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PROJECT PAPER

ANNEXES

U.S. - THAI DEVELOPMENT PARTNERSHIP PROJECT

(493 - 0350)

USAID / THAILAND

February 17, 1993

Revised

May 28, 1993

U. S. - Thai Development Partnership
(493-0350)

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DRAFTED BY: AID/ASIA/DR/PO: PHILIPPA LEE

APPROVED BY: AID/OAA/ASIA: GLAUDAID

AID/ASIA/DR/PO: DELANE AID/ASIA/DR/TP: MNUA (DRAFT)
AID/ASIA/EA: CHASAN (DRAFT) AID/ASIA/PPM: DAVIS (DRAFT)
AID/FA/B: FDELROSQUE (INFO) AID/PO/H/AIDS: VEARNS (DRAFT)
AID/RO/VID: JLUCKE (DRAFT) AID/PRE/I: EPURTZ (DRAFT)
AID/GC/ASIA: OBISSEN (DRAFT)
AID/PRE/A: SHACDEF (DRAFT)
AID/PRE/IBS: MBACHA (INFO)

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TAGS:

SUBJECT: US/THAI DEVELOPMENT PARTNERSHIP FUND PROJECT
(493-0250) - AID/W PID REVIEW

REF: BANGKOK 49822

1. AN AID/W PROJECT REVIEW COMMITTEE (PRC) MEETING WAS

HELD TO REVIEW THE SUBJECT PID ON OCTOBER 18, 1991. MS. GERRY DONNELLY, EXUSAID/THAILAND PROGRAM OFFICER, PRESENTED THE PROJECT AND REPRESENTED THE MISSION. PRESENT AT THE PRC MEETING WERE REPRESENTATIVES FROM AA/ASIA, ASIA/DR/PO, ASIA/A, ASIA/PPM, PRE/I, PPE/IBS, PRE/H, PPC, R AND D/H/AIDS AND R AND D/VID.

2. THE GENERAL CONCLUSION OF THE MEETING WAS THAT THE MISSION SHOULD BE COMPLEMENTED ON THE SUBMISSION OF A SOUND PROJECT IDEA THAT IS CONSISTENT WITH THE APPROVED ADC STRATEGY FOR THAILAND. USAID/THAILAND IS HEREBY AUTHORIZED TO PROCEED WITH THE PP DEVELOPMENT AND PROJECT AUTHORIZATION IN THE FIELD. A NUMBER OF ISSUES WERE RAISED AT THE MEETING, RESULTING IN THE FOLLOWING PP DEVELOPMENT GUIDANCE:

3. PROPOSED CONTRACTING MECHANISM - THE PRC DEBATED THE PROPOSED USE OF TWO PRIME CONTRACTORS AND DISCUSSED THE MERITS OF USING ONE PRIME CONTRACTOR TO LESSEN THE MANAGEMENT BURDEN ON THE MISSION. THIS ISSUE WAS NOT RESOLVED, BUT DEFERRED TO THE PP DEVELOPMENT PHASE FOR FURTHER EXPLORATION.

DUE TO NATURE OF IMPLEMENTING CONTRACTS, I.E. COMMITTING LARGE SUMS OF MONEY AGAINST A SCOPE OF WORK WHOSE DETAILS WILL NOT BE WELL DEFINED AT THE TIME OF COMMITMENT, THIS PRESENTS A CONTRACTING CHALLENGE. THE COMMITTEE RECOMMENDS THAT THE MISSION EXPLORE CONTRACTING MECHANISMS USED BY AID IN PAST SIMILAR SITUATIONS. STAN WEISMAN, RCO/MANILA, WORKED ON ESTABLISHING TWO SIMILAR CONTRACTS IN THE EASTERN CARIBBEAN, ONE FOR AG PRODUCTION, THE

OTHER FOR INFRASTRUCTURE DEVELOPMENT.

IT WAS RECOMMENDED THAT THE MISSION CONSIDER RESERVING SOME PORTION OF PROJECT FUNDS FOR AID/W PROJECT BUY-INS, WHERE APPROPRIATE, E.G., R AND D'S AIDS PROJECT. FBI: R AND D IS SERIOUSLY CONSIDERING THAILAND AS A PRIORITY PARTICIPATING COUNTRY UNDER ITS WORLDWIDE AIDS PROJECT AND WILL BE DISCUSSING THIS POSSIBILITY WITH MISSION WITHIN NEXT THIRTY DAYS - END FYI

4. FOCUS SINCE THIS PROJECT WILL BE THE MISSION'S MAJOR VEHICLE FOR THE FUTURE, YOU SHOULD CONSIDER ITS ROLE IN YOUR OVERALL FOCUS PLAN AS YOU PROCEED FURTHER. ON THIS NOTE, THE PP SHOULD ADDRESS THE RELATIONSHIP BETWEEN THE NUMBER AND KINDS OF ACTIVITIES UNDER THIS PROJECT AND MISSION STAFFING LEVELS. THE PP SHOULD ALSO DISCUSS BRIEFLY ALL OTHER MISSION ACTIVITIES AND HOW THIS PROJECT FITS WITH THEM.

5. OBLIGATION ARRANGEMENTS - UNDER MISSION'S ORIGINAL CONCEPT, IMPLEMENTATION WOULD NOT BE DIRECTLY ASSOCIATED WITH THE RIG. MISSION PROPOSAL NOW SHOWS INTENTION OF SIGNING WITH RIG. RAISING AGAIN THE STAFF-INTENSITY PROBLEM OF DEALING WITH DIEC AND THE OUT-GOING PROBLEM IF THERE WERE ANOTHER COUP. ALTHOUGH FINAL DECISION IS MISSION'S, PLEASE ADVISE BUREAU OF RATIONALE IF DECISION IS TO SIGN WITH THE GOVERNMENT.

6. AIDS THE COMMITTEE DEBATED WHETHER OR NOT AN AIDS ACTIVITY FITS UNDER THE HUMAN CAPITAL COMPONENT OR UNDER THE PROJECT AT ALL. THE PP DEVELOPMENT PROCESS SHOULD

EXPLORE MAKING THE AIDS ACTIVITY A THIRD COMPONENT OR A STAND-ALONE EFFORT. THE R AND D PROJECT BY ITSELF MAY PROVE TO BE ADEQUATE TO ADDRESS THE MISSION'S AIDS

CONCERNS, ESPECIALLY IF IT WERE TO BE EXPANDED USING MISSION BUY-IN FUNDS.

7. ADEQUACY OF FUNDS FOR PP DEVELOPMENT - ASIA/PPM IS IN RECEIPT OF REFTEL PD AND S REQUEST. THE TIMING AND LEVEL OF PD AND S FUNDS AVAILABILITY WILL BE SUBJECT OF SEPTTEL FROM PPM. THE AVAILABILITY OF OE, INCLUDING ENVIRONMENTAL TRAVEL MONEY, IS ALSO DIFFICULT TO PREDICT AT THIS TIME. IT IS NOT CLEAR THAT THERE WILL BE AN OE SET-ASIDE THIS YEAR FOR DIRECT-HIRE ENVIRONMENTAL TRAVEL. HOWEVER, ASSUMING TRAVEL FUNDS BECOME AVAILABLE, ASIA/DR/PO WILL DO ITS UTMOST TO MAKE A STAFF PERSON AVAILABLE FOR APPROXIMATELY THREE WEEKS. A JANUARY, 1992 TIME FRAME WAS MENTIONED, WITH THE PDO TO BE INVOLVED IN RESOLVING THE CONTRACTING ISSUE AND PUTTING TOGETHER THE FINAL PP DOCUMENT.

