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Report No. P-2893-TH

REPORT AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
TO THE
KINGDOM OF THAILAND
FOR THE
BANGKOK AND SATTAHIP PORTS PROJECT

October 30, 1980

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CURRENCY EQUIVALENTS

Currency Unit - Thai Baht (B)

B 1 = \$0.05
B 1 million = \$50,000
\$1 = B 20

WEIGHTS AND MEASURES

1 meter (m) = 3.28 feet (ft)
1 cubic meter (cu m) = 1.307 cubic yards (cu yd)
1 metric ton (t) = 0.98 long ton

ABBREVIATIONS

cfs - Container freight station
MOC - Ministry of Communications
PAT - Port Authority of Thailand
SRT - State Railway of Thailand
TPU - Transport Planning Unit (within MOC)

GOVERNMENT OF THAILAND
FISCAL YEAR

October 1 - September 30

THAILAND

BANGKOK AND SATTAHIP PORTS PROJECT

Loan and Project Summary

Borrower: The Kingdom of Thailand

Amount: \$47 million equivalent. The Government will onlend \$15.5 million to the Port Authority of Thailand (PAT) on same terms and conditions as the Bank loan.

Terms: 20 years, including 5 years of grace, with interest at 9.25% per annum.

Project Description: The proposed project will address the need for creating additional port capacity in the Bangkok and Eastern Seaboard area to service Thailand's growing foreign trade. Specifically, the project aims at raising the operational efficiency of PAT's Klong Toei facilities at Bangkok Port and at converting the ex-naval port of Sattahip for commercial use to handle the diverted traffic in excess of the capacity of the Klong Toei facilities. The physical improvements included in the project consist of: civil works at Klong Toei and Sattahip; mechanical equipment for both ports; floating equipment for Sattahip; and construction of container freight stations and bonded warehouses including procurement of mechanical equipment at Bang Su. The measures to improve operational efficiency at Klong Toei will consist of: reallocation of berths between conventional cargo and container ships; and streamlining cargo handling and container yard operating procedures. In addition the project will provide for technical assistance, training and financial studies to help improve PAT's organizational efficiency; and a study for the future development of ports on the Eastern Seaboard.

The project will improve the efficiency and cargo handling capacity of the ports and produce savings in costs of ship waiting days, ship lighterage, and agricultural bulk exports. The risks associated with the project represent the problems inherent in forecasting external trade flows and land transport costs for container movement between Sattahip and Bangkok. However, the project retains satisfactory returns even under pessimistic risk assumptions.

Estimated Cost:

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	---- (\$ million) ----		
<u>Klong Toei and Sattahip Ports</u>			
Civil works	18.09	3.43	21.52
Mechanical equipment	6.65	9.29	15.94
Floating equipment	3.70	-	3.70
Consulting services	-	1.28	1.28
Technical assistance & training	-	1.15	1.15
<u>Base Cost</u>	<u>28.44</u>	<u>15.15</u>	<u>43.59</u>
Physical contingencies	3.53	0.77	4.30
Price contingencies	5.43	3.42	8.85
<u>Total Port Works</u>	<u>37.40</u>	<u>19.34</u>	<u>56.74</u>
<u>Bang Su Complex</u>			
Civil works	13.16	15.76	28.92
Mechanical equipment	1.50	5.50	7.00
Engineering consulting services	-	1.90	1.90
<u>Base Cost</u>	<u>14.66</u>	<u>23.16</u>	<u>37.82</u>
Physical contingencies	2.25	3.50	5.75
Price contingencies	4.00	4.85	8.85
<u>Total Bang Su</u>	<u>20.91</u>	<u>31.51</u>	<u>52.42</u>
<u>Project Total</u>	<u>58.31</u>	<u>50.85</u>	<u>109.16</u>

Financing Plan:

	<u>Port Works</u>		<u>Bang Su</u>		<u>Total</u>
	<u>Local</u>	<u>Foreign</u>	<u>Local</u>	<u>Foreign</u>	
	(\$ million)				
Royal Thai Government	-	-	20.9	-	20.9
Port Authority of Thailand	37.4	3.9	-	-	41.3
IBRD	-	15.5	-	31.5	47.0
<u>Total</u>	<u>37.4</u>	<u>19.4</u>	<u>20.9</u>	<u>31.5</u>	<u>109.2</u>

Estimated

<u>Disbursement:</u>	<u>Bank FY</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
		(\$ million)				
Annual		1.98	14.62	13.40	11.25	5.75
Cumulative		1.98	16.60	30.00	41.25	47.00

Rate of Return: 21%

Staff

Appraisal
Report:

No. 3044-TH, dated October 15, 1980.

REPORT AND RECOMMENDATION OF THE PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE EXECUTIVE DIRECTORS
ON A PROPOSED LOAN TO
THE KINGDOM OF THAILAND
FOR THE BANGKOK AND SATTAHIP PORTS PROJECT

1. I submit the following report and recommendation on a proposed loan to the Kingdom of Thailand for the equivalent of \$47 million to help finance the Bangkok and Sattahip Ports Project. The loan would have a term of 20 years, including 5 years of grace, with interest at 9.25% per annum. An amount of \$15.5 million will be onlent to the Port Authority of Thailand for undertaking port works at Klong Toei and Sattahip on the same terms and conditions as the Bank loan.

PART I - THE ECONOMY

2. A Basic Economic Report entitled "Thailand - Toward a Strategy of Full Participation" (2059-TH) was distributed to the Executive Directors on September 18, 1978. The Report concludes that Thailand's rapid economic growth over the past 15 years has led to a significant reduction in absolute poverty, but that the poorest have lagged behind this progress. It identifies the essential characteristics of these groups and points to the need for continued overall development as well as the initiation of specific measures to deal with the poverty problem, particularly in rural areas. It further discusses the constraints on the successful implementation of these policies. A Country Economic Memorandum which provides an updating of macro-economic developments is currently under preparation. Country data are given in Annex I.

Recent Political Developments

3. The frequent changes at the top levels of government, which have characterized recent political developments in Thailand, have mainly reflected differing views on Thailand's external relations and on the political decision-making process within the country. The Government under the prime ministership of General Kriangsak Chomanan, formed in November 1977, resigned on February 29, 1980, following increasing public and parliamentary criticism of its economic policies. General Prem Tinsulanonda was elected by the National Assembly to succeed Kriangsak as Prime Minister after receiving the support of nearly all major political parties. General Prem's new government, formed on March 14, 1980, includes leaders from the political parties which supported him. On March 28, 1980, General Prem announced his government's policies on a number of issues including economic and social development. These policies place high and immediate priority on accelerating rural development, raising rural incomes and on measures to improve health and education. Particular emphasis is given to generating more jobs and it is expected that a rural public works program similar to the 1975/76 Tambon Program will be a major element in this strategy. The Government also intends to exert efforts to contain inflation and a more gradual

adjustment of energy prices is foreseen at the same time that domestic energy resources are being developed. Reforms in monetary and fiscal policy and efforts to improve the trade balance through improved export performance are also called for. As discussed below, these reforms are critical to increasing resource mobilization (especially in the public sector) and reducing the current account deficit.

Past Trends and Recent Changes

4. Thailand's economic performance since 1960 has been good. The average annual growth of real GDP from 1960 to 1979 was 7.9%, or about 4.8% per capita. Real agricultural growth of nearly 5% was a leading factor sustaining this expansion. The cultivated area increased by about 4% a year, water control was improved, irrigation was expanded and the cultivation of relatively new crops, including maize, cassava, kenaf, sugar and rubber, grew rapidly. Agriculture has also been a major contributor to export growth. As a share of GDP, domestic savings fluctuated between 19% and 24%, and total investment between 20% and 27%. The high level of private investment contributed to a real industrial growth of 10% per year since 1970. All this was achieved with a limited inflow of external resources and, until recently, the debt service gap remained quite low.

5. The large growth in incomes over the last two decades has, however, not been equitably distributed throughout the country, and at present there are very significant regional differentials in incomes and access to economic and social infrastructure. The regions are very different in terms of topography, climate, soils, urbanization, etc., and present quite distinct problems for future development. The Central Region, including Bangkok, has the highest per capita income and is better served by roads, telecommunications, schools, public health and other services than the other three regions, the North, Northeast and South. Within the regions also there is considerable variation: farmers who have diversified into cash crops have generally enjoyed substantial growth in real incomes while the incomes of those who have been unable or unwilling to shift out of subsistence rice culture have stagnated. Recent research has shown that inappropriate cropping patterns and agricultural techniques are major factors in much of the rural poverty. This is most conspicuously the case of the rainfed rice farmers in the Northeast and North. Since there is a well-functioning labor market, the low incomes of this large group have tended to depress unskilled wages throughout the economy.

6. Real concern over the plight of the poor is growing, and observable improvements in rural living standards are being seen as a major factor in promoting political stability. In the past several years the Government has initiated efforts to increase the flow of public resources to the poor rural areas, including the Tambon Program of direct transfers to villages in 1976, the drought relief program in 1977, the flood relief program in 1978, the new village development program in 1979 and the rural employment program in

1980. These programs have been designed to produce quick and tangible political as well as economic results, but considerably more attention and resources need to be devoted to rural development if these programs are to have lasting impact. While the absorptive capacity in rural areas has increased since the Tambon Program of 1975-76, there is some concern about the efficacy of crash programs in view of the resource constraints facing the budget and the limitations of implementation capacity at various levels of government.

7. Thailand's balance of payments position and its trade prospects are now less favorable than in the early 1970s. The overall balance of payments, which recorded surpluses in 1973 and 1974, has since been running deficits, averaging almost \$500 million annually since 1977. In 1978, the current account deficit reached \$1.1 billion, or 5% of GDP, and increased in 1979 to \$2.1 billion, or about 8% of GDP. The most significant changes in the external environment have been the rapid increase in the price of imported energy, the decline in net transfer and service payments to Thailand and the conjunction of inflation and recession throughout the world.

8. To contain and finance the balance of payments deficit, the Government has taken a number of measures to date. It has increased significantly its borrowing from traditional sources and the Eurodollar market, and at the beginning of 1980 raised interest rate ceilings by 3 percentage points in order to encourage domestic savings and to curtail the flight of capital abroad. Foreign exchange reserves have also been used extensively.

9. The Government has also adjusted domestic prices to slow the growth of imports. In March 1978, tariffs on non-essential imports were raised, along with excise taxes on a number of items, notably gasoline. Petroleum product prices were raised in January 1979, July 1979 and February 1980, for a cumulative increase of about 100% for gasoline. Currently, the latter's price is the equivalent of \$1.80 per gallon. After a proposed power tariff increase of about 55% was rejected in November 1979, a lesser tariff increase of about 38% was finally implemented in February 1980 and another increase of 26% was implemented on October 1. A further increase is expected to be implemented on January 1, 1981.

Development Prospects and Constraints

10. In the coming decade, many of the positive features which helped sustain rapid economic growth over the past two decades will continue to contribute to future growth. These factors include a relatively equitable distribution of rural land; responsiveness of Thai farmers to improved technology; provision of infrastructure by the Government; and the dynamism of the private sector in both industry and agriculture. Also, major gains have

been made in family planning in recent years, slowing the annual rate of population growth from about 3% during the 1960s to an estimated 2.2% in 1979. The target for 1981 is 2.1%.

11. Some less favorable domestic factors are emerging, however. As a result of very rapid population growth in the 1960s, projected labor force growth of 3% p.a. necessitates a high rate of job creation. Past growth has benefited households unevenly and created further income disparities that could threaten the social cohesion of the country. At the same time, additional fertile land, which has supported the growth of agricultural production and exports in the past, is becoming increasingly scarce. In view of these factors, continued reliance on the past pattern of development may lead to a deceleration of agricultural and overall growth in the next decade; persistently large balance-of-payments deficits; higher rates of unemployment or underemployment; and stagnating or declining real incomes of the poorer segments of the population, especially in rural areas and among unskilled workers. These internal factors are complicated by the external factors of rapid oil price increases and recession in developed countries. The oil price increase alone will add about \$1.0 billion to the 1980 import bill, even with no increase in import volume, and the current account deficit is estimated to be at least 9% of GDP. The unfavorable external situation will require major domestic adjustments and it is unlikely that the overall growth rate will exceed about 6% in the coming years.

12. Thailand must shift its economy from a pattern of growth based on the extension of land under cultivation and on import-substituting industries to one based on increasingly intensive use of land and on industries producing for domestic and export markets under competitive conditions. At the same time it must reduce its current account deficit and increase public savings. Effective policies and programs will be necessary to ensure that economic growth is maintained and income disparities reduced, or at least not widened, during this period of transition. In the past, the Government's role has focused primarily on short-term economic management and the provision of basic economic and social services. In order to achieve a relatively smooth transition, the Government will now have to undertake more coordinated long-term policies and play a more active role in development management.

13. Agriculture will continue to be the dominant sector since it directly generates 30% of GDP, provides about 60% of total exports, and employs 75% of the labor force. However, future growth of the sector will require more intensive utilization of cultivated areas, continued diversification of crops, improved cropping patterns and farming practices, and easier access to agricultural inputs including credit. All of these imply an increased government role in rural development. But while growth in the agricultural sector may be expected to remain fairly rapid for some time to come, the burden of sustaining future growth will have to shift progressively to the industrial sector. Industry, construction and services will have to provide an increasing share of employment for the growing labor force. In 1979, industrial production accounted for about one-fourth of GDP and about

one-third of total exports. Manufactured output, which accounted for 90% of industrial production, achieved an export growth of 24% in 1979, almost double the growth rate of total exports. While continued growth of manufactured exports is essential, the large domestic market also offers opportunities for a balanced industrial growth based on production of consumer goods, agricultural inputs and processing of agricultural outputs for urban consumption. Our policy dialogue will concentrate on efforts to reduce price distortions, increase availability of credit, and eliminate impediments to efficient production for domestic and foreign markets so that the dynamic private sector can realize its potential for spurring growth and creating jobs.

14. The principal objectives of the Government's Fourth Plan (1977-81) are to achieve 7% real growth, equitable distribution of income, reduction in the rate of population growth, faster generation of employment opportunities and balanced regional development. Public sector development expenditures were to double in real terms in relation to the Third Plan. However, the Plan addresses sectoral issues and strategies only in broad terms, and concrete policies and programs to meet the Plan's economic and social objectives are not spelled out in any detail. The Government has now embarked on the preparation of the Fifth Plan (1982-86) and the agencies of the Government are undertaking a number of studies to help ensure that the Fifth Plan provides an unambiguous basis for the allocation of resources and the formulation of development policies and programs. These studies may help identify possible areas of Bank lending for structural adjustment.

