largely to exchange of views, to projects recommended by the Team for feasibility studies, to the scope of studies to be undertaken and to methods of financing.

The program recommended by the Team was accepted by the Committee with minor reservations by the delegates of Singapore and Indonesia. Subject to these reservations, the Committee agreed that the proposed program was soundly conceived, comprising well chosen economically justifiable regional projects.

The Interim Secretariat was authorized to enter into an overall agreement with the United States Government on behalf of the Coordinating Committing regarding the financing of feasibility studies by the United States. The overall agreement, of course, would be an interim measure to be followed by separate agreements with the individual countries.

The committee suggested and the Team agreed that, in the formulation of terms of reference and scopes of work for feasibility studies, particular attention should be paid to the terms likely to be attached to capital assistance. For example, the degree of self-liquidation inherent in each project studied should be carefully ascertained in order to determine whether the project merits soft or hard term assistance.

The committee also noted that countries in need of external assistance would have to look not only to the ADB as a source of funds but also to other international lending institutions, to donor countries and even to commercial sources.

The committee inquired with regard to the requirement of the U.S. Government that proposed contributions to ADB Special Funds should be matched by other donors. It was explained to the Committee that, while other donors would not be expected to match contributions to a particular program (such as Transport and Contributions), the United States would expect that contributions be matched on an overall basis. It was also explained to the committee that the United States would find it difficult to accept as matching contributions any assistance provided for regional Transport and Communications by means other than those of Special Funds.

SECTION XVI

STATEMENT OF THE ASIAN DEVELOPMENT BANK

While the Bank possesses insufficient data at this time to evaluate the particular feasibility studies now being considered by the U.S. Study Team and cannot assume any commitment with regard to the capital financing for the concerned projects, it is appreciative of the concept of multi-national effort towards a common objective as reflected in the regional transport and communications program and fully realizes the importance of the program's objectives to develop transport and communications on a coordinated basis in Southeast Asia. Recognizing the desirability of achieving the objectives of the program, and taking into account factors such as the provisions of its Charter and the total amount of resources currently and prospectively available to it, the Bank is prepared to play an appropriately active role as may be authorized by the Board of Directors.