8. TRANSACTION LIMITS - BASED ON EXPERIENCE WITH SIMILAR PROJECTS, THE COMMITTEE CAUTIONS THE MISSION AGAINST THE TENDENCY OF ONE TRANSACTION TO ABSORB AN UNINTENDED LARGE SHARE OF PROJECT RESOURCES. IT WAS SUGGESTED THAT THE PP PRESENT GUIDELINES TO PREVENT A SINGLE TRANSACTION FROM RECEIVING AN INORDINATE AMOUNT OF ATTENTION AND FUNDS. PERHAPS A MAXIMUM DOLLAR LIMIT SHOULD BE SET, ALONG WITH A PERCENTAGE OF AID FUNDS CAP TO ASSURE A MINIMUM LEVEL OF NON AID PARTICIPATION (MAKING CONTRIBUTION AS EVIDENCE OF RISK SHARING) AT THE TRANSACTION STAGE.

9. VID CONCERNS R AND D/VID OFFICER OFFERED TO ASSIST THE MISSION WITH ADVICE TO HELP ASSURE THAT VID CONCERNS ARE INCLUDED IN THE FINAL PP DESIGN. R AND D/VID ALSO OFFERS TO ARRANGE BUY-IN TA TO ASSIST IMPLEMENTATION CONTRACTORS WITH VID INTEGRATION. MISSION IS IN RECEIPT OF HER MEMORANDUM WHICH RECOMMENDS THREE AREAS OF THE PP TO ADDRESS VID ISSUES: (1) A SOCIAL SOUNDNESS ANALYSIS WHICH

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OUTGOING
TELEGRAM

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SHOWS THAT PARTICIPATION OF WOMEN AS BENEFICIARIES IS
CRITICAL; (2) A PLAN FOR ENCOURAGING WOMEN'S PARTICIPATION
AS TRAINEES AND TRAINERS AND (3) LOWFRAME INDICATORS WHICH
ARE GENDER-DISAGGREGATED.

10. ENVIRONMENTAL ANALYSIS - BUREAU ENVIRONMENTAL
OFFICER WISHED TO POSTPONE APPROVAL OF IEE PENDING RECEIPT
OF ADDITIONAL ANALYSIS. MEMO DETAILING CONCERNS WAS FAXED
TO HINTARA SILAWATSHANAWAI ON 10/3. THE MEMO REQUESTED A
NEW IEE CONTAINING MORE DETAIL ABOUT THE ENVIRONMENTAL
CONSIDERATIONS OF THE PROJECT AND THE RATIONALE FOR ANY
CATEGORICAL EXCLUSION. SUGGEST MISSION SHEET REVISED IEE.
DEVELOPMENT OF REVISED IEE SHOULD BE DONE IN COLLABORATION
WITH ASIA/DR/PD TO ESTABLISH CATEGORIES OF TRANSACTIONS.

THIS WILL ASSURE THAT ENVIRONMENTAL ASSESSMENTS ARE
PERFORMED ON TRANSACTIONS REQUIRING SUCH AND THAT
TRANSACTIONS WARRANTING CATEGORICAL EXCLUSIONS ARE NOT
BURDENED BY UNNECESSARY ANALYSIS.

11. AID/W ASSISTANCE AID/W STANDS READY TO SUPPORT FF
DESIGN EFFORT. A REQUEST FOR CODE RESEARCH, FINDING OUT
MORE ABOUT OTHER DONOR PROGRAMS, RESEARCHING PAST

CONTRACTING MODELS AND OTHER INFORMATION-GATHERING
REQUESTS CAN BE FORWARDED TO ASIA/DR/FC. FREA/1 STANDS
READY TO DISCUSS LOAN GUARANTEES (SOON TO BE POSSIBLE UP
TO 5 MILLION DOLLARS). FREA/H (THROUGH PHUDD-BANONGDA) ALSO
OFFERS ITS SERVICES TO DISCUSS POSSIBLE USES OF HOUSING
GUARANTEES IN RELATION TO POSSIBLE TRANSACTIONS.

12. PLEASE KEEP AID/W INFORMED RE FF DEVELOPMENT AND
PROGRESS TOWARD RETURN TO DEMOCRACY.

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LOGICAL FRAMEWORK MATRIX

U.S.-THAI DEVELOPMENT PARTNERSHIP

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>Goal:</u></p> <ul style="list-style-type: none"> - Sustained, broad-based, environmentally sound economic growth, supported by continuing private, public and professional relations between Thai and U.S. institutions. 	<ul style="list-style-type: none"> - Real GDP Growth Statistics. - Measures of Income Distribution. - Number of U.S. organizations new to Thailand engaged in strategic partnership development under the Partnership. 	<ul style="list-style-type: none"> - Monitoring published economic/social statistics. - Project monitoring and evaluation system. 	<ul style="list-style-type: none"> - No major exogenous shocks to economy. - U.S. organizations are competitive in target areas and committed to working in Thailand.
<p><u>Purposes:</u></p> <ol style="list-style-type: none"> 1. Slow the spread of HIV/AIDS infection. 2. Assist Thailand to identify and implement sustainable solutions to environmental management and infrastructure problems. 	<ul style="list-style-type: none"> - Data on spread of HIV/AIDS infection. - Increased quantity and quality of Thai environmental infrastructure design, construction, operations and maintenance. 	<ul style="list-style-type: none"> - RTG semi-annual survey of HIV/AIDS infection. - Monitoring of public and private sector investments in environmental infrastructure. - Monitoring of environmental regulatory changes and enforcement of both old and new laws. 	<ul style="list-style-type: none"> - Absence of unforeseen factors that would accelerate HIV/AIDS increase beyond present trend. - RTG remains committed to environmental infrastructure development. - RTG remains committed to serious environmental improvement.

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>Outputs:</u></p> <p>1. HIV/AIDS Infection. Enhanced Thai capacity to cope with the human and financial costs of the looming AIDS epidemic.</p> <p>2. Environmental management and infrastructure. Creation of environmental infrastructure and provision of services including but not limited to solid waste disposal, waste water treatment and hazardous and toxic waste management.</p>	<ul style="list-style-type: none"> - At least eight U.S.-Thai joint ventures managing or financing AIDS prevention and/or care programs. - Establishment and implementation of a technical assistance program for data analysis and policy formulation. - At least seventeen new U.S.-Thai activities underway to mitigate environmental problems. 	<ul style="list-style-type: none"> - Project monitoring and evaluation system. - Program monitoring and evaluation system. - Project monitoring and evaluation system. 	<ul style="list-style-type: none"> - U.S. has one or more successful models which can be adapted for use in Thailand. - U.S. organizations committed to working in Thailand. - New Thai Government continues to give AIDS high priority. - RTG permits private sector provision of public services. - U.S. organizations are competitive and committed to working in Thailand.