Financing Requirements

15. The implementation of policies needed for a satisfactory rate of economic and social progress will necessitate a steady increase in public expenditures over the next few years. This will require much greater efforts to mobilize both domestic and external resources than in the past. Government domestic revenue as a percentage of GDP (13.5% for 1975-79) is low compared to other developing countries at similar levels of development due to low tax rates, high exemptions and a somewhat below-average rate of compliance. With expenditures rising, the overall budgetary deficit in fiscal year 1979/80 is estimated at above \$1.0 billion, or over 4% of GDP. The Government has achieved a modest improvement in resource mobilization through revision of the tax structure and improved collections. Much greater efforts will be needed in the future if the reliance on foreign financing - and thereby the deficit on the current account of the balance of payments - is to be reduced in relation to the size of the economy.

16. During the coming years, the demand for external resources will increase. Despite an average real growth of exports of over 10% and increased domestic production of primary energy, the projected rise in the price of imports - led by the price of petroleum - implies that large trade and current account deficits are expected to persist through the mid-1980s. It is estimated that a 6% overall growth rate can be maintained and the current account deficit reduced to 4-5% of GDP by 1985 if appropriate policies are

followed, including greater efforts in implementing energy saving measures, promoting agricultural growth and exports, reducing distortions and excessive protection in industry, promoting more labor-intensive exports, and postponing major capital intensive investments until the economy can afford them. This implies an average current deficit of \$3 billion per year in 1980-85, which will require very large amounts of external borrowing, totalling about \$18 billion net over the period.

17. Official donors, particularly Japan and the development banks, have been expanding their programs to meet a part of Thailand's growing resource requirements. The rest has been financed in the Eurodollar market and bond markets. The Government has established a Foreign Loan Policy Committee to coordinate and approve all foreign borrowing by the public sector. The Bank of Thailand is establishing procedures for recording private borrowing abroad in order to keep track of total foreign debt. Current estimates of Thailand's external borrowing requirements exceed those discussed at the last Consultative Group meeting, and the need for continued concessional aid is perhaps now more acute. In addition, external agencies, including the Bank Group, have in recent years increasingly concentrated project lending to Thailand in some sectors that have high social benefits, but low foreign exchange savings or earnings. To achieve the level of external resource transfer that is now required, it is necessary, in selected projects where the foreign exchange component is low, to finance some local currency expenditures. Program and structural adjustment lending should also be considered.

18. By 1985, net disbursements will more than double in current terms for both public and publicly guaranteed borrowing and private borrowing. The debt service ratio on public debt (4.6% in 1979) will exceed 10% by 1985, but should decline thereafter. Assuming a significant level of concessional assistance, the debt service ratio on total public and private civilian borrowing (currently about 15%) will rise to over 20% before declining. Given the diversification of Thai commodity exports and the rapid expansion of manufactured exports, these debt service requirements should be sustainable if rapid export growth continues, more domestic resources are mobilized, and economic stability is maintained.

PART II - BANK GROUP OPERATIONS IN THAILAND

19. Thailand first borrowed from the Bank Group in 1950 for a railway project and, as of August 31, 1980, had received 57 IBRD loans amounting to about \$1,850 million, net of cancellations. The sectoral distribution of these loans has been as follows: \$364 million for transportation; \$316 million for irrigation; \$650 million for power/energy and rural electrification (including \$66 million for a dual purpose power and irrigation project); \$153 million for telecommunications; \$163 million for agricultural and rural development; \$109 million for urban development; \$52 million for education; and \$42 million for industry. Thailand has also received six IDA credits: two credits totalling \$54.5 million for education; one credit of \$25.0 million for rural development; two credits totalling \$12.5 million for irrigation

improvement; and one credit of \$33.1 million for a population project. In general, Bank Group-financed projects have been carried out satisfactorily and in accordance with expectations. Annex II contains a summary statement of Bank loans, IDA credits and IFC investments as well as brief notes on the execution of ongoing projects as of August 31, 1980.

20. Over the past five years, the Bank has shifted its lending in Thailand from a program dominated by investments in traditional infrastructure projects (accounting for over 80% of the lending through FY74) to a program which places increasing emphasis on assisting the Government's efforts to reach the poorer segments of its population more directly. Since FY75, investments in transportation, power, water supply, telecommunications and industry have accounted for only about 50% of Bank Group lending and more than half of these, in dollar terms, were for projects specifically designed to benefit the rural population. The proportion of Bank lending to the agricultural/rural development sector has trebled, accounting for about 35% of lending operations since FY75. The design of projects in this sector has also changed, from exclusively large irrigation projects to a more balanced program covering irrigation (including land development and support services to the farmer) and a variety of innovative projects to assist farmers outside the central flood plain (rubber replanting, livestock, agricultural extension, and rural development). Projects in the social sectors which prior to FY75 were limited to three in education accounting for 6% of the program, have both diversified and grown. In recent years education, population and low-income housing projects have accounted for about 15% of the program.

21. The findings of the 1978 Basic Economic Report and a more recent economic mission verify the appropriateness of the shift mentioned above, and underscore the need to move even further in designing programs which help the rural population, particularly those farmers in rainfed areas who have been largely bypassed by recent economic growth. In the agricultural sector, therefore, the Bank is redoubling its efforts to develop an approach which will help to lift the rainfed farmers out of a subsistence existence. A combination of education, agricultural research and extension, credit and improved infrastructure is foreseen. However, the major problem is the absence so far of a viable package for the poorest and most remote farmers. Expansion and improvement of irrigation systems will continue, with increased emphasis on reaching those farmers with irrigation potential in the northern, northeastern and southern regions. The program of transportation, electrification, water supply and telecommunications projects will also continue to have a rural focus. A key element of the strategy outlined in the Basic Economic Report is the creation of jobs and stimulation of increased economic activity outside of Bangkok. The bulk of the Bank Group's urban and industrial lending will, therefore, be directed to projects which enhance the attractiveness of regional cities as service centers for the agricultural economy of those regions. Selected projects in Bangkok will be

aimed at strengthening agencies providing essential services to the urban population and the development of low cost, replicable programs to meet the demands of the urban sector, particularly the urban poor, without diverting scarce resources from other high-priority development needs.

22. The Bank's strategy of placing an increasing share of its program into projects alleviating poverty and promoting rural development will be difficult to execute without considerable technical assistance toward institutional development and project preparation. The Bank's regional mission in Bangkok will continue to play a vital role in helping to identify and prepare such projects. Promoting overall growth also has a high priority in Thailand and is a necessary element in the poverty alleviation strategy. The resource requirements for infrastructure development and for developing energy and its domestic primary sources are large, and the Bank is concentrating its remaining funds in projects where it can have a catalytic role in effecting policy changes and mobilizing other resources. The Bank is also expanding its support of the industrial sector through its economic and sector work as well as selected projects in order to help promote industrial policies which favor more labor-intensive and dispersed activities to complement Thailand's efforts in poverty alleviation.

23. Bank loans and IDA credits, disbursed and outstanding, amounted to \$584.3 million, as of December 31, 1979, representing about 22% of public external debt (disbursed and outstanding). The Bank Group's share of public debt service payments in 1979 was 23.1%, or 7.2% of total debt service including private debt. This is not excessive in view of Thailand's modest overall public external debt (9.7% of GDP in 1979). In addition, although the level of Bank commitments is expected to increase over the next five years, the Bank Group's share is below 30% of total public external debt as Thailand has diversified its borrowing program. The Bank Group's share in total debt outstanding is expected to fall below 20%, and its share of total debt service would not exceed 10%.

24. As of August 31, 1980, IFC had made commitments totalling about \$84 million in nine projects in Thailand. IFC's investments have been primarily in industry and in the development of financial institutions aimed at mobilizing domestic resources and providing financing to smaller enterprises. Prospects for increased IFC operations in Thailand have been enhanced by expanding private sector investment activity; consultations with the Government have identified several areas where IFC's assistance may be needed. These areas include very large and complex projects such as a proposed sponge iron project and a soda ash project to serve the ASEAN community; projects in the petroleum and downstream petrochemical sector; and projects in the agricultural sector. In addition, IFC expects to continue to help traditional manufacturing projects and to assist in financial institutions and money market developments.

PART III - TRANSPORT SECTOR

General

25. During the last 10-15 years, the Thai economy grew at a rapid pace and generated a high demand for transport. Transport growth in this period was about 8% p.a. for freight and 12% p.a. for passenger traffic; it was supported by large Government investments for transport, mostly in road works, and generally liberal transport policies which stimulated a competitive road transport industry. Today, virtually the entire primary roads system serving interprovincial trade is complete, and significant progress has been made toward the build-up of the secondary roads system. Railways, inland waterways and coastal shipping, confined to specific locations and handling mostly bulk commodities, have also grown, but at a modest rate.

26. All modes combined, freight transport in Thailand is about 50 million tons and 14 billion ton-km per annum. Roads generate about 70% of ton-km, followed by railways with close to 20% and inland waterways with about 10%. Freight is geographically concentrated in the Northern Corridor between the Gulf of Thailand and the North and along the traffic axes radiating from Bangkok to the south and northeast. The direction, composition and size of traffic flows reflect the country's generally rural character, Bangkok's central location and dominance as the country's principal port and consumption center, and the agricultural strength of the Central Region.

27. With the progress made in developing primary and secondary roads, future transport requirements are shifting toward extension and improvement of tertiary roads in support of the needs of local communities, upgrading of other modes of transport and the removal of specific capacity bottlenecks in the national transport system, such as the Port of Bangkok. Tertiary roads are underdeveloped and inadequately maintained. The inland waterways and coastal shipping perform at below-attainable output and efficiency levels. The Port of Bangkok will soon be critically congested unless new port capacity is generated under the proposed project.

Transport Infrastructure

28. Roads. By traffic volumes, network length, area coverage and capital expenditures, roads are Thailand's most important transport infrastructure. The Department of Highways (DOH) competently administers and maintains the national as well as the provincial roads systems. National highways, the primary roads system, total about 14,000 km. They radiate from Bangkok to the national borders, and most are paved. Built or reconstructed to present standards in the last 20 years, many of these roads will soon require reconstruction or upgrading because of continuing traffic growth.

29. Provincial roads, the secondary roads system, total about 30,000 km. They serve provincial needs in linking changwat capitals with larger changwat towns. The length is currently increasing at a rate of several thousand km per year as roads, which have been under the jurisdiction of other agencies, are transferred to DOH. About 15,000 km, of which about 8,000 km are paved, have had some improvements; the remainder, about 15,000 km, are tracks or substandard earth and gravel roads, some impassable in the rainy season.

30. In addition, Thailand has an estimated 40,000-50,000 km of tertiary roads. The exact number is difficult to assess since inventories are incomplete and generally out-of-date. Standards vary between tracks and engineered roads of various levels. Planning is deficient and maintenance, on average, poor or nonexistent. Planning, construction methods and maintenance of tertiary roads need to be improved, and the jurisdictions of rural roads agencies need to be redefined. To examine these issues the Government is undertaking a rural roads sector study with Bank financing (Sixth Highway Project, Loan 1519-TH).

31. Railways. The railways are a trunk line carrier with 3,800 route km of which 600 km are branchlines. The meter gauge lines are single track except for some 90 km near Bangkok. The State Railway of Thailand (SRT) is an operationally efficient and well-managed state enterprise but its financial position is weak because of inadequate and infrequent adjustments in passenger and freight tariffs. Under the current Five-Year Plan, and with Bank assistance (Fifth Railway Project, Loan 1662-TH), SRT is engaged in rehabilitation of deteriorated and obsolete plant and equipment and extension of rail and rolling stock capacity.

32. The Government intends to construct a new railway line between Sattahip and Chachoengsao some 50 km from Bangkok, to serve the Eastern Seaboard and its hinterland, the new deepsea port at Sattahip and future industrial development. This railway line is expected to be constructed between 1981-1983. In the earlier years, the new line would serve mostly the needs of Sattahip, but could subsequently become a bulk goods carrier for the various industries expected to be developed in the port's hinterland. The new line will also carry some passenger traffic. Total track costs, based on final engineering completed in mid-1980, are estimated at about \$105 million and include costs of land and signalling as well as contingencies. Rolling stock requirements for the projected traffic in 1985 are estimated to cost about \$25 million including contingencies. Overall capital costs summed up to 1985 are therefore about \$130 million. The Bank has expressed concern about the economic viability of the new railway line and the appropriate timing for its construction and suggested that the railway investments be reviewed under a study of future development in the Eastern Seaboard area which is financed under the Bangkok Traffic Management Project (Loan 1638-TH). In the event the railway was not constructed or if construction was postponed, the existing roads system between Bangkok and Sattahip and the road transport industry would be adequate for handling the Sattahip port's traffic.

33. Inland Waterways. Thailand has a comprehensive inland waterways system of about 1,300 km in the Northern Corridor stretching from Bangkok to Uttaradit in the Central Region. To utilize the inland waterways' potential for low-cost transport, a Bank loan has recently been approved (the Inland Waterways and Coastal Ports Project, Loan 1889-TH), under which the shallow river sections will be deepened. The project also includes construction of two river ports at Nakhon Sawan and Taphan Hin, and procurement of a pusher tug barge convoy to demonstrate the operational and economic advantages of replacing the traditional wooden barges by modern units. After completion of the project in 1983, freight traffic of about 0.6 million tons (excluding sand) from the project region, is expected to increase four times. Most of this traffic consists of rice and maize.

34. Deep-Water Ports. Thailand has at present two deep-water ports - Bangkok and Sattahip. Two other potential deep-water ports, Songkhla and Phuket, are located in the south and, on the basis of a study now in progress, the Asian Development Bank (ADB) is expected to help finance construction of these ports starting in 1983. Virtually all of Thailand's commercial traffic is handled through the Port of Bangkok. During the last ten years, annual trade growth has been about 10% on average. In 1979, imports totalled 6.4 million tons and exports, 12.7 million tons. The present capacity of the Port of Bangkok would not be able to handle the projected increases in external trade during 1980-85. The proposed project will therefore improve the capacity of the existing port at Klong Toei (Bangkok) and convert the ex-naval port of Sattahip into a commercial port for container traffic and agricultural bulk exports.

35. Coastal Ports and Shipping. The coastal ports, located on the east and west coasts of the southern peninsula comprise about 40 facilities ranging from small fishing and cargo wharves of purely local importance to large regional ports with annual volumes of several hundred thousand tons of cargo. About 2.0-2.5 million tons of cargo and petroleum and 1.2 million tons of fish are annually loaded or landed at these ports. Despite recent improvements in land transport, coastal ports and shipping remain an essential part of the transport system in coastal areas. All coastal ports have severe draft restrictions and are subject to continuous siltation from riverine and littoral sources. Frequent maintenance dredging and, in some cases, capital dredging is required but the capacity of the Harbor Department, which is in charge of these functions, is limited due to lack of equipment and expertise. The Inland Waterways and Coastal Ports Project (para. 33) will help remedy these constraints.