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>Inputs:</u></p> <ol style="list-style-type: none"> 1. Over 5 year LOP, approximately 25 strategic partnerships concluded with input of Reality Tests, Development Plans, Nurturing grants and Development Impact Enhancement Packages. 2. An estimated \$150-\$300 million in Thai, U.S. and other public and private investments leveraged as a result of strategic partnership agreements. 3. TA provided to RTG high level AIDS policy coordination and planning office. 4. USAID/Thailand bilateral staff and Partnership Manager fully engaged with U.S. and Thai organizations in transactions development process. 	<ul style="list-style-type: none"> - Number of grants by Stage of strategic partnership development process. - Investments made by strategic partnership principals. - Office receives TA. - Time allocation of Mission staff. 	<ul style="list-style-type: none"> - Project monitoring and evaluation system. - Project monitoring and evaluation system. - Project monitoring and evaluation system. - Performance evaluations. 	<ul style="list-style-type: none"> - U.S. organizations are competitive and commit to working in Thailand. - "Bankable" project opportunities are identified which can compete effectively for domestic and international investment funds. - Office continues under newly elected Thai Government. - AID program continues uninterrupted.

HUMAN CAPITAL AND TECHNOLOGY

A POTENTIAL THIRD AREA OF FOCUS

1. DEVELOPMENT CONTEXT – OVERVIEW OF HUMAN CAPITAL AND TECHNOLOGY

Thailand's economic growth has been fueled in large part by an abundant supply of trainable, low-cost labor. This has been used to advantage by much of the foreign direct investment in rapidly expanding export industries. To sustain Thailand's growth and competitiveness in the face of rising labor costs productivity must continue to improve. The improvement will be heavily dependent on investments in human capital and technology. Serious shortages of specialized technical and business skills are beginning to constrain economic growth. Local industry managers have refused to commit to production of more sophisticated products because of personnel shortages. Other foreign investors have reputedly turned down opportunities in Thailand for the same reason.

There are a number of parallels with the current state of development of the Thai economy and the economic conditions some years ago in what are now the Asian Tigers of Taiwan, Singapore and South Korea. Those countries developed thriving labor-intensive industries during the period of low wage rates but, importantly, they succeeded in "moving up the product scale" by increasing the technological content of their industries and adding more value per unit of labor in the production process. Very substantial investments were made in the educational systems, especially to produce the technicians, engineers and business specialists to support a sophisticated business and industry sector. In addition, well-conceived policies to promote foreign direct investment, stimulate technology transfer, and increase domestic content of production have all helped to accelerate this process. Industries which depend on low wages to compete in world markets will increasingly be migratory and will leave higher wage economies. There are examples of entire factories which have been dismantled, exported and reassembled in a lower wage country in order to maintain competitive product prices.

Thailand is suffering from an acute shortage of the skills needed to support business and industrial sectors which are leading its economic growth. Rigidities in the Thai educational system and the dominance of the public sector have contributed to a shortage of skilled graduates and the lack of strong linkages between educational institutions and business and industry which they supply with labor. The educational system has failed to adequately adapt to rapidly changing needs of the market place. The substantial lag time for any educational reforms and changes to affect the skills of the large number of workers already in the labor force means that even drastic education reform measures implemented now will only slowly improve the situation. In the dynamic Thai economic environment, specialized short term training programs, which at present are limited in availability, could become a critical element in upgrading Thailand's labor force until such time as changes in the educational system begin to lead to results that will better meet labor market demand.

Behind the support for increasing the technological content of Thai industry and services is recognition of the large deficit of skills needed to manage technology. The most recent studies by the Thailand Development Research Institute (TDRI -- a private think tank) indicate that a shortage of engineering graduates will persist throughout this decade. In addition, their studies indicate a strong need for more highly qualified technicians and more programs which upgrade the skills of those already in the workforce. TDRI has characterized the system of users and producers of science and technology manpower as one in which the "signals" are key to keeping the supply and demand in balance. Inadequate linkages and information flows between industries and educational institutes (which are predominantly public sector) result in considerable mis-matching between the supply and demand. Because of the high cost of quality S&T training and the need to continually upgrade equipment, most existing training programs are not keeping pace with new technologies. Failure to adjust salaries of educators in the S&T areas has resulted in a migration of teaching talent to industry.

CONFORMITY WITH THAILAND'S PRIORITIES AND PROGRAMS

Two chapters of the RTG's Seventh National Economic and Social Development Plan extensively cover the manpower problem -- one on Development of Science and Technology and the other on Development of Human Resources. The RTG places priority on investment in human capital, especially upgrading and expanding the ranks of skilled technical workers.

The RTG has placed priority on initiatives to:

"invite foreign governments, multinational companies and leading foreign institutions to organize special training programs for Thai personnel in areas facing critical shortages...;"

"establish a system of public and private sector cooperation in the provision of skill training to respond to the needs of the industrial sector, as well as stimulate the private sector to organize their own training programs."

"accelerate development of engineers, scientists, mathematicians, and technologists in areas with high demand."

In support of the above priorities, a number of initiatives have been proposed to alleviate structural problems of the educational system. To increase the stake of industry in upgrading manpower skills, one policy tool available to the government is to use tax deductions to stimulate increased investment and address the resource constraints which impede improvements to the training systems. Another suggestion proposed by TDRI is to encourage the activities of private schools, especially in the urban areas, to help increase the supply of graduates in shortage categories.

This will require the government to reduce controls and relax the tuition caps on the private institutes. An especially important gap to be filled is in the area of on-the-job training. High labor mobility and poaching have been strong disincentives to individual company investments in skills upgrading. Policy measures to stimulate this investment in training are seen as a means to improve OJT.

A key factor in improving the education system in Thailand rests on the cooperation between schools and industry. There have been encouraging moves to free up some of the constraints on the university system which may help make tertiary education more responsive to the needs of the economy. A few lead industries have taken the initiative to sponsor programs to address some of the specific shortages. For example, a large telecommunications company has instituted a program to award 120 scholarships for engineers. Others have aggressively priced computer software and provided site licensing for use by universities to assist in improving the quality of instruction and to broaden the market for their products. Many U.S. company executives have expressed an interest in participating in programs to improve the quality and quantity of Thai graduates in a number of skill areas.

3. PROPOSED USAID PROGRAM

During and subsequent to the preparation of the AMP, the Mission invested substantial resources in two major analyses of human capital development in Thailand. The first, a study prepared for the Assistance Management Plan (AMP) was an overview of Human Resource Development to assess the magnitude of the problem and areas of program intervention; a second identified potential transactions among Thai and U.S. principals. Sections of the two studies (Ernst & Young, Washington, D.C., March 1990; and IMRS Co. Ltd, Bangkok, March 1991) can be found in Annex C.1.b.

The purpose of a human capital and technology component of the Partnership would be to:

assist Thailand to upgrade and expand the quality and quantity of labor force skills and technological capacity required to maintain international competitiveness and the spread of equity.

Building on the above two studies, the Mission mounted an effort to assess and critique transactions related to partnerships in human capital and technology. As a result, there is some experience in the kinds of issues and problems to be faced in developing these partnerships.

There are comparative advantages for the U.S. in the process of seeking partnerships to upgrade the Thai higher educational system. Many senior faculty and administrators at Thai universities are U.S.-trained. A.I.D.-funded collaborative research programs and other activities have helped to cement ties between U.S. and Thai institutions. There is a natural

affinity for U.S. universities in the high-tech fields and there is a recognition that free flow of information is a critical ingredient in the U.S. educational and research and development communities. As a result, technology is a much more freely-traded commodity than in many other developed countries and is more available for transfer to a technology consumer like Thailand.

At the technical training level, the U.S. does not have the reputation for technical training that Germany has, for example. However, there is a recognition that much of the technical and vocational training in the U.S. is done by the private sector for the private sector and is subject to a constant market test of its usefulness. In particular, standards and accreditation are frequently established by the industry groups which have a vested interest in the level and quality of the skills of the graduates of technical programs. Specific companies or groups of companies, such as the aerospace industry, have invested substantially in assistance to the private training system. As a consequence, there is ample opportunity for industry and the training infrastructure to communicate and ensure that the technical graduates are work-ready.

The stage of technological development in Thailand is predominantly at the first level of deployment of existing, imported technologies. The pattern of acquiring technology mirrors that of many other countries in the region. A principle means of attracting technology has been to encourage foreign direct investment (FDI) and the process license and production technologies, that accompany it. Thailand has a number of core "driving industries" which are the export-oriented producers (mostly as a result of FDI) which, in turn, rely to a greater or lesser extent on support industries for supply of components, raw materials or services. The government has succeeded in creating many of the necessary responsive economic foundations to motivate investment but has faltered in providing some of the physical infrastructure (e.g., telecom) and is most lacking in building an adequate human resource development infrastructure.

There are some contrasts in the pattern of technology transfer through FDI. One model is most evident in the Japanese industries which dominate foreign investment in Thailand. The companies have a long-range approach to employment which is reflected in their local subsidiaries and are perhaps the most active of foreign interests in training staff at the technician level. However, the vertical integration of large Japanese firms has slowed the flow of knowledge and expertise to a broader base of supporting industries. For example, in the automotive industry, most parts are either imported, manufactured by the parent company in Thailand, or produced by an affiliate company. Production machinery and raw materials are procured largely through Japan's Keiretsu system of affiliations which discourages small, non-Japanese firms from breaking into the closed loop.

There are other leading industries which have spread the base of manufacturing through a more decentralized system. One example is the U.S. owned Seagate computer hard disk operation in Thailand which effects technology-transfer through sourcing of parts and components from a surprisingly wide array of small Thai companies. For example, a supplier of plastic tubes for packaging of Integrated Circuit chips must meet extreme tolerances for dimensions and anti-static properties and must comply with a rigorous just-in-time production system which requires the firm to make as many as four deliveries per day to the assembly plants.

The previous two examples are perhaps not typical of all foreign investment in Thailand but the implications are not lost on Thai industrialists that U.S. companies generally follow an investment pattern that broadens the base of benefits and technology transfer. The training and assistance provided by the lead industry can be a significant factor in addressing the need for better skills and better use of modern manufacturing systems.

4. ILLUSTRATIVE STRATEGIC PARTNERSHIPS

Over the last year, the Mission has assessed and critiqued a number of possible strategic partnerships in the Human Capital and Technology areas. These initiatives have demonstrated the feasibility of a collaborative U.S.-Thai partnership both to leverage resources and to bring about sustainable development solutions.

a. Petroleum and Petrochemical College

Thailand has a thriving oil and gas industry in which a number of U.S. firms play a major role. There is active exploration in the interior of the country as well as joint efforts with Vietnam in adjoining territorial waters of the Gulf. The petrochemicals plant capacity is undergoing rapid expansion with two new refineries, an aromatics plant and an olefins plant planned or under construction. There are reportedly now some 2,000 plastics companies in Thailand. The demand for engineering skills greatly exceeds supply and the sector is experiencing salary inflation and poaching problems as a result.

In addition to the net shortage of engineers, industrialists cite the demand for engineering graduates with the qualities to effectively guide the technical management of Thai firms. Industry seeks candidates with fluent English, familiarity with plant operations, and an open and participatory professional style. Several senior managers suggested that leadership qualities were almost as important as technical skills.

In response to these needs, Chulalongkorn University initiated the idea of a graduate program in petrochemical studies which would be developed in partnership with U.S. universities, have a strong research focus, and would be taught in English. USAID funded travel by the President of the College to the U.S. in early 1991 to assess U.S. engineering schools and their interest in a partnership in Thailand. As a result, three U.S. schools (Case Western Reserve, University of Michigan, and University of Oklahoma) with strong engineering and petrochemistry programs were picked to develop the program. Under the limited authority to expend PD&S resources to assess and critique program activities, the Mission engaged the Association of Big Eight Universities in the U.S. to carry out a more detailed assessment of the program. The team was tasked with exploring the program in detail with the U.S. partners and with the petrochemical industries in Thailand in order to define the parameters for a successful graduate program. Although the assessment is not complete at this writing, the initial indications are that such a partnership can be highly successful. Some of the relevant factors include the following:

- o Most resources are available locally: Chulalongkorn will invest at least \$10 million in building, equipment and operations; U.S. petrochemical industries in Thailand have expressed a high level of support for the program. USAID resources can play a key catalytic role but will be a small percentage of the overall investment. Laboratory and computer equipment manufacturers will be able to participate in the project to showcase U.S. technology to the Thai and Southeast Asian students.
- o A premier research facility will be incorporated to uniquely serve the interests of university researchers and industry. Such a facility will attract U.S. university faculty members, will serve applied research needs of local industry and considerably enhance the "hands-on" teaching process.
- o The Petrochemistry program will address a critical human capital need in Thailand and will support the objective of U.S. universities to become more international in scope. There is a real opportunity for the participating U.S. interests to enhance their presence in Asia at a time when this sector is expanding rapidly.

USAID support for this program is likely to be in the form of assistance to support the cost of U.S. faculty during the start-up phase of the program. Other support will be sought from such sources as the AID/W university development linkages project, U.S.-ASEAN Environmental Partnership and APEC programs.

b. Machine Tool Training

The rapid growth of manufacturing in Thailand has generated strong demand for machine tools and skilled labor to run them. The imports of machine tools climbed dramatically from less than \$20 million in 1987 to about \$170 million in 1989. Suppliers from Japan, Taiwan and China are the dominant presence in the imported equipment market at present. Market trends will be for increasingly automated high output equipment as Thai industry seeks to improve productivity and quality.

Technical training in advanced manufacturing technology is not meeting the demand for either the numbers or the quality and type of skills in demand. Public technical institutes at the upper secondary level are hampered by old and outmoded equipment, inappropriate curricula, and low salary scales which makes it increasingly difficult to recruit and retain qualified faculty. Private technical schools have proliferated but find that they must compete with the heavily subsidized public institutes at the same time that tuitions are capped by the government.