36. Aviation. Thailand's international and domestic air transport are centered at Don Muang airport in the vicinity of Bangkok. Airport capacity is tight and plans are under study for the needed expansion. Two other international airports, Had Yai near the Malaysian border and Chiang Mai in the north, are receiving international flights. There are another 40 airfields of various sizes of which about half receive domestic scheduled

flights. Domestic public air transport is provided by Thai Airways, and Thai International Airways is the international carrier. Both companies are government-owned. Civil domestic aviation is in the order of 0.3 million passengers and 1.2 million tons of cargo per year.

Transport Planning and Coordination

37. The Ministry of Communications (MOC) is responsible for transport policy, coordination and planning. During the last 10-15 years, the Government has been able to keep transport investments generally in line with the needs of the growing economy. These investments have, in turn, helped to stimulate economic development. An efficient and competitive privately-owned road transport industry has evolved. The railways are gradually meeting the challenge of road competition and more energy efficient modes, such as inland waterways and coastal ports are being developed. Despite the Government's railway policies, there is no evidence of significant intermodal distortions.

38. At the recommendation of the Bank, a Transport Planning Unit (TPU) was set up in 1974 within the MOC to act as the focal point of transport planning and policy review. The unit, with technical assistance provided under Bank financing (Sixth Highway Project, Loan 1519-TH), is currently participating in the formulation of the Fifth Five-Year Transport Development Plan (1982-86). Among the main issues it will address are the transport policy implications of rising fuel costs. The Government has tended to pursue a policy of shielding the economy and the public from potentially disruptive effects of increasing international prices. This past year the Government has raised petroleum products prices quite substantially but they are still below those prevailing in most other middle-income oil importing countries. Current (late 1980) prices including taxes for gasoline (about \$0.69/liter), diesel fuel (about \$0.32/liter), and kerosene (about \$0.26/liter), are above the theoretical opportunity costs calculated for imports of finished petroleum products (\$0.20/liter). Another major item in TPU's work program is a study of road user and inland waterways charges. The study is expected to be completed in 1981.

Transport Investments

39. During the Third Five-Year Economic and Social Development Plan (1972-76), Thailand's public sector investments in transport were about B 21 billion in current prices. Under the ongoing Fourth Plan (1977-81), these capital expenditures are estimated at B 28 billion. Transport's share of public development expenditures, 20% in 1972-76, is expected to drop to about 11% in 1977-81 because the primary road system will be virtually complete. In both Plan periods, road infrastructure received between 75% and 80% of all funds allocated for the transport sector. However, within the roads subsector, some shifts are taking place, since tertiary roads have gradually increased their share of the roads' budget from 10% in 1972-76 to 25% in 1977-81. The 1982-86 Transport Plan is currently under preparation and is expected to emphasize the fuller development of energy efficient modes to reflect the Government's concern about the energy situation. The Government is expected to continue heavy investments in roads to support agriculture and rural community development.

Bank Lending to the Sector

40. The Bank has assisted all transport modes (except civil aviation) and has helped finance 15 transportation projects in Thailand. Three loans, totalling \$20.3 million, have been made for port development. The first two port projects were completed on schedule, and the third project, Loan 702-TH, was completed in May 1976, about two years behind schedule, largely because of delays in awarding civil works contracts. An inland waterways and coastal port project (\$53 million) has recently been approved. The Bank has made five loans totalling \$68.7 million to help implement SRT's development programs. Four projects have been completed satisfactorily; about \$7.5 million of the loan amount for the third project was cancelled when the Government chose to purchase the locomotives through direct negotiations. The Bank has made six loans, the first in 1963 and the most recent in 1978, totalling \$261.6 million, for construction and maintenance of national and provincial roads. In addition, about 1,300 km of village access roads are being constructed by the Office of Accelerated Rural Development under the Northeast Thailand Rural Development Project (Loan 1198T-TH). The first four completed roads projects were executed efficiently and with substantial savings in cost. The quality of construction throughout was good, domestic prices remained stable and there was strong competition among contractors. However, on the fifth project there were cost overruns and delays caused by sharp increases in prices which required rebidding of several contracts but under the ongoing sixth project costs are presently running close to the estimates. The sixth project has continued assistance in strengthening road planning and maintenance in the Department of Highways and transport planning through TPU in MOC. It also included studies leading to the preparation of projects for rural roads, provincial roads and inland waterways and coastal ports.

41. Project Performance Reports. The operations evaluation report on Loan 626-TH (Fourth Highway Project) commented that the project had achieved its objectives; road construction costs had been overestimated as the inflation rate was slower than anticipated and traffic had grown at a rate higher than projected. The principal conclusions of the most recent Project Performance Audit Report (Loan 702-TH, Third Bangkok Ports Project) were: (a) it appeared that PAT could have financed a larger part of the project from its own resources without endangering its financial position; (b) the project was not evaluated in terms of its impact on urban environment and this should be done in future; and (c) the implementation of covenants concerned with social and administrative issues can be difficult and time-consuming to apply and needs to be handled cautiously. In the proposed project, a significant portion of the Klong Toei and Sattahip ports investments are being financed by PAT. With regard to the urban environment and traffic, the project is not expected to pose undue risks. In particular, the project does not generate additional port-related urban traffic, though it will direct some container traffic through Sattahip/Bang Su, rather than Klong Toei.

PART IV - THE PROJECT

Background

42. Thailand's seaborne trade comprising conventional break bulk, containerized and agricultural import and export cargo, as well as crude oil imports, is largely (about 90%) handled by the Bangkok Port System. The system components are: (a) the Port of Bangkok on the river Chao Phrya (Map 2791R), which handles break bulk, bulk and containerized cargo, and comprises private and public wharves spread along some 40 km from the mouth of the river Chao Phrya including the Klong Toei wharves which are controlled by the Port Authority of Thailand (PAT); (b) the loading facilities at Mah Boon Krong and the deep water anchorage at Ko Sichang for bulk agricultural traffic; (c) the port of Sri Racha, for petroleum products; and (d) the proposed Sattahip port for bulk and containerized cargo.

43. The search during the last few years for new port sites in the Gulf of Thailand resulted in the identification of two feasible port locations, Laem Krabang and Sattahip. In the final analysis, the Government decided to develop Sattahip primarily on the basis of an economic comparison of the two ports which highlighted Sattahip's sunk capital costs and its relatively low additional development cost. The port of Sattahip (Map 14989), originally built as a military port under the control of the Royal Thai Navy, was handed over to civilian control under PAT's jurisdiction in late 1979. It is about 150 km from Bangkok and forms a development node for industry in the Eastern Seaboard area. Apart from handling agricultural bulk exports, Sattahip's principal function will be that of a container port. While, in principle, Sattahip could as well have been developed as a port for conventional break bulk cargo, its role as a container port has been determined in order to minimize land transport; moving containers from Sattahip to Bangkok, via the new container freight station at Bang Su, is cheaper than moving break bulk cargo.

Project History

44. The proposed project was prepared by the Sattahip Committee assisted by a consultant from the Port of Singapore Authority and by Maunsell Consultants (Australia) in association with Sindhu Pulsirivong Associates (Thailand) and Sir William Halcrow & Partners (UK). The project was appraised in February 1980. A Staff Appraisal Report entitled, "Bangkok and Sattahip Ports Project," (No 3044-TH dated October 15, 1980) is being distributed separately. Supplementary data are provided in Annex III. Negotiations were held in Washington, D.C., from September 8-17, 1980. The Thai delegation was led by HE Prok Amranand, the Thai Ambassador and included M.L. Jeongjan Kambhu, then the Deputy Under Secretary of State for Communications.

Project Description

45. The project comprises operational improvements designed to increase port efficiency and cargo throughput in Klong Toei, physical improvements in Klong Toei and Sattahip ports, construction of new container freight stations (cfs) and warehouses at Bang Su near Bangkok to facilitate trans-shipment of containers from Sattahip to Bangkok, and technical assistance and training:

- (a) Operational Improvements. The improvements relating to Klong Toei include: (i) streamlining cargo handling and container goods operations (paras. 46 and 47); and (ii) revising the allocation of the available berths between conventional break-bulk and containerized cargo at Klong Toei (para. 48);
- (b) Physical Improvements. The physical improvements comprise: (i) at Klong Toei, addition of two new cfs, paving of the container yard, and provision of new container handling equipment; (ii) at Sattahip, dredging of the entrance channel and harbor, improvements to fendering and yard paving; provision of a small cfs, administrative office and ancillary facilities; and provision of mechanical handling and floating equipment; and (iii) at Bang Su, provision of three large cfs, four bonded warehouses, road and rail access, and mechanical handling equipment and ancillary facilities.
- (c) Technical Assistance and Training. Under the project a program of technical assistance and training will: (i) help PAT to institute the necessary reorganization of PAT's conventional cargo and container operations and its operating department (3 man-months); (ii) assist PAT's comptroller's department to complete a tariff study including storage charges and thereafter revise PAT's tariffs (6 man-months); and (iii) undertake a study to review alternative arrangements for operating the Bang Su complex. In addition, provision has been made for studies (tentatively about 100 man-months) to arrest minor erosion within Sattahip harbor and to provide an outline of the location and type of port development required on the eastern seaboard to handle projected traffic between 1985 and 2000 (Section 2.02 of the draft Project Agreement).

46. Improvements to Conventional Break Bulk Cargo Operation at Klong Toei. The improvements entail changes in existing rules and regulations applied by the Customs Department, PAT and the Government to movements of cargo in the port, the management of transit sheds and warehouses, and the delivery of cargo from the port to the consignee. In addition, PAT will actively encourage private enterprise to establish bonded warehouse(s) outside the Klong Toei port area and assist interested entrepreneurs with relevant technical information, administrative procedures and liaison with concerned public authorities (Section 3.02(a) of the draft Loan Agreement and Section 3.04 and the Schedule, Draft Project Agreement).

47. Improving Container Handling Performance. Container handling is currently handicapped by limited container yard space and inefficient yard operations. Under the project, new container freight stations will be added within existing Klong Toei port boundaries and responsibilities for yard operations will be reassigned. To supplement the effectiveness of these arrangements, PAT's operating department will be reorganized and an information system will be introduced to record all container movements (Schedule, draft Project Agreement).

48. Berth Reallocation Between Conventional and Container Cargo. To prevent the build-up of shipwaiting time at Klong Toei, and to use available berth capacity efficiently, the number of container berths, presently six, will be gradually reduced and those for conventional cargo traffic correspondingly increased. The overflow of containerized cargo at Klong Toei will be handled at Sattahip. This berth conversion at Klong Toei will be made at such a pace that the shipwaiting time will stabilize at current levels, though traffic is expected to increase. It is estimated that under the new berthing policy, the number of container berths in 1983 at Klong Toei will be 3, and in 1985, only 2. Thus, in 1983, Klong Toei is projected to handle about 5 million tons of cargo, of which 3.5 million tons (conventional cargo) is expected to pass through 15 conventional cargo ship berths, and 1.5 million tons (containerized cargo), through 3 container ship berths. The projected traffic in excess of 5 million tons in 1983, all of it containerized, will be directed through Sattahip (Schedule, draft Project Agreement).

49. Organization and Operation of Bang Su Complex. The Bang Su cfs and bonded warehouse complex will handle the goods from the containers landed at and exported through the Sattahip port. The Government will finance the complex (\$52.4 million) using Bank funds (\$31.5), and it will hold title to the complex. Land for Bang Su, which is owned by SRT, will be made available to the Government. However, the Government intends to lease Bang Su, after its construction, to an operator, who would be responsible for its operation and management; and it is hoped that private entrepreneurs can be attracted because of the excellent business opportunity which Bang Su is expected to provide. Accordingly, the consultants, which will undertake the engineering of Bang Su under the project, will also review the institutional arrangements for operating Bang Su, and submit their recommendations, including those on the suitability of specific potential operators, by not later than December 31, 1981. Based on their recommendations, the Government will select an operator for Bang Su, and lease the complex to the operator on terms and conditions satisfactory to the Bank. In the event, however, that lease arrangements with a suitable operator could not be made, the Government would operate Bang Su itself under its own arrangements. The Bang Su Complex will be constructed, and begin operations in line with the completion schedule of other project elements (Sections 4.03 and 4.04, draft Loan Agreement).

50. Land Transportation. The Government intends to construct a new railway line between Chachoengsao and Sattahip during 1981-1983 (para. 32), even though the existing roads between Bangkok and Sattahip would be adequate to handle the Sattahip port traffic projected under the project. The only road investment required, and provided for in the project, will be a link between Bang Su and the Bangkok Ring Road. Irrespective of the completion of the new railway line, the road transport industry will be allowed to compete freely for transport of containers between Sattahip and Bang Su, and consignees of cargo shipped through Sattahip will be free to use road haulage contractors of their own choice.

Project Cost and Financing

51. The total cost of the project is estimated at \$109.2 million (including local duties and taxes) with a foreign exchange component of \$50.9 million equivalent. The estimated costs are based upon preliminary engineering, and include physical contingencies of 20% for civil works. Final engineering is expected to be completed only after loan signature, but the project involves very little foundation work and only a small amount of dredging. Unit prices are based on January 1980 prices for similar works in Thailand. Mechanical and floating equipment prices are based upon recent quotations. Total contingencies amount to \$27.75 million, about 34% of base costs. Price contingencies for civil works are calculated using inflation rates of 15% for 1980, 12% for 1981 and 10% for 1982 and 1983. Those for mechanical equipment and other direct foreign costs are based upon 10% for 1980, 9% for 1981, and 8% and 7% for 1982 and 1983. Technical assistance is expected to involve about 110 man-months of consultant services; average man-month costs are estimated at \$10,000 equivalent including the man-month rate, fee and international travel, plus \$2,000 equivalent local allowance.

52. The proposed loan of \$47 million will be made to the Kingdom of Thailand who will onlend \$15.5 million to PAT on the same terms and conditions as the Bank loan under a subsidiary loan agreement to be entered between the Government and PAT (Sections 3.02(b) of the draft Loan Agreement). The proposed loan will cover 100% of the foreign exchange requirements of Bang Su and about 80% of the foreign exchange requirements of Klong Toei and Sattahip. It will finance about 50% of total project costs net of local duties and taxes. The remainder of the foreign exchange and all of the local currency requirements will be financed by the Government and PAT.

Construction, Procurement and Disbursement

53. PAT will undertake the project works for Klong Toei and Sattahip ports, and SRT is expected to be appointed by the Government as the executing agency for construction of the Bang Su complex. The project's civil works will be executed under two separate contracts, and mechanical equipment and

floating craft will be procured under three separate contracts. All contracts will be let in accordance with international competitive bidding (ICB) and Bank Guidelines. The government intends to levy import taxes on all items procured for the project amounting to about 15% of the total cost. A preference not exceeding 15% of the c.i.f. price or the customs duty, whichever is less, will be granted to local manufacturers for the procurement of mechanical and floating equipment.

54. The basis for disbursement for the project items financed by the Bank will be (as a percentage of total costs excluding taxes): (a) 55% for Sattahip and Bang Su civil works; (b) 100% of the c.i.f. cost of directly imported equipment, 100% of the exfactory cost of locally manufactured equipment and 65% of other equipment procured locally; and (c) 100% for consulting services.