U.S. machine tool production has gravitated to the high-end, high precision equipment which Thai industry will increasingly need. The U.S. Association for Manufacturing Technology (AMT) represents the industry and is interested in Thailand and the growing Asian markets. AMT member companies have productive relationships with training programs at both the technical and engineering school levels in the U.S. AMT proposes a program with Thai training organizations in order to upgrade the quality of training and to facilitate greater entry of U.S. companies into the growing Thai market. Member companies will contribute equipment, curriculum, and training to improve technical skills development and to support the operation and maintenance of U.S. equipment.

With USAID assistance, AMT held a series of meetings and discussions with Thai technical training organizations to assess interest and potential for collaboration in training programs. After some discussion about the potential of various organizations, the Metalworking and Machinery Industries Development Institute (MIDI) of the Ministry of Industry was selected as the partner for an initial program. MIDI provides primarily short-term training to upgrade the skills of employees already working in the metalworking industries. Substantial Japanese assistance enabled MIDI to build impressive training and shop facilities and installed modern (all Japanese) equipment. The Japanese assistance has ended and MIDI has a strong desire to diversify contacts and access to the manufacturing technology of other countries, notably the U.S. There is a feeling that the Japanese assistance did not foster technology transfer to Thai industries.

The MIDI/AMT program will contribute to the development of Thai industry by broadening the base of technical capabilities through training on U.S. manufacturing technologies. The program will involve some two or three U.S. companies initially to offer specific training modules in core manufacturing technologies. For example, one module might revolve around precision grinding, another on computer-numerically-controlled cutting machinery, and a third would focus on high precision coordinate measuring machines. The member companies will make equipment and curriculum available to MIDI and help train MIDI trainers either in Thailand or in the U.S. at company facilities. MIDI will organize the training of technicians in coordination with the user industry groups. In addition to the basic training aimed at factory floor workers, MIDI and AMT will develop a series of activities which will serve to expose technical and management decision-makers to modern manufacturing systems. Lectures and seminars will demonstrate equipment operation and features and permit managers to make more informed technological choices and to assess the merits of a particular production system.

A draft Memorandum of Understanding between MIDI and AMT is underway now. Member companies of the AMT are drafting specific agreements. Some of the features of the program include the following:

- o MIDI has the infrastructure, faculty and industry contacts to permit rapid implementation of training modules developed with the U.S. manufacturers.
- o U.S. companies will contribute substantial resources to such a program. The companies which have expressed interest in the training partnership also plan to step up marketing and support of their products in Thailand.
- o The AMT membership is very aware of the Thai desire to gain access to technology. This is an accepted part of the relationship and AMT has already demonstrated a strong commitment to conducting technical seminars and publishing information geared towards exposing the Thai to the latest developments in manufacturing technology.

National Technological University

As noted, of all the skills in short supply in the Thai labor force, the quantity and quality of engineers and scientists is one of the most critical issues facing many modern export industries. Because of these shortages, starting salaries for undergraduate engineers are high and few continue their studies to the graduate level. Once on the job, it is difficult to get off of the career track to study full-time and there are few opportunities to take continuing education courses. Many mid-career professionals come to a realization that they need upgrading in specific job-related skills but lack the opportunities to pursue further study.

Although they are much more acute in Thailand, the problems of keeping engineering staff up to date on the latest technology and management issues is universal. In the U.S., larger companies with a high stake in the continued productivity of technical staff invest heavily in technical seminars and workshops. Where available, many companies encourage and subsidize the cost of continuing academic education of technical staff. Even so, it is costly and time consuming for working professionals to attempt to pursue continuing education needs on a part-time basis.

Faced with this situation, in the mid-1980s a group of visionary engineering educators and industrial leaders in the U.S. put together an innovative system to serve the advanced educational needs of engineers, scientists and technical managers. The National Technological University (NTU) in Fort Collins, Colorado was founded as a private, non-profit organization and developed a network for satellite delivery of both academic and non-credit programs through instructional, interactive television. The NTU is governed by a board of trustees composed of members of industry and academia, including top management of some of the most prestigious high-tech firms in the U.S. With no resident faculty, the NTU draws on faculty from some 41 participating U.S. universities and can deliver programs 24 hours a day to some 400 receiving sites located at industry facilities and university campuses. The success of the system at addressing the problems of continuing education for working technical professionals is indicated by the enrollment of over 85,000 in 1990 at an average cost of only \$45 per participant per day.

At the invitation of the Mission, the NTU President came to Thailand in December to assess the demand for an NTU like program. Discussions with industry and academia were overwhelmingly favorable. Leading high-tech industries clearly saw the advantage of a window of access into some of the best technological training available in the U.S. at reasonable cost. Thai universities saw a market for continuing education and a role for mentoring or other local services to complement the NTU english language instruction.

NTU and USAID are developing a demonstration to better expose a wide audience in Thailand to the attributes of the program and to undertake a more detailed assessment of a partnership between NTU and one or more organizations in Thailand. We have proposed a linkup with the USIS Worldnet System for a demonstration of NTU programming and a live, interactive session with the NTU president and Trustee representatives from well-known U.S. industries (AT&T, IBM, Kodak, Hewlett-Packard, etc.).

From early indications, some of the features of a technical education partnership with NTU are:

- o The program would quickly be self-supporting. There is a market for high-quality U.S. training and local industries are actively seeking ways to upgrade technical staff at reasonable cost.
- o The telecommunications capability exists or soon will to support the wide distribution of the program throughout South and Southeast Asia. Telecom operators are eager to develop additional uses and markets for their services and can support the infrastructure requirements.
- o The technical and training linkages can be an important accelerator of other productive partnerships. Access to U.S. technical training will assist U.S. industry efforts in Thailand by strengthening staff and supporting familiarization with U.S. technologies and products.

d. Comment on Illustrative Strategic Partnerships

The above are three examples of types of strategic partnerships that will help break the human resource bottleneck. As noted, the U.S. has a very significant comparative advantage in providing many types of technical educational and training programs. The Partnership will attempt bring the strength of the U.S. in this area to Thailand to help solve one of the three most critical development problems Thailand faces during the decade of the 1990s and beyond, namely human capital development with special emphasis on the need for upgrading and expanding the supply of technically skilled workers.

THAILAND: FOSTERING PRIVATE PARTICIPATION IN THE DEVELOPMENT OF LABOR FORCE SKILLS

Final Report

*Bureau for Private Enterprise
U.S. Agency for International Development*

Prepared for: USAID/Thailand

Prepared by: Ernst & Young

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EXECUTIVE SUMMARY

I. Introduction

Over the past decade, Thailand has earned the reputation as one of the fastest growing economies in the world. With economic growth averaging almost 7.5% since 1981 and reaching double digits during the past two years, the country is well on its way toward NIC status. Most experts predict that Thailand's strong performance will continue; estimates of real annual GDP growth rates for the next five years range from 7% to 9%. With the influx of foreign investment, manufactured exports have taken on an increasingly important role in the economy.

Strong overall expansion, combined with dramatic shifts in the economy, have resulted in substantial strains on the country's human resource base. An abundant supply of cheap and easily trained labor was an important component of Thailand's comparative advantage in the past. However, as the industrial structure shifts into more technology-intensive sectors, the need for a well-trained stock of technical and managerial personnel becomes more evident.