Port Authority of Thailand (PAT)

55. PAT was established in 1951, within the Ministry of Communications, as an autonomous organization responsible for operating and administering the general cargo wharves at Klong Toei, and for the dredging and conservancy of the navigation channel. PAT is managed by a Board of Commissioners consisting of a Chairman, Port Director and nine other members; the Director is responsible for day-to-day administration and cargo-handling operations and is assisted by two Deputy Directors and Chiefs of the various service and operational departments. The management of the port is generally satisfactory, and the present Director and senior staff have worked closely with Bank staff for the last 10 years. The Port of Sattahip was placed under the control of PAT in late 1979. Both Bangkok and Sattahip ports have separate managers and staff reporting to the Director of PAT. Separate accounts will also be kept which will be consolidated into overall PAT accounts on an annual basis.

Financial Position

56. During the past four years, PAT has been in excellent financial condition. Revenues have kept pace with increased operating costs with resulting increases in operating surpluses in each of the fiscal years 1976-79. Further, PAT has maintained a strong balance sheet with ample liquidity and low debt to equity ratios. Commencing in 1980, PAT has assumed administrative and financial responsibility for the commercial port at Sattahip, and PAT's annual accounts will reflect the combined financial performance of the ports of Klong Toei and Sattahip. As a start-up operation with only limited traffic initially, the port of Sattahip is expected to experience operating losses in the early years (1980-84) of its development. Nevertheless, with appropriate periodic tariff adjustments, PAT's consolidated financial performance is expected to remain strong. PAT's future cash flow is projected to be sufficient to service debt, finance current operations, provide a significant return to the Government, and make a meaningful contribution to its development program. A review by the Government of its participation in PAT's profits is presently under way. The Government will forward to the Bank a copy of this review upon completion.

57. Based on projected traffic and assumed tariff increases, the projected annual rates of return for the consolidated operations of the ports of Sattahip and Klong Toei are 9-12% p.a. throughout the forecast period which would enable PAT to achieve its financial objectives. Accordingly, during negotiations, it was agreed that PAT will achieve an annual return on net fixed assets of not less than 9% in 1981-83, 10% in 1984 and 11% thereafter (Section 4.03(a) of the draft Project Agreement). Assurances were also obtained that a revaluation of PAT's assets would take place not later than June 30, 1982 and at least every three years thereafter (Section 4.04 of the draft Project Agreement). Upon the initial revaluation of assets, PAT and the Bank would review the adequacy of the agreed rates of return specified above (Section 4.03(a) of the draft Project Agreement).

58. While PAT's financial position has remained sound, its tariffs are not cost-based with the result that there is inefficient use of port facilities. Accordingly, PAT has agreed to complete by June 30, 1981 a tariff and costing study under terms of reference satisfactory to the Bank, which would determine the costs of its various services and facilities and recommend tariffs at the ports of Sattahip and Klong Toei (Section 2.02(b) of the draft Project Agreement). Further, PAT has agreed to modify its accounting system and include the impact of containers, to examine the advisability of computerizing PAT's accounting system and to strengthen PAT's financial planning and reporting systems (Section 4.06 of the draft Project Agreement).

59. The sensitivity of PAT's projected financial performance to changes in key parameters was examined; the review indicates that PAT's overall level of financial risk is low.

Ecology

60. The only work which might adversely affect the ecology is the dredging at Sattahip port. The dredged material will be disposed of in shallow water for land reclamation. It will not affect fishing, which is undertaken outside the harbor, and the fill level will be maintained below water level, for subsequent completion when the land is required, to avoid any risk of dust problems.

Justification, Benefits and Economic Returns

61. Thailand's economy grew rapidly at 8% p.a. between 1960 and 1969 and at about 6.5% to 7.5% p.a. thereafter. The growth target of 7% adopted for the Fourth Development Plan 1977-81 has so far been exceeded, however, largely at the expense of deteriorating balance of payments which, together with the current slow-down of world trade, could lead to a reduction in GDP growth during the remainder of the Plan period. The current outlook for the Fifth Development Plan, 1982-86, is one of continuing growth but likely to be at a somewhat reduced rate. Growth in volumes (tons) of dry cargo import,

following closely the trend of the economy, was between 6-7% p.a. from 1960-75, but jumped ahead of GDP with about 22% p.a. from 1975-78, largely because of a construction boom. From 1980-85, import growth is expected to settle back to about 5% p.a. Export tonnages grew at over 10% p.a. on average during the 1970s, with main contributions to the growth coming from agricultural products such as tapioca. In 1980-85, the export growth rate is only expected to be about 2% p.a. because of an expected drop in tapioca volumes to below the 1978 level.

62. For the import forecast up to 1985, 17 major commodity groups were distinguished, of which the most important are: iron and steel including scrap; fertilizer; chemicals; paper and raw materials; cement; and vehicles, machinery and parts. The first three import categories are expected to contribute most to the future import growth, while others will stagnate or grow only slowly, and cement will disappear completely from the import list. Four export commodities, tapioca, maize, rice and sugar/molasses are projected to continue their dominant export position with a combined export share of over 80% in 1985. Of these four, rice exports will grow the most in volume. About 30% of total break bulk cargo, imports and exports combined, will be moved in containers. Container traffic, starting from a low base three years ago, has considerably increased since, but the growth rate is now expected to be similar to that of overall external trade.

63. Thailand's imports are expected to grow from an estimated 7.6 million tons in 1980 to 8.0 million tons in 1985, and exports are expected to increase from 13.8 million tons to 15.6 million tons over the same period. Break bulk and container imports and exports, which are the critical commodities requiring new port capacity, amount to about 4.7 million tons in 1980 and are projected at 5.9 million tons in 1985.

64. The project benefits in decreasing order of importance are savings in ship-waiting costs (at Klong Toei), in break bulk lighterage costs (at Klong Toei) and in agricultural bulk export costs (tapioca at Ko Sichang). From 1985 on, savings in ship waiting costs are estimated at close to 70% of total project benefits. The calculation of ship waiting costs was based on a ship queueing analysis, under which the total number of ship waiting days would increase from the current level of 1,000-1,200 days to about 4,000 days in 1985 without the proposed investments. Savings in ship waiting days amount to about \$7,600 per ship-day. Savings from lightering cargo amount to about \$12/ton and are composed of reductions of direct lighterage costs, of costs from losses and breakage of cargo and increased ship service time. Savings in tapioca export costs, in the order of \$4.5/ton, are made up of savings in land transport and ship loading costs, offset in part by an increase in ocean voyage costs.

65. The project costs consist of: the capital expenditures for Klong Toei and Sattahip ports, the new cfs and part of the new railway line between Sattahip and Bangkok on the assumption that it will be built according to the Government's schedule; and the recurrent land transport cost for

containers. Only one half of the railway cost for track and rolling stock were charged to this project, since the railway, if constructed (para. 50), is also expected to be required in support of the industrial development planned along the Eastern Seaboard. The project costs are financial cost, net of taxes.

66. The economic rate of return on the entire investment package is 21%. The high return reflects the critical stage through which the Bangkok port system is passing and the potential economic losses to Thailand's external trade and economy. Investments in Klong Toei and Bang Su complex alone yield a return of 19%, and those in Sattahip, with an improved Klong Toei and Bang Su complex in place, 22%. If the capital investments for rail transport were excluded, the project's economic return would be 31%. There are a number of risk factors affecting the project, including slower than expected foreign trade development, underestimate of Klong Toei port capacity under the reference case, and higher than expected land transport cost for container movements between Sattahip and Bangkok. However, even under fairly pessimistic risk assumptions, the project retains a satisfactory return.

67. For the economic analysis it has been assumed that all the benefits would accrue to Thailand. While this is clearly the case for avoided lighterage costs and avoided agricultural bulk export costs, it could be argued that a part of the ship-waiting costs would be absorbed by the foreign shipping lines. However, it is expected that severe port congestion would be fully reflected in port congestion charges, and that lower congestion levels would be built into the shipping rates, which are increasingly made the subject of consultations between shipping lines and Thai shippers councils. Further, the percentage of cargo carried by Thai vessels is expected to increase in the future. To test the significance of this benefit assumption in the sensitivity analysis, an arbitrarily high benefit reduction by 50% was made; even in this case, the project would have a satisfactory rate of return of 12%.

PART V - LEGAL INSTRUMENTS AND AUTHORITY

68. The draft Loan Agreement between the Kingdom of Thailand and the Bank, the draft Project Agreement between the Bank and the Port Authority of Thailand, and the Report of the Committee provided for in Article III, Section 4(iii) of the Articles of Agreement are being distributed separately. In addition to the special conditions listed in Section III of Annex III, an additional condition of the effectiveness of the proposed loan is that a subsidiary loan agreement has been executed on behalf of the Kingdom of Thailand and PAT.

69 I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART VI - RECOMMENDATION

70. I recommend that the Executive Directors approve the proposed loan.

Robert S. McNamara
President

Attachments

October 30, 1980

Washington, D.C.

THAILAND - SOCIAL INDICATORS DATA SHEET

LAND AREA (THOUSAND SQ. KM.)	THAILAND			REFERENCE GROUPS (WEIGHTED AVERAGES - MOST RECENT ESTIMATE) ^{/d}	
	1960 /b	1970 /b	MOST RECENT ESTIMATE /b	MIDDLE INCOME ASIA & PACIFIC	MIDDLE INCOME LATIN AMERICA & CARIBBEAN
TOTAL	514.0				
AGRICULTURAL	179.6				
GNP PER CAPITA (US\$)	100.0	210.0	490.0	894.8	1384.1
ENERGY CONSUMPTION PER CAPITA (KILOGRAMS OF COAL EQUIVALENT)	64.0	247.0	327.0	842.4	1055.9
POPULATION AND VITAL STATISTICS					
POPULATION, MID-YEAR (MILLIONS)	26.4	35.7	44.5	.	.
URBAN POPULATION (PERCENT OF TOTAL)	12.5	13.2	14.1	39.1	63.4
POPULATION PROJECTIONS					
POPULATION IN YEAR 2000 (MILLIONS)			68.0	.	.
STATIONARY POPULATION (MILLIONS)			103.0	.	.
YEAR STATIONARY POPULATION IS REACHED			2095	.	.
POPULATION DENSITY					
PER SQ. KM.	51.0	69.0	88.0	376.1	28.1
PER SQ. KM. AGRICULTURAL LAND	204.0	251.0	251.0	2350.4	81.7
POPULATION AGE STRUCTURE (PERCENT)					
0-14 YRS.	44.7	46.2	43.4	40.4	41.4
15-64 YRS.	52.6	50.8	53.6	56.2	56.7
65 YRS. AND ABOVE	2.7	3.0	3.0	3.4	3.9
POPULATION GROWTH RATE (PERCENT)					
TOTAL	2.8	3.0	2.7	2.4	2.7
URBAN	4.6	3.7	3.6	4.1	4.1
CRUDE BIRTH RATE (PER THOUSAND)	46.0	44.0	32.0	28.7	34.8
CRUDE DEATH RATE (PER THOUSAND)	17.0	12.0	8.0	7.9	8.9
GROSS REPRODUCTION RATE	..	3.2	2.2	1.9	2.5
FAMILY PLANNING					
ACCEPTORS, ANNUAL (THOUSANDS)	..	203.0/c	644.0	.	.
USERS (PERCENT OF MARRIED WOMEN)	..	27.4	40.0	39.0	..
FOOD AND NUTRITION					
INDEX OF FOOD PRODUCTION					
PER CAPITA (1969-71=100)	92.0	100.0	134.0	116.9	106.9
PER CAPITA SUPPLY OF CALORIES (PERCENT OF REQUIREMENTS)					
	96.0	103.0	105.0/d	108.9	107.4
PROTEINS (GRAMS PER DAY)	43.0	50.0	49.0/d	60.3	65.6
OF WHICH ANIMAL AND PULSE	10.0	15.0	14.0/d	18.8	33.7
CHILD (AGES 1-4) MORTALITY RATE	15.0	9.0	6.0	5.3	8.4
HEALTH					
LIFE EXPECTANCY AT BIRTH (YEARS)	51.0	57.0	61.0	63.0	63.1
INFANT MORTALITY RATE (PER THOUSAND)	..	86.0/e	68.0	52.8	66.5
ACCESS TO SAFE WATER (PERCENT OF POPULATION)					
TOTAL	..	17.0	22.0	42.4	65.9
URBAN	..	..	49.0	62.1	80.4
RURAL	..	..	12.0	29.7	44.0
ACCESS TO EXCRETA DISPOSAL (PERCENT OF POPULATION)					
TOTAL	..	17.0	40.0	52.8	62.3
URBAN	..	65.0	58.0	71.1	79.4
RURAL	..	8.0	36.0	42.4	29.6
POPULATION PER PHYSICIAN	7800.0	8420.0	8169.0	4120.1	1849.2
POPULATION PER NURSING PERSON	4900.0	3340.0	3542.0	2213.6	1227.5
POPULATION PER HOSPITAL BED					
TOTAL	1351.0/f	880.0	816.0	819.4	480.3
URBAN	..	350.0	..	..	..
RURAL	..	1136.0	..	..	..
ADMISSIONS PER HOSPITAL BED	..	31.0	33.0	28.8	..
HOUSING					
AVERAGE SIZE OF HOUSEHOLD					
TOTAL	5.5/i	5.8	5.5	..	..
URBAN	5.3/i	5.9	5.5	..	..
RURAL	5.6/i	5.8	5.5	..	..
AVERAGE NUMBER OF PERSONS PER ROOM					
TOTAL	..	..	2.4	..	..
URBAN	..	..	2.2	..	..
RURAL	..	..	2.4	..	..
ACCESS TO ELECTRICITY (PERCENT OF DWELLINGS)					
TOTAL	..	..	..	..	..
URBAN	..	63.0/g	..	..	..
RURAL	..	13.0	..	..	..