II. Statement of the Problem

The key problem is that Thailand's educational and training structure has been unable to keep pace with the changing demands of the economy. As a result, serious gaps have evolved between the needs of the private sector and the output of Thai educational and training institutions.

The status of human resource development in Thailand is summarized in the following data:

- ♦ The share of the employed population with elementary or less education is 86%; with secondary or vocational, 9%; teacher training, 2%; and university education, less than 3%.
- ♦ Thailand has almost universal enrollment in primary schools; its adult literacy rate is one of the best in the region.
- ♦ Only 1/3 of the children that finish primary school proceed to secondary school. Thailand lags far behind other countries in the region; the gross secondary enrollment ratio in Thailand is 30% vs. 95% in South Korea, 91% in Taiwan, 71% in Singapore, 69% in Hong Kong, 68% in the Philippines, 53% in Malaysia, and 39% in Indonesia.
- ♦ Enrollment ratios have increased dramatically at the tertiary level, due primarily to the establishment of two open universities; some of the growth can also be attributed to the expansion of the private universities and colleges.

III. Analysis of the Problem: Gaps in Labor Force Skills Development

Rapid growth in the Thai economy has resulted in widespread shortages across a range of labor skills. Labor shortages are of mounting concern to the business community. As their needs for skilled personnel continue to grow, companies are finding it increasingly difficult to fill key technical and managerial positions. The Board of Investment notes that Thailand is losing investors to other countries due to infrastructure constraints, one of which is lack of skilled manpower. The most significant gaps are found in the following areas:

- ♦ Engineering: The shortage of engineers is the most critical human resource constraint facing the private sector. Shortages of science and technology personnel are expected to continue at the post-graduate level throughout the Seventh Plan period. Shortages at the bachelor degree level are expected to improve significantly in electronics technology, metallurgy, civil engineering and other related fields. However, the education sector will be unable to meet the demand for graduates in the key areas of mechanical, chemical and industrial engineering.
- ♦ Management: Businesspersons consider shortages in management quite important; many companies experience annual turnover rates in excess of 25% at the managerial/supervisor level. Major shortages are found in finance, marketing, materials management and human resource personnel.
- ♦ Technical/Skilled Labor: Many companies report significant shortages of technicians and other skilled workers. While the shortages in engineering and management are primarily quantity related, companies view the shortage of skilled labor as quality related. Vocational graduates often lack the know-how and training to operate in a productive environment.
- ♦ English-Language Skills: English language deficiencies are the most important quality-related factor affecting human resource utilization in the private sector. Firms view English communication skills as critical since the Thai economy is heavily dependent on international markets for inputs and exports. It is also a barrier to training and technology transfer.

The Thai educational and training system has been slow to respond to the changing needs of the labor market; hence, a widening gap has emerged between the needs of the private sector and the outputs of the educational system. Traditionally geared toward preparation for civil service, the Thai educational system continues to produce a surplus of graduates in the humanities, social and political sciences, while there remains a shortage of graduates in engineering and other technical and scientific disciplines.

Private higher education has been expanding rapidly in Thailand and will play a larger role in the future in meeting the needs of the private sector. For example, private higher education is being called upon to take the lead in addressing the critical shortages of engineers. Nonetheless, private and public education face several key constraints in addressing private sector needs:

- ♦ Quantity and quality of faculty: Given the critical shortages of engineers and managers, faculty are being increasingly recruited by the private sector which can offer more attractive compensation; hence, higher education has been unable to recruit and retain its engineering and management faculty. The issue with respect to engineering faculty is one of quantity; lack of faculty is a serious constraint to resolving the shortage of engineers. In contrast, the most critical issue facing programs in management is the quality of faculty; a disproportionate number of teaching staff hold only bachelor's degree and lack experience in business.
- ♦ Relevance of the curriculum: The curriculum of most degree and vocational education programs is geared toward theory, as opposed to practice. To meet private sector needs, a greater emphasis must be placed on applied learning and professional development.
- ♦ Pedagogical skills: There is a general lack of pedagogical skills in the Thai educational system. Lecture, as opposed to more interactive methods, is the most common approach. More innovative pedagogical tools would improve the effectiveness of education and training efforts.

The most important avenues for addressing labor skills constraints involve: (i) increasing the level of collaboration between the private sector and educational and training institutions, and (ii) increasing the level of collaboration between U.S. education and Thai educational programs.

There are already several model approaches to such collaboration in Thailand. Most notably, the electronics industry and King Mongkut Institute of Technology, Ladkrabang, have worked together to design tailored educational programs. The Sasin Program at Chulalongkorn University is widely recognized as a model of collaboration with U.S. universities (the Kellogg School at Northwestern University and the Wharton School at University of Pennsylvania). These are the types of initiatives upon which the USAID/Thailand strategy should build.

II. CHANGES IN THE THAI ECONOMY AND HUMAN RESOURCES

The dramatic changes in the Thai economy during the 1980s have led to a considerable shift in manpower requirements. Before examining private sector demand for labor skills, it is important to present a brief background on Thailand's business climate and historical patterns relating to education and employment.

A. The Thai Economy

Over the past decade, Thailand has earned the reputation as one of the fastest growing economies and one of the most successful developing countries in the world. With economic growth averaging almost 7.5 percent since 1981 and reaching double digits during the past two years, the country is well on its way toward NIC status. Most experts expect the strong performance to continue with estimates for real annual GDP growth rates for the next five years ranging from 7 to 9 percent. Growth has been characterized as export led and driven by foreign direct investment. Exports have grown at an average rate of 30 percent over the past three years and net foreign direct investment inflows are estimated to have grown at 90 percent annually from 1985 through 1988. Key factors affecting Thailand's spectacular progress include:

♦ Favorable Monetary and Fiscal Policy

The Thai Baht is pegged to a basket of currencies with an estimated 80 percent comprising the US dollar. The close relationship to the dollar combined with two major devaluations during the past decade have given Thai products a competitive advantage in international markets. Generally conservative and consistent fiscal and monetary policies have provided confidence to foreign investors looking to establish a low-cost manufacturing base.

♦ Pro-business Government Policies

From the standpoint of fundamental philosophy, attitudes, approaches and policies, Thailand's government has long been committed to an economy driven by the market and private enterprise. Compared to many other developing countries, the direct role the government plays in the economy is relatively limited. In addition, The Board of Investment, which is charged with promoting indigenous and foreign investment, offers an attractive package of investment incentives including corporate tax holidays, business tax exemptions, and the right to import raw materials and machinery duty-free for export-oriented projects.

♦ Low Cost Labor

A main factor contributing to Thailand's international competitiveness is the large pool of low-cost, productive and easily trained labor. Workers are literate and tend to be reliable and hardworking. Female participation in the workforce is high, particularly in labor intensive semi-skilled industries, a key source of export earnings for the country. Labor unions represent a very low proportion of workers. The labor force is not militant and relations with management have been generally good.