THAILAND - SOCIAL INDICATORS DATA SHEET

	THAILAND			REFERENCE GROUPS (WEIGHTED AVERAGES - MOST RECENT ESTIMATE) ^{/a}	
	1960 ^{/b}	1970 ^{/b}	MOST RECENT ESTIMATE ^{/b}	MIDDLE INCOME ASIA & PACIFIC	MIDDLE INCOME LATIN AMERICA & CARIBBEAN
EDUCATION					
ADJUSTED ENROLLMENT RATIOS					
PRIMARY: TOTAL	83.0	81.0	83.0	98.6	99.7
MALE	88.0	85.0	86.0	99.2	101.0
FEMALE	79.0	77.0	79.0	97.7	99.4
SECONDARY: TOTAL	13.0	17.0	27.0	55.5	34.4
MALE	16.0	20.0	28.0	60.7	33.5
FEMALE	10.0	14.0	20.0	49.9	34.7
VOCATIONAL ENROL. (% OF SECONDARY)	19.0	24.0	13.0	13.7	38.2
PUPIL-TEACHER RATIO					
PRIMARY	36.0	35.0	30.0	34.6	30.5
SECONDARY	20.0	16.0	21.0	28.5	14.5
ADULT LITERACY RATE (PERCENT)	68.0	79.0	84.0	85.8	76.3
CONSUMPTION					
PASSENGER CARS PER THOUSAND POPULATION	2.0	5.0	6.4	9.0	43.0
RADIO RECEIVERS PER THOUSAND POPULATION	6.0	78.0	131.0	118.9	245.3
TV RECEIVERS PER THOUSAND POPULATION	2.3	7.0	18.0	39.4	84.2
NEWSPAPER ("DAILY GENERAL INTEREST") CIRCULATION PER THOUSAND POPULATION	11.0	24.0	..	..	63.3
CINEMA ANNUAL ATTENDANCE PER CAPITA	..	..	1.7	4.9	..
LABOR FORCE					
TOTAL LABOR FORCE (THOUSANDS)	13529.2	16658.8	20985.6	.	.
FEMALE (PERCENT)	48.3	47.3	47.0	36.8	22.2
AGRICULTURE (PERCENT)	83.7	79.9	77.0	51.9	37.1
INDUSTRY (PERCENT)	4.4	6.0	8.0	21.9	23.5
PARTICIPATION RATE (PERCENT)					
TOTAL	51.3	46.6	45.6	39.1	31.5
MALE	52.7	49.3	48.6	48.5	48.9
FEMALE	49.8	43.9	42.6	29.6	14.0
ECONOMIC DEPENDENCY RATIO	0.9	1.1	1.0	1.1	1.4
INCOME DISTRIBUTION					
PERCENT OF PRIVATE INCOME RECEIVED BY					
HIGHEST 5 PERCENT OF HOUSEHOLDS	21.8/ ^{/h}	23.8/ ^{/i}	14.0/ ^{/j}	..	..
HIGHEST 20 PERCENT OF HOUSEHOLDS	50.9/ ^{/h}	49.7/ ^{/i}	42.2/ ^{/j}	..	..
LOWEST 20 PERCENT OF HOUSEHOLDS	6.2/ ^{/h}	6.1/ ^{/i}	7.6/ ^{/j}	..	..
LOWEST 40 PERCENT OF HOUSEHOLDS	14.9/ ^{/h}	15.9/ ^{/i}	19.1/ ^{/j}	..	..
POVERTY TARGET GROUPS					
ESTIMATED ABSOLUTE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	159.0	..	..
RURAL	..	..	106.0	192.1	190.8
ESTIMATED RELATIVE POVERTY INCOME LEVEL (US\$ PER CAPITA)					
URBAN	..	..	115.0	..	474.0
RURAL	..	..	110.0	182.5	332.5
ESTIMATED POPULATION BELOW ABSOLUTE POVERTY INCOME LEVEL (PERCENT)					
URBAN	..	..	15.0	..	..
RURAL	..	..	34.0	33.2	..

.. Not available
. Not applicable.

NOTES

- ^{/a} The group averages for each indicator are population-weighted arithmetic means. Coverage of countries among the indicators depends on availability of data and is not uniform.
- ^{/b} Unless otherwise noted, data for 1960 refer to any year between 1959 and 1961; for 1970, between 1969 and 1971; and for Most Recent Estimate, between 1974 and 1978.
- ^{/c} Government program only; ^{/d} 1976; ^{/e} 1964-65; ^{/f} 1962; ^{/g} Percent of population in Bangkok metropolitan area; ^{/h} 1962-63; ^{/i} 1968; ^{/j} Preliminary data for 1975-76; due to lack of data on national basis, the methodology for aggregating the available regional data overstates incomes of low income groups and understates incomes of higher income groups. Thus, this data is not suitable for any analytical comparisons.

DEFINITIONS OF SOCIAL INDICATORS

Notes: Although the data are drawn from sources generally judged the most authoritative and reliable, it should also be noted that they may not be internationally comparable because of the lack of standardized definitions and concepts used by different countries in collecting the data. The data are, nonetheless, useful to describe orders of magnitude, indicate trends, and characterize certain major differences between countries.

The reference groups are (1) the same country group of the subject country and (2) a country group with somewhat higher average income than the country group of the subject country (except for "Capital Surplus Oil Exporters" group where "Middle Income North Africa and Middle East" is chosen because of stronger socio-cultural affinity). In the reference group data the averages are population weighted arithmetic means for each indicator and shown only when at least half of the countries in a group has data for that indicator. Since the coverage of countries among the indicators depends on the availability of data and is not uniform, caution must be exercised in relating averages of one indicator to another. These averages are only useful in comparing the value of one indicator at a time among the country and reference groups.

LAND AREA (thousand sq. km.)

Total - Total surface area comprising land area and inland waters.

Agricultural - Estimate of agricultural area used temporarily or permanently for crops, pastures, market and kitchen gardens or to lie fallow; 1977 data.

GNP PER CAPITA (US\$) - GNP per capita estimates at current market prices, calculated by same conversion method as World Bank Atlas (1976-78 basis); 1960, 1970, and 1978 data.

ENERGY CONSUMPTION PER CAPITA - Annual consumption of commercial energy (coal and lignite, petroleum, natural gas and hydro-, nuclear and geothermal electricity) in kilograms of coal equivalent per capita; 1960, 1970, and 1978 data.

POPULATION AND VITAL STATISTICS

Total Population, Mid-Year (millions) - As of July 1; 1960, 1970, and 1978 data.

Urban Population (percent of total) - Ratio of urban to total population; different definitions of urban areas may affect comparability of data among countries; 1960, 1970, and 1978 data.

Population Projections

Population in Year 2000 - Current population projections are based on 1980 total population by age and sex and their mortality and fertility rates. Projection parameters for mortality rates comprise of three levels assuming life expectancy at birth increasing with country's per capita income level, and female life expectancy stabilizing at 77.5 years. The parameters for fertility rate also have three levels assuming decline in fertility according to income level and past family planning performance. Each country is then assigned one of these nine combinations of mortality and fertility trends for projection purposes.

Stationary population - In a stationary population there is no growth since the birth rate is equal to the death rate, and also the age structure remains constant. This is achieved only after fertility rates decline to the replacement level of unit net reproduction rate, when each generation of women replaces itself exactly. The stationary population size was estimated on the basis of the projected characteristics of the population in the year 2000, and the rate of decline of fertility rate to replacement level.

Year stationary population is reached - The year when stationary population size has been reached.

Population Density

Per sq. km. - Mid-year population per square kilometer (100 hectares) of total area.

Per sq. km. agricultural land - Computed as above for agricultural land only.

Population Age Structure (percent) - Children (0-14 years), working-age (15-64 years), and retired (65 years and over) as percentages of mid-year population; 1960, 1970, and 1978 data.

Population Growth Rate (percent) - total - Annual growth rates of total mid-year populations for 1950-60, 1960-70, and 1970-78.

Population Growth Rate (percent) - urban - Annual growth rates of urban populations for 1950-60, 1960-70, and 1970-78.

Crude Birth Rate (per thousand) - Annual live births per thousand of mid-year population; 1960, 1970, and 1978 data.

Crude Death Rate (per thousand) - Annual deaths per thousand of mid-year population; 1960, 1970, and 1978 data.

Gross Reproduction Rate - Average number of daughters a woman will bear in her normal reproductive period if she experiences present age-specific fertility rates; usually five-year averages ending in 1960, 1970, and 1977.

Family Planning Acceptors (thousands) - Annual number of acceptors of birth-control devices under auspices of national family planning program.

Family Planning - Users (percent of married women) - Percentage of married women of child-bearing age (15-44 years) who use birth-control devices to all married women in same age group.

FOOD AND NUTRITION

Index of Food Production per Capita (1969=71=100) - Index of per capita annual production of all food commodities. Production excludes seed and feed and is on calendar year basis. Commodities cover primary goods (e.g. sugarcane instead of sugar) which are edible and contain nutrients (e.g. coffee and tea are excluded). Aggregate production of each country is based on national average producer price weights; 1961-65, 1970, and 1978 data.

Per capita supply of calories (percent of requirements) - Computed from energy equivalent of net food supplies available in country per capita per day. Available supplies comprise domestic production, imports less exports, and changes in stock. Net supplies exclude animal feed, seeds, quantities used in food processing, and losses in distribution. Requirements were estimated by FAO based on physiological needs for normal activity and health considering environmental temperature, body weights, age and sex distribution of population, and allowing 10 percent for waste at household level; 1961-65, 1970, and 1977 data.

Per capita supply of protein (grams per day) - Protein content of per capita net supply of food per day. Net supply of food is defined as above. Requirements for all countries established by USDA provide for minimum allowance of 60 grams of total protein per day and 20 grams of animal and pulse protein, of which 10 grams should be animal protein. These standards are lower than those of 75 grams of total protein and 23 grams of animal protein as an average for the world, proposed by FAO in the Third World Food Survey; 1961-65, 1970 and 1977 data.

Per capita protein supply from animal and pulse - Protein supply of food derived from animals and pulses in grams per day; 1961-65, 1970 and 1977 data.

Child (ages 1-4) Mortality Rate (per thousand) - Annual deaths per thousand in age group 1-4 years, to children in this age group; for most developing countries data derived from life tables; 1960, 1970 and 1977 data.

HEALTH

Life Expectancy at Birth (years) - Average number of years of life remaining at birth; 1960, 1970 and 1978 data.

Infant Mortality Rate (per thousand) - Annual deaths of infants under one year of age per thousand live births.

Access to Safe Water (percent of population) - total, urban, and rural - Number of people (total, urban, and rural) with reasonable access to safe water supply (includes treated surface waters or untreated but uncontaminated water such as that from protected boreholes, springs, and sanitary wells) as percentages of their respective populations. In an urban area a public fountain or standpost located not more than 200 meters from a house may be considered as being within reasonable access of that house. In rural areas reasonable access would imply that the housewife or members of the household do not have to spend a disproportionate part of the day in fetching the family's water needs.

Access to Excreta Disposal (percent of population) - total, urban, and rural - Number of people (total, urban, and rural) served by excreta disposal as percentages of their respective populations. Excreta disposal may include the collection and disposal, with or without treatment, of human excreta and waste-water by water-borne systems or the use of pit privies and similar installations.

Population per Physician - Population divided by number of practicing physicians qualified from a medical school at university level.

Population per Nursing Person - Population divided by number of practicing male and female graduate nurses, practical nurses, and assistant nurses.

Population per Hospital Bed - total, urban, and rural - Population (total, urban, and rural) divided by their respective number of hospital beds available in public and private general and specialized hospital and rehabilitation centers. Hospitals are establishments permanently staffed by at least one physician. Establishments providing principally custodial care are not included. Rural hospitals, however, include health and medical centers not permanently staffed by a physician (but by a medical assistant, nurse, midwife, etc.) which offer in-patient accommodation and provide a limited range of medical facilities. For statistical purposes urban hospitals include a principal general and specialized hospitals, and rural hospitals local or rural hospitals and medical and maternity centers.

Admissions per Hospital Bed - Total number of admissions to or discharges from hospitals divided by the number of beds.

HOUSING

Average Size of Household (persons per household) - total, urban, and rural -

A household consists of a group of individuals who share living quarters and their main meals. A boarder or lodger may or may not be included in the household for statistical purposes.

Average number of persons per room - total, urban, and rural - Average number of persons per room in all urban, and rural occupied conventional dwellings, respectively. Dwellings exclude non-permanent structures and unoccupied parts.

Access to Electricity (percent of dwellings) - total, urban, and rural - Conventional dwellings with electricity in living quarters as percentage of total, urban, and rural dwellings respectively.

EDUCATION**Adjusted Enrollment Ratios**

Primary school - total, male and female - Gross total, male and female enrollment of all ages at the primary level as percentages of respective primary school-age populations; normally includes children aged 6-11 years but adjusted for different lengths of primary education; for countries with universal education enrollment may exceed 100 percent since some pupils are below or above the official school age.

Secondary school - total, male and female - Computed as above; secondary education requires at least four years of approved primary instruction; provides general, vocational, or teacher training instructions for pupils usually of 12 to 17 years of age; correspondence courses are generally excluded.

Vocational enrollment (percent of secondary) - Vocational institutions include technical, industrial, or other programs which operate independent or as departments of secondary institutions.

Pupil-teacher ratio - primary, and secondary - Total students enrolled in primary and secondary levels divided by numbers of teachers in the corresponding levels.

Adult literacy rate (percent) - Literate adults (able to read and write) as a percentage of total adult population aged 15 years and over.

CONSUMPTION

Passenger Cars (per thousand population) - Passenger cars comprise motor cars seating less than eight persons; excludes ambulances, hearses and military vehicles.

Radio Receivers (per thousand population) - All types of receivers for radio broadcasts to general public per thousand of population; excludes unlicensed receivers in countries and in years when registration of radio sets was in effect; data for recent years may not be comparable since most countries abolished licensing.

TV Receivers (per thousand population) - TV receivers for broadcast to general public per thousand population; excludes unlicensed TV receivers in countries and in years when registration of TV sets was in effect.

Newspaper Circulation (per thousand population) - Shows the average circulation of "daily general interest newspaper", defined as a periodical publication devoted primarily to recording general news. It is considered to be "daily" if it appears at least four times a week.

Cinema Annual Attendance per Capita per Year - Based on the number of tickets sold during the year, including admissions to drive-in cinemas and mobile units.

LABOR FORCE

Total Labor Force (thousands) - Economically active persons, including armed forces and unemployed but excluding housewives, students, etc. Definitions in various countries are not comparable; 1960, 1970 and 1978 data.

Female (percent) - Female labor force as percentage of total labor force.

Agriculture (percent) - Labor force in farming, forestry, hunting and fishing as percentage of total labor force; 1960, 1970 and 1978 data.

Industry (percent) - Labor force in mining, construction, manufacturing and electricity, water and gas as percentage of total labor force; 1960, 1970 and 1978 data.

Participation Rate (percent) - total, male, and female - Participation or activity rates are computed as total, male, and female labor force as percentages of total, male and female population of all ages respectively; 1960, 1970, and 1975 data. These are ILO's participation rates reflecting age-sex structure of the population, and long time trend. A few estimates are from national sources.

Economic Dependency Ratio - Ratio of population under 15 and 65 and over to the total labor force.

INCOME DISTRIBUTION

Percentage of Private Income (both in cash and kind) - Received by richest 5 percent, richest 20 percent, poorest 20 percent, and poorest 40 percent of households.

POVERTY TARGET GROUPS

Estimated Absolute Poverty Income Level (US\$ per capita) - urban and rural - Absolute poverty income level is that income level below which a minimal nutritionally adequate diet plus essential non-food requirements is not affordable.

Estimated Relative Poverty Income Level (US\$ per capita) - urban and rural - Rural relative poverty income level is one-third of average per capita personal income of the country. Urban level is derived from the rural level with adjustment for higher cost of living in urban areas.

Estimated Population Below Absolute Poverty Income Level (percent) - urban and rural - Percent of population (urban and rural) who are "absolute poor".

ECONOMIC DEVELOPMENT DATA - PERU

	Actual				1978 /a	Projected			Growth rates (%)				1965 share of GDP (%)
	1965	1970	1976	1977		1979	1980	1985	1965-77	1977-79	1979-85	1985-90	
A. National Accounts (Million US\$ at 1975 prices)													
1. Gross domestic product	6,843.8	10,323.0	15,712.6	16,685.5	18,138.9	19,395.2	20,692.9	29,256.7	7.7	7.8	7.1	7.0	100.0
2. Gains from terms of trade	-44.3	42.8	-507.7	-978.1	1,108.9	1,238.4	-1,473.0	-1,962.8					-3.2
3. Gross domestic income	6,799.5	10,365.8	15,204.9	15,707.4	17,030.0	18,156.8	19,219.9	27,293.9	7.2	7.5	7.0	7.0	96.8
4. Imports	1,659.9	2,989.8	3,699.1	4,480.8	4,896.8	5,082.8	5,440.4	7,507.8	8.6	6.7	6.7	6.8	23.5
5. Exports - volume	-1,593.2	-2,274.8	-3,808.4	-4,506.9	-5,157.9	-5,073.4	-5,512.1	-8,044.3	9.1	6.1	8.0	8.7	24.2
6. Exports - adjusted for TOT	-1,548.9	-2,117.5	-3,300.7	-3,528.8	-4,048.9	-3,839.0	-4,039.1	-6,781.5	7.1	4.3	8.0	8.8	21.0
7. Resource gap - adjusted for TOT	110.0	671.9	398.4	932.1	847.9	-1,243.8	-1,401.3	-1,489.3					2.5
8. Total consumption	5,302.3	8,007.0	11,709.5	12,370.3	13,062.6	14,213.4	15,090.4	20,721.2	7.3	7.2	6.5	6.1	74.5
9. Investment	1,608.2	3,030.6	3,893.8	4,269.2	4,815.3	5,187.2	5,530.8	8,062.0	8.5	10.2	7.6	7.5	24.8
10. National savings	1,576.4	2,500.8	3,477.7	3,312.5	3,908.1	3,901.5	4,011.1	6,125.8	6.4	8.5	7.8	9.6	22.1
11. Domestic savings adjusted for TOT	1,497.2	2,358.7	3,495.5	3,337.1	3,967.4	3,943.4	4,129.5	6,572.7	6.9	8.7	7.9	9.3	22.2
12. GDP at current US\$	4,052.9	6,543.3	16,284.3	18,156.9	21,881.8	25,214.1	29,590.9	59,776.6	13.3	17.8	15.5	13.4	
B. Sector Output (Share of GDP)													
1. Agriculture	0.391	0.346	0.301	0.281	0.271	0.264	0.258	0.229					
2. Industry	0.208	0.227	0.269	0.288	0.299	0.304	0.309	0.335					
3. Services	0.401	0.427	0.430	0.431	0.430	0.432	0.432	0.437					
C. Prices (1975 = 100)													
1. Export price index	46.43	48.04	91.65	89.35	96.35	111.65	125.04	171.40	5.6	12.7	7.2	5.1	
2. Import price index	47.76	47.15	105.75	114.12	123.05	147.66	149.81	226.72	7.5	6.7	6.1	5.0	
3. Terms of trade index	97.22	101.88	86.67	78.30	78.50	75.61	73.64	75.60	-1.8	5.5	1.1	0.1	
4. GDP deflator (US\$)	59.22	63.39	103.64	106.82	116.07	130.00	143.00	204.32	5.2	6.8	7.3	6.0	
5. Annual average exchange rate	20.80	20.80	20.40	20.40	20.39								
D. Selected Indicators													
		1965-77	1977-79	1979-85	1985-90								
1. ICOR		3.56	3.32	3.00	3.97								
2. Import elasticity		1.09	0.87	0.95	0.97								
3. Average national savings rate		0.24	0.21	0.21	0.24								
4. Marginal national savings rate		0.18	0.12	0.23	0.28								
5. Imports/GDP		0.27	0.26	0.26	0.26								
6. Investment/GDP		0.27	0.26	0.27	0.28								
7. Resource gap/GDP		0.04	0.06	0.05	0.03								
E. Output, Labor Force and Productivity in 1975													
		Value added /a		Labor force /c		V.A. per worker /b /c							
		US\$ Million	%	Million	%	US\$	% of average						
1. Agriculture		4,559	31.3	13.4	75.7	340	41.5						
2. Industry		4,442	30.4	1.4	7.9	3,170	356.7						
3. Services		5,588	39.3	2.9	16.4	1,930	235.4						
Total/average		14,589	100.0	17.7	100.0	820	100.0						
F. Public Finance (% of GDP) (Central Government)													
	1965	1970	1976	1975	1976	1977 /a	1978						
1. Current revenue	13.5	13.8	14.5	13.6	13.4	14.0	14.6						
2. Tax revenue	12.3	12.5	13.1	12.0	12.1	12.9	13.6						
3. Current expenditures	10.5	12.6	10.7	12.1	13.0	12.8	13.2						
4. Budgetary savings	2.9	1.2	3.7	1.5	0.4	1.2	1.4						
5. Total public investment	6.5	7.7	3.8	4.9	5.3	5.4	5.3						
G. Fuel Imports (Current US\$ millions)													
	65.0	112.0	628.6	711.7	833.7	923.0	1,114.0						
(% of total imports incl. MFS)	8.3	8.0	18.4	20.0	21.1	19.7	19.1						

/a Preliminary.

/b At current market prices.

/c Estimate.

October, 1979

BALANCE OF PAYMENTS, EXTERNAL ASSISTANCE, GRANT AND CREDITORS' DEBITS
(Current US\$ millions)

	1973	1974	1975	1976	1977	1978/2	1979	1980	1985	1990
Summary of Balance of Payments										
Exports (including MFIs)	2,084.7	3,023.4	2,794.5	3,490.5	4,029.3	4,920.7	6,100.0	7,660.0	12,835.0	24,981.7
Imports (including MFIs)	2,758.3	3,323.2	3,487.3	3,911.9	5,092.8	5,919.2	8,140.0	9,460.0	13,904.5	24,620.4
Resource balance	-173.6	-327.8	-692.8	-421.3	-1,063.4	-998.2	-1,040.0	-1,800.0	-1,069.5	317.3
Net factor service income										
Net interest payments	-30.8	-0.7	5.4	-41.6	-32.5	-154.5	-310.0	-300.0	-975.0	-1,412.5
Of which on public H & L loans	0.0	38.0	69.0	76.1	-4.0	-100.0	-210.0	-210.0	-766.9	-1,170.7
Direct investment income	-25.1	-36.0	-34.5	-44.3	-64.5	-101.8	-131.1	-174.5	-487.1	-882.0
Current transfers (net)	-28.0	-37.0	-64.0	-66.1	-68.5	-72.8	-75.9	-80.0	-192.5	-290.0
Workers' remittances (net)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current transfers (net)	143.5	241.0	80.1	22.8	39.3	40.4	60.0	80.0	100.0	110.0
Balance on current account	-48.9	-87.5	-605.3	-440.0	-1,097.6	-1,103.4	-1,990.0	-2,020.0	-1,894.5	-985.1
Private direct investment	67.0	135.6	85.5	79.1	106.1	50.0	60.0	75.0	276.3	487.0
Grants & Grant-like flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public H & L loans	69.0	95.9	149.2	241.7	362.6	739.5	900.0	1,010.8	1,960.4	2,697.6
Disbursements	-28.9	-32.5	-38.7	-43.4	-87.8	-90.7	-164.1	-222.1	-620.1	-1,092.7
Amortization	39.2	63.5	110.5	198.3	274.8	646.8	735.9	788.7	1,340.3	1,604.9
Net disbursements										
Other H & L loans										
Disbursements	178.9	326.2	399.6	279.7	311.8	501.3	900.0	1,150.0	1,393.0	462.2
Amortization	-223.1	-197.2	-235.1	-245.9	-284.2	-467.2	-520.0	-600.0	-850.6	-1,167.8
Net disbursements	-44.2	-129.3	-64.5	-33.8	-47.6	-34.1	-360.0	-550.0	-542.4	-705.6
Use of IMF resources	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-30.0	0.0
Short-term capital transactions	42.0	55.5	127.5	136.2	256.2	84.0	120.0	250.0	180.1	232.6
Capital transactions NEI	57.9	96.3	77.2	-11.4	136.2	-371.9	0.0	0.0	0.0	0.0
Change in reserves (- = increase)	-113.0	-392.7	140.1	-73.0	275.0	476.9	494.1	176.3	-414.8	-654.5
Net foreign exchange reserves ^b										
(end of period)	1,206.0	1,599.0	1,406.0	1,444.0	1,135.8	659.9	166.0	10.0	2,634.5	3,320.9
Grant and Loan Commitments										
Official grants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total public H & L loans	87.1	436.5	223.4	372.3	633.0	1,220.0	1,520.0	1,840.0	2,500.0	3,200.0
IBRD	15.0	142.0	95.0	158.0	137.8	256.0	331.0	380.0	542.4	705.6
IDA	25.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other multilateral	6.4	77.2	62.7	92.1	47.0	194.7	174.5	200.0	287.6	399.0
Governments	24.0	200.5	47.7	22.2	106.4	312.0	340.0	400.0	500.0	600.0
Of which centrally planned economies ^c	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Suppliers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial institutions	18.7	9.7	18.0	100.0	341.9	423.7	423.7	423.7	423.7	423.7
Other H & L loans (where available)	178.9	415.9	392.5	360.2	348.9	531.8	659.9	100.0	2,634.5	3,320.9
Memorandum Items										
Grant element of total commitments ^(Z)	44.600	31.400	16.700	11.500	10.200	14.869	0.072	0.081	0.080	0.072
Average interest ^(X)	0.044	0.037	0.076	0.081	0.080	0.080	0.072	0.081	0.080	0.072
Average maturity (years)	29.100	23.800	23.500	18.500	14.000	12.832				
Head- and long-term debt (Disbursed only)										
Total debt outstanding (DOD end of period)	903.9	1,160.7	1,345.6	1,606.6	1,931.9	2,681.0	3,494.3	4,384.3	5,384.3	6,384.3
Including undischarged	1,187.4	1,770.0	2,009.5	2,408.0	3,145.9	4,152.3	5,152.3	6,152.3	7,152.3	8,152.3
Public debt service	-25.1	-28.1	-34.5	-44.3	-64.5	-101.8	-131.1	-174.5	-487.1	-882.0
Other H & L debt service	-25.8	-28.1	-34.5	-44.3	-64.5	-101.8	-131.1	-174.5	-487.1	-882.0
Total debt service	-50.9	-56.2	-69.0	-88.6	-126.3	-203.6	-262.6	-345.6	-564.2	-964.0
Public debt service/Government revenue	4.3	2.5	3.5	3.7	4.4	6.3				
Debt Burden ^(Z)										
Debt service ratio ^d	14.9	10.8	13.9	9.6	12.2	16.1				
Debt service/GDP	16.2	12.0	16.2	11.5	13.9	17.6				
Public debt service/Government revenue	2.9	2.5	2.7	2.0	2.7	3.6				
Interest on total DOD/total disbursements	5.7	5.5	5.6	5.4	5.7	5.6				
Interest on total DOD/government revenue	12.4	11.8	11.9	10.7	12.0	19.6				
Dependency Ratios for H & L Debt ^(Z)										
Gross disbursements/imports (including NRS)	11.0	12.6	12.9	13.3	10.9	21.0				
Net transfer/imports (including NRS)	-2.8	2.8	1.8	4.8	2.0	10.2				
Net transfer/gross disbursements	-25.3	22.5	13.6	36.0	18.4	48.7				
Exposure ^(Z)										
IBRD disbursement/gross total disbursements	14.8	8.0	9.1	8.3	12.0	9.3				
Bank Group disbursements/gross total disbursements	14.8	8.3	9.7	9.5	13.6	9.9				
IBRD DOD/total DOD	24.2	20.9	20.0	18.6	17.9	20.2				
Bank Group DOD/total DOD	24.2	20.9	20.4	19.2	18.9	21.3				
IBRD debt service/total debt service	8.0	8.5	8.3	10.9	9.8	7.8				
Bank Group debt service/total service	8.0	8.5	8.3	10.9	9.8	7.8				
External Debt (Disbursed only)										
(Current US\$ million)										
Outstanding 12/31/78										
IBRD	434.8	24.5								
Bank Group	459.3	25.8								
Other multilateral	257.5	14.5								
Government	549.2	30.9								
Of which centrally planned economies ^e	0.0	0.0								
Suppliers	502.1	28.2								
Financial institutions	9.0	0.5								
Bank	0.0	0.0								
Total public H & L debt	1,777.1	100.0								
Other H & L debt	913.9	51.4								
Total public debt (including undischarged)	3,690.4	207.1								
Total H & L debt (including undischarged)	4,594.3	258.5								

^a Preliminary.

^b Net foreign assets: US\$ equivalent of Line 31.

^c Includes ODA countries, Peoples Republic of China, North Korea, North Viet Nam.

^d Including net direct investment income.