♦ Political Stability

Although military coups were relatively common in the past, the country has been moving toward a more democratic society. Thailand installed its first elected civilian prime minister in 1988. Furthermore, there are no ideological differences between competing factions of the ruling elite. Changes in government have had little or no impact on the private sector.

With the influx of foreign investment during the 1980s, manufacturing has taken on an increasingly important role in Thailand's economy. While agriculture accounted for almost 27 percent of GDP in 1970 and manufacturing for 16 percent, today manufacturing and agriculture account for 24 and 17 percent of GDP, respectively. Manufacturing plays an even more important role in the export sector, the backbone of recent growth. Last year manufactured exports accounted for approximately two-thirds of Thailand's exports, up from 33 percent in 1980.

B. Historical Role of Education in the Thai Economy

Without question, human resource capabilities play a key role for any developing economy. In Thailand, one can point to important contributions at all skill levels, ranging from farm laborers to doctoral graduates.

Historically, the government has been the most important source of employment for better-educated Thais. Government employment of the educated elite can be traced back to the previous century when the bureaucracy comprised royal family members, the only people with access to education. Under the reign of King Rama V, emphasis was placed on developing the country's bureaucratic infrastructure and educational institutions. The association of education and government employment with royally decreed goals afforded high status to Thais entering the bureaucracy. Even through the mid 1980s, the government attracted the top Thai graduates from both local and foreign institutions. Educational attainment was clearly one of the most important means of paving the way for a promising career. Since most graduates sought government employment and the

public sector employed a significant portion of the educated elite; local universities concentrated on developing strong political science, law, and related faculties.

On the other hand, education has, until recently, played a relatively minor role in the Thai business sector, which has been traditionally dominated by ethnic Chinese family groups. These are some of the key characteristics of the traditional private sector.

Control of much of the business and financial sectors has been exercised largely through business associations, informal groupings of firms, an elaborate system of interlocking directorates, kinship ties and intermarriage.

- ♦ Most of the founders of the industrial groups in Thailand formerly belonged to the merchant class who were usually importing or wholesaling the same products they later started to manufacture locally. Most commercial conglomerates only moved into industry with the encouragement of the government.
- ♦ Industrial firms focus on the commercial activities related to the manufactured goods that they handle, not their production processes themselves. Common behavior which can be widely observed includes market-orientation and inclination towards quick-returns. Goal attainment is usually to improve commercial activity, not production activities. Consequently, Thai industry, for the most part, has relied on foreign partners for technology.

Given the nature of the private sector, success in business did not typically depend on one's educational attainments. Instead, success depended on business savvy, linkages with other business elite, distribution capabilities, and access to capital (meaning the people or groups who controlled scarce capital).

Education and training have also been quite important in the labor sector with almost all Thais completing primary school with a basic degree of literacy. This educational base contributes to the "trainability" of Thai labor; indeed, the Thai labor force is recognized for its ability to acquire skills through on-the-job training programs.

Thus, by the early 1980s, the bureaucracy comprised highly educated individuals, many of whom had studied overseas. The strong educational background of bureaucrats has provided them analytical skills which they have used to, many would argue, successfully guide the country's fiscal and monetary policies. On the other hand, the private sector was unable to absorb educated persons who failed to secure government positions. Even as late as the mid 1980s, Thailand faced a problem of educated open unemployment in technology and management fields. The business sector focused, to

a large extent, on the trading of agricultural products or the production of goods for domestic consumption. In addition, local business operated (and still does to a large extent) in an economy protected by high tariff barriers and where collusion via business organizations served to restrict competition. In the absence of government incentives or external competitive pressure, the perceived rewards for education, particularly in technical fields, were relatively low on the part in the business community. Finally, since the economy has, until recently, depended upon agricultural commodities and low value-added manufactured goods as its primary export goods, the training needs for labor were minimal.

C. The New Environment

Since 1967, the situation has changed dramatically. Strong overall expansion combined with structural shifts in the economy have resulted in substantial strains on the country's human resource base. Although an abundant supply of cheap and easily trained labor was an important component of Thailand's comparative advantage in the past, the situation is changing rapidly. Other economies with larger supplies of cheap labor such as India, China, and Indonesia are intensifying their export efforts and present stiff competition to Thailand's traditional labor-intensive industries. Thailand risks losing out to these low-wage producers if the country fails to improve productivity. Productivity gains will only be made by upgrading the technology component of manufacturing inputs. As the industrial structure becomes increasingly complex and the economy shifts into more technology-intensive sectors, the importance of a well-trained stock of technical, managerial and labor personnel becomes more apparent.

Manpower shortages are not isolated to the private sector. The government, for the first time, faces significant "brain drain" problems as it has been unable to compete with business in terms of compensation packages offered. The issue is particularly acute with regard to some of the brightest and best educated prospects for future leadership positions. Shortages in the public sector are causing concern in the private sector, however, for two reasons. First, the scarcity of qualified bureaucrats capable of analyzing and implementing sound economic policies poses a threat to private enterprises which, of course, are affected by government activity. Secondly, the government requires capable engineers and managers to run the state-owned infrastructure enterprises as well as to interface with business. Naturally, when manpower constraints weaken the country's already strained infrastructure, businesses are adversely affected.

III. PRIVATE SECTOR HUMAN RESOURCE REQUIREMENTS

As noted in the previous chapter, sustained, rapid growth in the Thai economy has resulted in widespread shortages across a broad range of skilled manpower classifications. The issue of manpower shortages, particularly in the engineering and management fields, is of mounting concern to the local business community. Rising salaries and high employee turnover threaten to undermine Thailand's position as a low-cost, relatively productive manufacturer for international markets. The problem is so severe that major business publications such as the Asian Wall Street Journal, Far Eastern Economic Review, and Asian Business have all featured articles on Thailand's manpower shortages during the last few months and the Royal Thai Government has come under increasing pressure to address the problem in the Seventh National Economic and Social Development Plan (1991-1995).

Manpower shortages in Thailand have been well documented with little disagreement that shortfalls exist for engineering and management professionals. In a September 1988 survey sponsored by the American Chamber of Commerce in Thailand, 64 percent of the respondents from foreign chambers of commerce reported difficulties in filling openings for middle managers and technical/professional personnel. Evidence suggests that the situation has deteriorated over the ensuing year and a half. Problems exist regarding both quantity of personnel and the skill qualities of available employees. While not as well documented, the research team also found that skill shortages in the area of technical/skilled workers (i.e. technicians, vocational workers, etc.) is becoming an increasingly important factor constraining business development, although problems in this area are generally related to a mismatch of skills and quality issues.

In addition to unstructured discussions with local business leaders, the research team carried out formal interviews with general management and human resource staff at 15 local companies. Since USAID would like to develop areas of mutual Thai/US interest, the sample group was predominantly American-owned (11 companies) with the industry distribution listed below. The survey was exploratory in nature and makes no claims as being definitive or fully representative of the American or the general business population in Thailand. Its purpose was to provide primary qualitative and quantitative data to supplement the wide body of literature on human resource needs in Thailand. The results of the survey complement rather than conflict with the literature.