October, 1979

THE STATUS OF BANK GROUP OPERATIONS IN THAILAND /a

A. STATEMENT OF BANK LOANS AND IDA CREDITS
(As of August 31, 1980)

Loan or Credit Number	Year	Borrower	Purpose	Amount (\$ million)		
				Bank	IDA	Undisbursed
Twenty-six loans and one credit fully disbursed				471.67	5.49	-
822	1972	Kingdom of Thailand	Education	15.40	-	1.66
864	1972	Telephone Organization of Thailand	Telecom	37.00	-	0.41
369	1973	Kingdom of Thailand	Education	-	19.50	1.35
461	1974	Kingdom of Thailand	Irrigation	-	7.00	0.34
977	1974	Electricity Generating Authority of Thailand	Power	75.00	-	2.77
992	1974	Industrial Finance Corporation Thailand	Industry	11.70	-	0.20
1149	1975	Kingdom of Thailand	Irrigation	95.00	-	61.53
1198	1976	Kingdom of Thailand	Rural Dev.	21.00(TW)	-	8.10
1199	1976	Kingdom of Thailand	Livestock	5.00(TW)	-	2.49
1243	1976	Kingdom of Thailand	Rubber	50.00	-	23.55
1253	1976	Telephone Organization of Thailand	Telecom	26.00	-	3.90
1271	1976	Kingdom of Thailand	Education	31.00	-	17.67
1327	1976	Industrial Finance Corporation of Thailand	Industry	25.00	-	4.41
1393	1977	Kingdom of Thailand	Agriculture	28.00	-	17.13
1468	1977	Kingdom of Thailand	Irrigation	55.00	-	32.01
1485	1977	Electricity Generating Authority of Thailand	Power	50.00	-	17.66
1492	1977	Industrial Estates Authority of Thailand	Industry	4.80	-	2.04
767	1978	Kingdom of Thailand	Population	-	33.10/b	32.74
1519	1978	Kingdom of Thailand	Transport.	110.00	-	50.38
1527	1978	Provincial Electricity Authority	Rural Elect.	25.00	-	19.23
1556	1978	Kingdom of Thailand	Housing	8.60	-	7.19
S-10	1978	Natural Gas Organization of Thailand	Natural Gas	4.90	-	0.09
1620	1978	Telephone Organization of Thailand	Telecom	90.00	-	90.00
1630	1978	Kingdom of Thailand	Irrigation	17.50	-	17.02
1638	1979	Kingdom of Thailand	Urban	16.00	-	13.61
1662	1979	State Railway of Thailand	Railways	16.70	-	16.13
1690	1979	Electricity Generating Authority of Thailand	Power	80.00	-	78.38

Loan or Credit Number	Year	Borrower	Purpose	Amount (\$ million)		
				Less Cancellations		
			Bank	IDA	Undisbursed	
913	1979	Kingdom of Thailand	Education	-	35.00	34.92
929	1979	Kingdom of Thailand	Agriculture	-	25.00	24.74
1752	1979	Kingdom of Thailand	Ag. Extension	40.00	-	39.79
1770	1979	Electricity Generating Authority of Thailand	Power	80.00		80.00
1773	1980	Petroleum Authority of Thailand	Natural Gas Pipeline	107.00/d		107.00
1787	1980	Kingdom of Thailand	Irrigation	80.00		80.00
1816	1980	Kingdom of Thailand	Ag. Credit	19.00	-	19.00
1852	1980	Electricity Generating Authority of Thailand	Power	72.00	-	72.00
1870	1980	Kingdom of Thailand	Housing	29.00	-	29.00
1889	1980	Kingdom of Thailand	Inland Waterways	53.00		53.00
Total				<u>1,850.22</u>		<u>125.09</u>
of which has been repaid				229.25	0.36	
Total now outstanding				<u>1,620.97</u>	<u>124.73</u>	
Amount sold /c			68.63			
of which has been repaid			<u>46.61</u>	22.02		
Total now held by Bank and IDA				<u>1,598.95</u>	<u>124.73</u>	
Total undisbursed				<u>967.35</u>	<u>94.09</u>	

-
- /a This summary includes Bank Group loans/credits signed as of August 31, 1980.
 /b Of which \$3.1 million is Norway grant participation.
 /c Of which \$43.3 million sold to the Bank of Thailand.
 /d Includes refinancing of Loan S-10-TH (\$4.9 million).

B. STATEMENT OF IFC INVESTMENTS
(As of August 31, 1980)

<u>Year</u>	<u>Company</u>	<u>Type of Business</u>	<u>Amounts (\$ million)</u>		
			<u>Loan</u>	<u>Equity</u>	<u>Total</u>
1959	Concrete Products and Aggregate Co., Ltd.	Cement and Construction Materials	0.50	-	0.30
1964/ 1970	Industrial Finance Corporation of Thailand (IFCT)	Development Finance Company	-	0.39	0.39
1969/ 1975/ 1978/1979	Siam Cement Group	Cement and Construction Materials	28.33	4.24	32.57
1977	Mutual Fund Company Limited	Money and Capital Market	-	0.29	0.29
1977	United Sugar Terminal Limited	Food and Food Processing	2.50	0.20	2.70
1978	Siam Commercial Bank	Small and Medium Scale Industries	2.00	-	2.00
1979/ 1980	Bangkok Glass Industry Company, Limited	Glass Containers	4.85	0.34	5.19
1979	Siam City Cement Company, Limited	Cement and Construction Materials	36.00	4.00	40.00
1979	Thai Orient Leasing Co. Ltd.	Capital Market	-	0.15	0.15
Total gross commitments			<u>73.98</u>	<u>9.61</u>	<u>83.59</u>
Less cancellations, terminations, repayments and sales			<u>49.04</u>	<u>2.56</u>	<u>51.60</u>
Net held by the Corporation			<u>24.94</u>	7.05	31.99
Total undisbursed			6.00	-	6.00

C. STATUS OF PROJECTS IN EXECUTION /1
(As of August 31, 1980)

Loan No. 822 Second Education Project (Kasetsart University); \$15.4 Million Loan of May 24, 1972; Effective Date: August 22, 1972; Original Closing Date: June 30, 1978; Current Closing Date: July 31, 1980

Although the technical assistance and educational aspects of the project are largely on schedule, civil works are about three years behind schedule with consequent delays in furniture and equipment procurement. The delays in civil works result from delays in contracting architectural consultants, completing tender documents, and awarding contracts. These delays also reflected ineffective management which improved after the formation of a commission of senior officials to coordinate project implementation. The specialist services program under the project is nearly completed. Recommendations of experts for improvement of teaching, research and extension activities are considered worthwhile and have been implemented by the university staff. All the fellowships have been awarded and training mostly completed. Total project cost has exceeded appraisal estimates by about 36%.

Credit No. 369 Third Education Project; \$19.5 Million Credit of April 11, 1973; Effective Date: August 8, 1973; Original Closing Date: June 30, 1978; Current Closing Date: September 30, 1980

All project components are virtually completed except the Teacher Training Colleges (TTC) component which is about three years behind schedule. Good progress is generally being made in the pedagogical development of project components except at Songkla University where the attraction of teaching at Bangkok universities is resulting in high staff turnover.

/1 These notes are designed to inform the Executive Directors regarding the progress of projects in execution, and in particular to report any problems which are being encountered, and the action being taken to remedy them. They should be read in this sense, and with the understanding that they do not purport to present a balanced evaluation of strengths and weaknesses in project implementation.

Loan No. 1271 Fourth Education Project; \$31 Million Loan of September 13, 1976; Effective Date: February 9, 1977; Closing Date: June 30, 1982

Progress in project implementation is satisfactory and is expected to be completed ahead of schedule. All civil works have been tendered and most contracts awarded. More than half of equipment and furniture has been procured. Nearly all fellowships have been awarded. Staff training programs are on schedule but need to be improved, as does supervision by the Ministry of Education of its nonformal education programs.

Credit No. 913 Fifth Education Project; \$35 Million Credit of June 28, 1979; Effective Date: October 12, 1979; Closing Date: June 30, 1985

Good progress is being made in project implementation: (i) the Central Procurement Unit has been established; (ii) sites for all first phase institutions have also been acquired, and construction of this phase is expected to be completed by mid-1981; (iii) Phase I sketch plans and lists for most furniture and equipment have also been prepared; and (iv) technical assistance consultants have been identified and partly contracted.

Loan No. 864 First Telecommunications Project; \$37 Million Loan of December 5, 1972; Effective Date: March 1, 1973; Original Closing Date: December 31, 1977; Current Closing Date: December 31, 1980

The project is lagging a few months behind the revised time schedule established in 1975 due to delays in procurement. The Bank loan is fully committed and as of August 31, 1980, \$0.4 million remains to be disbursed. Nearly all of the local telephone network expansion has been completed.

Loan No. 1253 Second Telecommunications Project; \$26 Million Loan of June 11, 1976; Effective Date: August 25, 1976; Closing Date: December 31, 1980

The project is progressing satisfactorily. Procurement action on all Bank-financed items is complete. The Bank loan is fully committed and \$22.1 (96%) had been disbursed as of August 1, 1980. Local telephone network expansion is a few months behind schedule. The project is now expected to be completed by the end of December 1980, 11 months behind schedule, and to be fully disbursed by September 1981.

Loan No. 1620 Third Telecommunications Project; \$90 Million Loan of October 4, 1978; Effective Date: January 3, 1979; Closing Date: September 30, 1983

Due to a delay in the borrower's decision on standardization of switching equipment and cables, action on procurement is a year behind schedule. Waiting lists have been introduced in all telephone areas and procedures for giving new connections revised. Progress on implementation of other project components is satisfactory. The TOT's financial condition remains good.

Loan No. 1519 Sixth Highway (Provincial Roads) Project: \$110 Million Loan of March 23, 1978; Effective Date: June 22, 1978; Closing Date: December 31, 1982

Progress is generally satisfactory. Procurement of maintenance equipment is under way, and all contracts have been awarded. Construction on over 5% of project roads is well under way, with most contracts on schedule.

Loan No. 1662 Fifth Railway Project; \$16.7 Million Loan of April 23, 1979; Effective Date: August 22, 1979; Closing Date: June 30, 1982

Progress on project implementation is satisfactory. The financial condition of the State Railway of Thailand remains weak, and the Bank has urged the Government to fulfil its obligations by implementing the necessary tariff revisions.

Loan No. 1889 Inland Waterways and Coastal Ports Project; \$53 million loan of August 27, 1980; Closing Date: June 30, 1984

This loan is not yet effective.

Credit No. 461 Northeast Irrigation Improvement Project: \$7 Million Credit of February 19, 1974; Effective Date: October 7, 1974; Original Closing Date: June 30, 1979; Current Closing Date: December 31, 1980

The project will be completed three years behind schedule as a result of initial delays in appointing consultants and in procuring earthmoving equipment. Work on rehabilitation of main canal systems has been completed and the pace of construction of tertiary canals has improved considerably. The current estimate of project cost is \$30.3 million, compared with \$12.5 million at appraisal. This increase is due to inflation being higher than foreseen at appraisal, the decision to provide new tertiary canals over an area of 34,700 ha rather than the 21,500 ha assumed at appraisal, and the adoption of higher standards for tertiary development than envisioned at appraisal. The higher costs are compensated by increases in projected commodity prices and the economic rate of return is now estimated at 24% compared to 22% at appraisal. Progress on the rainfed rice component, earlier affected by management difficulty in integrating the work of several different disciplinary groups, is now satisfactory.

Loan No. 1630 Second Northeast Thailand Irrigation Improvement Project:
\$17.5 Million of December 4, 1978; Effective Date: May 9,
1979; Closing Date: September 30, 1985

The consultant's contract was signed in March 1979. Work by contract is delayed but "force account" work began in early 1980. However, progress has been slow due to delay in equipment procurement and recent shortages of cement and fuel.

Loan No. 1149 Phitsanulok Irrigation Project; \$95 Million Loan of July 25,
1975; Effective Date: October 31, 1975; Closing Date:
June 30, 1983

Major civil works are about one year behind schedule, but project completion is still expected by mid-1984. Construction work on the diversion dam is progressing well and works are expected to be completed by end-1980. About 4,500 ha of on-farm development was completed in 1979 and about 5,000 ha will be completed this year. All studies financed under the project are proceeding satisfactorily.

Loan No. 1468 Second Chao Phya Irrigation Improvement Project; \$55 Million
Loan of September 23, 1977; Effective Date: December 23, 1977;
Closing Date: June 30, 1983

Equipment procurement is progressing satisfactorily. Rehabilitation and on-farm development works on about 13,000 ha are expected to be completed in 1980, bringing the total area developed to 35,000 ha, which is in accordance with the appraisal estimate. A monitoring system is being set up and the project is now served by the National Agricultural Extension Project.

Loan No. 1787 Eleventh Irrigation Project; \$80 Million Loan of
January 17, 1980; Effective Date: April 2, 1980;
Closing Date: June 30, 1986

This loan became effective on April 2, 1980. Progress on implementation is satisfactory.

Loan No. 1198T Northeast Thailand Rural Development Project; \$21 Million
Loan of February 27, 1976; Effective Date: June 28, 1976;
Closing Date: June 30, 1981

After a delay of one year in appointing consultants, satisfactory progress is being made on the engineering of village roads. The first contract for construction of 114 km has been completed and work is more than 50% complete on two contracts for a total of some 300 km for village access roads. Works on other contracts are expected to begin soon. The road maintenance program under the project is doing well. Procurement problems have delayed the water supply components, but most of the drilling equipment has now been delivered, drilling crews have been recruited and are being trained. The rural electrification component has been completed, and progress on agri-

cultural extension and land settlements is satisfactory. After a slow start-up, the Upland Crop Improvement Component is progressing satisfactorily. The program anagement, with the assistance of a recently appointed program advisor, has undertaken a critical review of past work and is gradually introducing an innovative program of research to help solve the problems of upland-crop farmers in the Northeast.

Credit No. 929 Northern Agricultural Development Project; \$25 Million
Credit of June 28, 1979; Effective Date: October 12, 1979;
Closing Date: December 31, 1985

Reasonable progress has been achieved during the first year of project implementation, given the difficulties which have been encountered in regard to budgeting, contracting and staffing. IDA staff are giving close attention to these problems in an effort to help resolve them. In cases where works have been delayed, no serious consequences will result.

Loan No. 1199T Livestock Development Project; \$5.0 Million Loan of February
27, 1976; Effective Date: May 25, 1976; Closing Date: June
30, 1981

Project implementation is proceeding satisfactorily but disbursements remain about eighteen months behind appraisal estimates. The seed production and pasture development programs are progressing well and the loaned-bull and artificial insemination program, hitherto hindered by the delay in importation of cattle, are improving.

Loan No. 1243 Rubber Replanting Project; \$50 Million Loan of September 13,
1976; Effective Date: January 14, 1977; Closing date: June
30, 1981

The project is one year behind schedule due to procurement difficulties and initial delay in loan signing as well as in agreeing on the formula of fertilizers to be procured through ICB. Implementation is improving, however. Staff constraints have delayed completion of the socio-economic survey of rubber smallholders.

Loan No. 1393 National Agricultural Extension Project; \$28 Million Loan
of May 17, 1977; Effective Date: September 1, 1977;
Closing Date: December 31, 1982

Supervisory staff have been appointed in all 33 project provinces, and remaining vacancies are expected to be filled by end-1980. The quality of training, particularly that for subject matter specialists, can be further improved. Efforts to rectify shortcomings in the quality of leadership and technical support are being made in the weaker provinces. Excellent extension results have already been achieved, in particular through the extensive use of small pumps for dry-season cropping by small farmer groups, and in improvements in home gardens. The civil works program is about two years behind

schedule because of high inflation and, until recently, the low unit cost ceilings for civil works set by the Budget Bureau. It is expected that contracts for all remaining civil works will be awarded before October 1980. Procurement of vehicles, equipment and materials is on schedule. Disbursements are lagging through the delays in the civil works program. Consultants continue to provide excellent assistance.

Loan No. 1752 Second National Agricultural Extension Project; \$40 Million
Loan of September 18, 1979; Effective Date: December 18, 1979
Closing Date: December 31, 1985

This loan became effective on December 18, 1979, and implementation progress to date is satisfactory. Supervisory staff have received training but there is a shortage of qualified candidates for Extension Agent posts.

Loan No. 1816 Agricultural Credit Project; \$19 Million Loan of
April 30, 1980; Effective Date: August 29, 1980; Closing
Date: December 31, 1984

Preparation for project implementation has been somewhat slow, but responsible agencies expect to expedite implementation by October when the Thai fiscal year begins. The EEC has agreed to provide a grant of \$3.5 million to finance the cooperative training program; this decision was made after the Bank loan was signed.

Loan No. 977 Srinagarind (Ban Chao Nen) Hydroelectric Project; \$75 Million
Loan of April 15, 1974; Effective Date: June 14, 1974;
Closing Date: December 31, 1980

Civil works under the project are nearly completed. The installation of the turbine generating units is expected to be completed on schedule. Project costs are likely to be about 30% higher than appraisal estimates, due mainly to additional grouting work required beneath the main embankment. The progress on resettlement has been satisfactory, and all of the families affected have now been resettled.

Loan No. 1485 Pattani Hydroelectric Project; \$50 Million Loan of
September 23, 1977; Effective Date: December 20, 1977;
Closing Date: December 31, 1982

The construction of the main civil works is proceeding satisfactorily. The initial delay was caused by slow mobilization of the contractor and poorer than expected rock conditions at the downstream ends of the diversion tunnels. Orders for all major equipment (financed by the Kuwait Fund) have been placed. Construction for the resettlement component is progressing according to schedule. Disbursements are generally in line with appraisal estimates.

Loan No. 1527 The Accelerated Rural Electrification Project; \$25 Million
Loan of March 9, 1978; Effective Date: June 7 1978;
Closing Date: June 30, 1983.

After an initial delay in procurement, progress on project implementation is satisfactory.

Loan No. S-10 Natural Gas Development Engineering Project, \$4.9 Million Loan
of July 28, 1978; Effective Date: September 25, 1978; Closing
Date: June 30, 1980.

The project is close to completion. In July 1979, the Borrower, the National Gas Organization of Thailand, was taken over by the Petroleum Authority of Thailand who is the Borrower for a loan of \$107 million for the Second Gas Pipeline project (Loan No. 1773-TH). Loan No. S-10-TH would be refinanced under Loan No. 1773-TH.

Loan No. 1690 Bang Pakong Thermal Power Project; \$80 Million Loan of
August 9, 1979; Effective Date: May 23, 1980.
Closing Date: June 30, 1984

This loan became effective on May 23, 1980.

Loan No. 1773 Second Natural Gas Pipeline Project; \$107 Million Loan of
February 15, 1980; Closing Date: December 31, 1983

This loan is not yet effective.

Loan No. 1770 Khao Laem Hydroelectric Project; \$80 Million Loan of
June 17, 1980; Effective Date: September 17, 1980;
Closing Date: February 28, 1985

This loan became effective on September 17, 1980.

Loan No. 1852 Mae Moh Lignite Project; \$72 Million Loan of
June 17, 1980; Effective Date: September 17, 1980;
Closing Date: December 31, 1984

This loan became effective on September 17, 1980.

Loan No. 1556 Bangkok Sites and Services Project; \$8.6 Million Loan of June 15, 1978; Effective Date: September 22, 1978; Closing Date: December 31, 1981

Progress is generally good with only minor delays in implementation. Current cost estimates for civil works are below appraisal estimates.

Loan No. 1870 National Sites and Services Project; \$29 Million Loan of August 8, 1980; Closing Date: December 31, 1984

This loan is not yet effective.

Loan No. 1638 Bangkok Traffic Management Project; \$16 Million Loan of January 25, 1979; Effective Date: April 25, 1979; Closing Date: September 30, 1982

After an encouraging start, the project's overall progress has slackened. The most pressing concern is to strengthen the role of OCMRT in guiding project implementation. The policy package featuring area road pricing has made little progress in gaining acceptance. Recently, a healthy dialogue on the role of various agencies took place that may help to push the implementation of the project. Tangible progress to date has been the completion of bus lanes and the technical success in the installation of a computer-controlled traffic signal scheme.

Loan No. 1492 The Minburi (Lat Krabang) Industrial Estate Project; \$4.75 Million Loan of December 5, 1977; Effective Date: March 24, 1978; Closing Date: December 31, 1981

On-site infrastructure has been progressing. The unsatisfactory condition of an access road has been brought to the Government's attention for necessary action. Bunding, drainage, and three of the four deep wells have been completed. Substantial progress is being achieved in road construction, sewerage, and water distribution. Land sales have been very encouraging with nearly all of available plots either firmly committed or being negotiated, and are well ahead of appraisal estimates. These sales have been achieved at an average sales price of B 300,000 per rai, as compared to projected sales price of B 250,000 per rai in the appraisal. In order to accommodate substantial demand for the Export Processing Zone, IEAT has enlarged this area to 30 ha. The estate's full development has nearly been achieved.

Loan No. 992 Second Industrial Finance Corporation of Thailand (IFCT)
Project; \$12.0 Million Loan of June 4, 1974; Effective
Date: September 4, 1974; Original Closing Date: September 3
1978; Current Closing Date: December 31, 1980

Since June 1974 when the loan was made, IFCT's financial condition continued to be good. The loan is fully committed and nearly disbursed.

Loan No. 1327 Third IFCT Project; \$25 Million Loan of December 8, 1976;
Effective Date: March 14, 1977; Original Closing Date:
December 31, 1981; Current Closing Date: December 31, 1981.

The loan commitment rate was initially slower than expected.

Credit No. 767 Population Project; \$33.1 Million Credit of February 27, 197
Effective Date: June 30, 1978; Closing Date: December 31,
1981

Due to initial staffing problems, key project activities were held up initially and major elements of the project are about six months behind schedule. The Ministry of Public Health is, however, taking appropriate action to strengthen project management, improve coordination and remove impediments to implementation.

THAILAND

BANGKOK AND SATTAHIP PORTS PROJECT

Supplementary Data Sheet

Section I - Timetable of Key Events

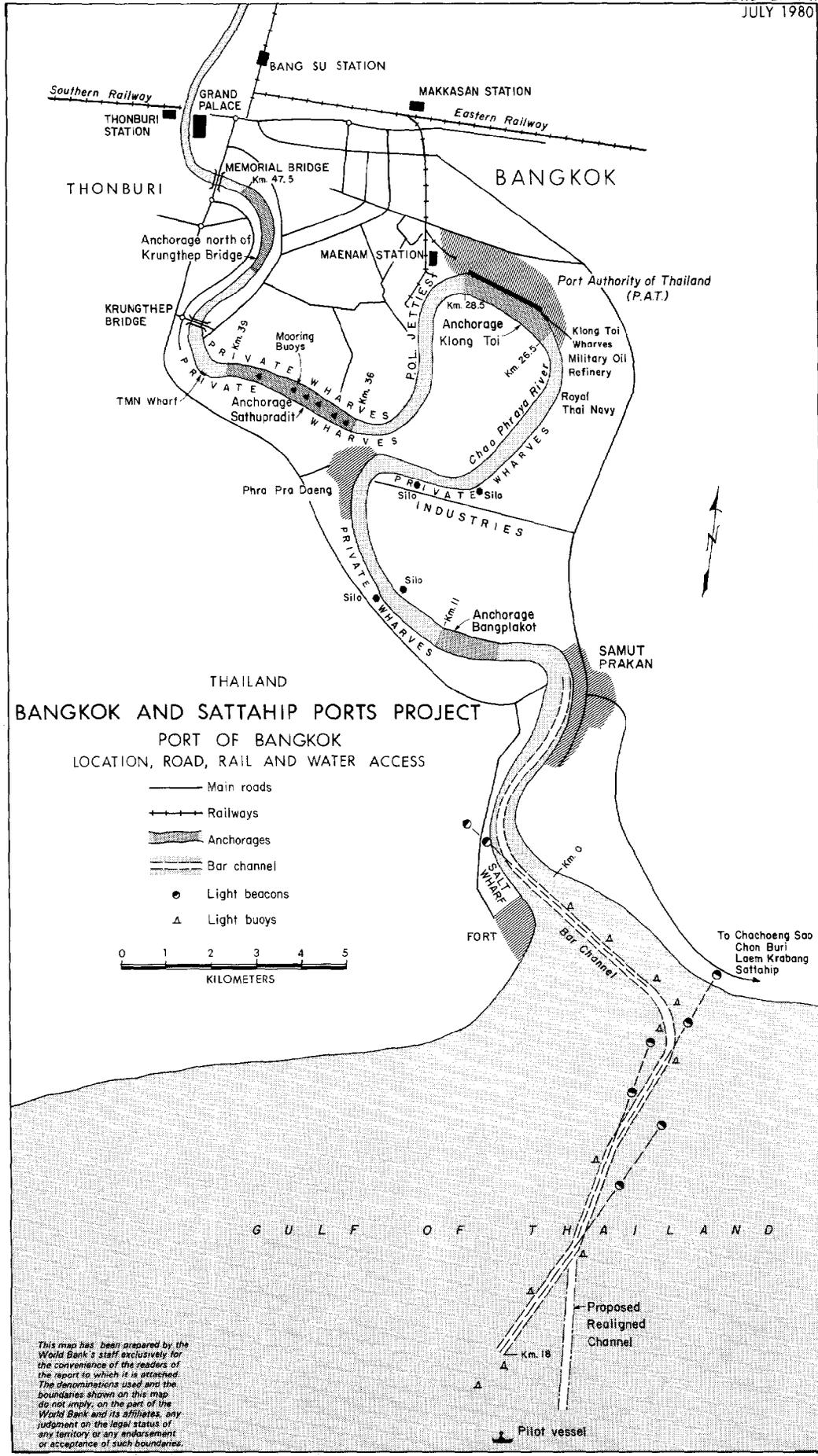
- (a) Time taken by the country to prepare the project: 18 months
- (b) Agency which prepared the project: the Sattahip Committee and consultants financed with the Bank Loan 1519-TH;
- (c) First presentation to the Bank: September 1979
First mission to consider the project: October 1979
- (d) Departure of the appraisal mission: February 1980
- (e) Completion of negotiations: September 1980
- (f) Planned Date of Effectiveness: December 1980

Section II - Special Bank Implementation Actions

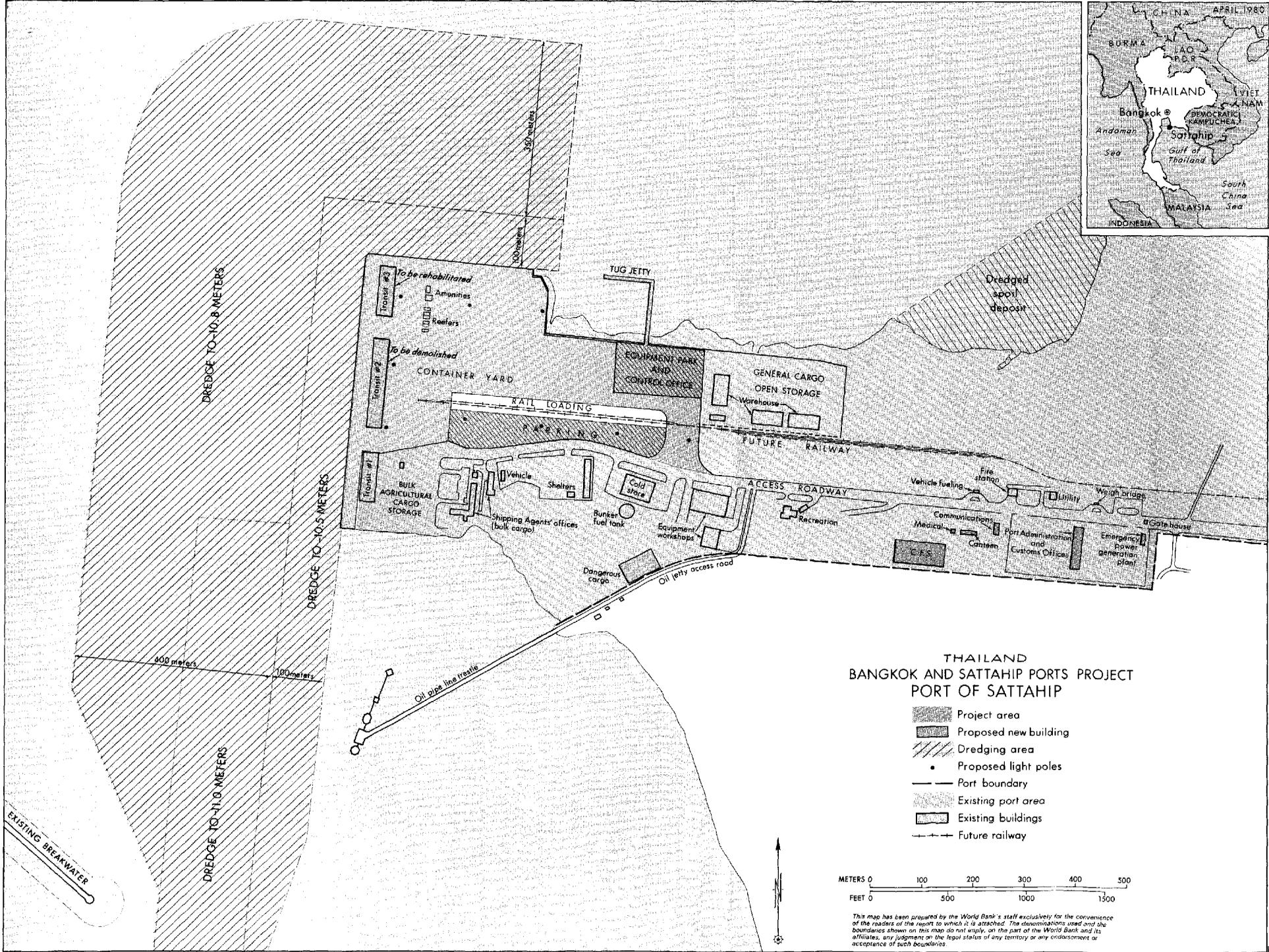
None

Section III - Special Conditions

- (a) institution of measures for operational and physical improvements at Klong Taei and Sattahip (para. 45);
- (b) modifications in existing procedures to improve both break bulk and container yard operating procedures (paras. 46 and 47);
- (c) reallocation of berths between conventional and containerized cargo at Klong Toei to contain congestion (para. 48);
- (d) the Government will ensure that necessary land for the Bang Su complex is made available by SRT. The Government will provide financing for the construction of the complex and make arrangements satisfactory to the Bank for its operation (para. 49);
- (e) agreement to ensure adequate transportation of containers between Sattahip and Bang Su; permit consignees to choose haulage contractors of their own choice (para. 50); and
- (f) a subsidiary loan agreement to be entered between the Government and PAT (para. 52).

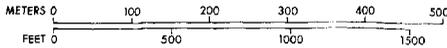


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THAILAND
BANGKOK AND SATTAHIP PORTS PROJECT
PORT OF SATTAHIP

- Project area
- Proposed new building
- Dredging area
- Proposed light poles
- Port boundary
- Existing port area
- Existing buildings
- Future railway



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