Table 1

Industry Profile of Formal Sample Group

Industry	Number	Structure
Computer and Related	6	100 % US Subsidiary (6)
Trading/Distribution	2	100 % Swiss Subsidiary (2)
Service	2	Joint Venture - US/Thai (2)
Metal Parts Manufacture	1	Joint Venture - US/Japan (1)
Consumer Products	2	100 % US Subsidiary (2)
Manufacturing Conglomerate	1	100 % Thai with several foreign JVs (1)
Petroleum	1	100 % US Subsidiary (1)
Total	15	

All companies surveyed (formally and informally) have been experiencing critical manpower shortages. Each survey respondent was asked to rate the severity of manpower shortages. Priority was clearly given to engineering fields, followed by management positions and then technician/skilled labor positions. While the technology intensive nature of much of the sample group biased responses towards engineering functions, job placement agencies and even bankers rate engineering shortfalls as the most critical facing business. The following table presents skill shortages as perceived by the business sector.

Table 2

**Assessment of Manpower Shortages
(by number of firms citing problems)**

Field	Critical	Important	Desirable	No Problem	Not Applicable	Average Rating
Electrical Engineering	8	4	2	0	0	2.43
Mechanical Engineering	9	2	1	2	0	2.29
Industrial Engineering	5	7	1	1	0	2.14
Computer Systems	3	10	0	1	0	2.07
Finance	5	4	1	2	2	2.00 -
Chemical Engineering	6	3	1	4	0	1.79
Marketing	4	3	1	3	3	1.73
Human Resources	3	6	3	2	0	1.71
Accounting	3	6	3	2	0	1.71
Materials Management	1	8	4	1	0	1.64
Technicians	2	6	3	2	1	1.62
Operations Management	2	5	3	3	1	1.46
Secretarial	2	1	4	6	1	0.92
Machine Operators/Repair	0	3	3	5	3	0.82
Environmental Engineering	0	2	3	8	1	0.54

Each rating was assigned a value: critical = 3, important = 2, desirable = 1, no problem = 0. The average reflects the mean value of all respondents excluding those who felt the job classification was not applicable to their business. (For example, several subsidiaries of multinationals are strictly production centers, and as such, have no marketing function.)

A. Key Manpower Shortages

1. Engineers

The research team's interviews with business leaders indicate that the shortage of engineers is the most critical issue relating to human resource constraints. The severity of the shortfalls is confirmed by a 1989 survey by the Japan International Cooperation Agency, as well as a recent study on science and technology (S&T) manpower carried out by TDRI in conjunction with the NESDB. According to the JICA survey, "...the most serious problem both for any company and for Thailand as a whole was the shortage of engineers. This problem exists for both old and new companies." The TDRI study which is primarily a quantitative undertaking, shows current surplus demand for graduates in all S&T fields with the exception of agriculture related fields. According to the study, shortages of S&T manpower are expected to continue at the post-graduate level throughout the Seventh Plan period. While businesspersons interviewed by the USAID research team did not indicate a substantial need for post-graduate S&T personnel, they acknowledged that shortages at this level are of concern because manpower at the post-graduate level is needed to train lower-level technicians.

The shortages at the bachelor degree level are expected to improve significantly in electronics technology, metallurgy (including material science and mining engineering), and fields such as civil engineering, and other related fields. The education sector will be unable, however, to meet the demand for graduates in the key areas of mechanical engineering, chemical engineering, and industrial engineering.

Table 3

S & T Manpower Shortages (Surplus) as Predicted by TDRI

	1989	1990	1991	1996
Post Graduate				
Agricultural Fields	-67	-74	-80	-188
Food Science	14	15	17	12
Bioscience	42	44	46	48
Computer Science	16	13	14	18
Electrical Engineering	49	47	47	46
Mechanical Engineering	136	132	139	184
Metallurgy Engineering	6	6	6	7
Other Engineering	174	143	145	262
Chemical Engineering	16	16	18	19
Industrial Engineering	135	124	131	171
Bachelor Degree				
Agricultural Fields	-1,142	-1,214	-1,271	-1,699
Food Science	-13	-5	3	4
Bioscience	-20	-38	-31	-30
Computer Science	80	61	39	-91
Electrical Engineering	541	428	326	-391
Mechanical Engineering	1,400	1,277	1,279	1,277
Metallurgy Engineering	-36	-59	-84	-245
Other Engineering	156	-131	-365	-1,386
Chemical Engineering	245	227	218	185
Industrial Engineering	430	411	429	526

The table above summarizes the S&T manpower shortfalls as presented in the TDRI study. It should be noted that the shortfalls are annual, representing new graduates minus new demand and do not take into account demand arising from past shortages. Of course, it is quite difficult to estimate demand arising from past shortages as labor substitution takes place. The analysis also assumes that the ambitious targets for supply growth can actually be implemented and maintains a fixed coefficient between the output of each sector and S&T manpower requirements.

Considering the assumptions used in the TDRI model, one could justifiably argue that the S&T manpower problem is actually understated. Another way to look at the problem is to compare Thailand with other countries during similar stages of development. In 1987, only 70 of one million people were engineers in Thailand. By comparison, in 1982 that figure was 425 per million in Taiwan; and in 1978 it was 679 in South Korea. If, because of labor skill constraints, Thailand is unable to increase the technology component of production, the country will find it extremely

difficult to make further strides in productivity and compete effectively with producers from low wage countries.

2. Management

While the USAID research team did not find any quantitative studies concerning management/supervisor shortages, shortfalls in this area are certainly posing problems for business. Table 2 shows that on average, businesspersons consider shortages in management functional areas quite important, although less critical than most engineering fields. Survey respondents reported significant shortages in finance, marketing, human resources, accounting, and materials management.

Rising salaries and increased job-hopping provide evidence of the scarcity of management skills. Many companies are experiencing annual turnover rates in excess of 25 percent at the managerial/supervisor level. According to an executive recruitment firm, managers increase their salaries by 30 percent on average when switching jobs. Approximately 60 percent of the firms interviewed by the research team reported hiring non-technical managers and supervisors from other firms, effectively promoting them to higher positions in the process. These findings are consistent with those in an earlier survey of American firms in Thailand (Siamerica Business Group, 1989). Estimates regarding the increase in salaries offered to new management/supervisory hires range from 25 to 100 percent over the past two years. According to the September 1988 AmCham survey, 72 percent of the respondents reported unusual escalation of salaries in competing for middle managers and technical/professional personnel.

The age/experience profile of managers also indicates shortages in management functional areas. Half of the formal survey respondents estimate the average managerial experience for the firms' executive managers at 5 years or less, considerably less than one would expect to find under conditions of skilled labor availability.

3. Technical/Skilled Labor

Many companies reported significant shortages of technicians and other skilled workers. Generally, employees in this category comprise vocational and associate degree graduates. Many managers point out that technical/skilled employees have become increasingly important since they must, due to engineering shortages, assume responsibility for many tasks previously carried out by engineers.

Companies also report high employee turnover and rising wages in this labor category. Furthermore, while many companies prefer to hire new graduates and train them for technical/skilled positions (or train existing employees), shortages of engineers (who would

undertake training) and high turnover of technical/skilled positions, have forced companies to pirate experienced workers from other firms. Sixty percent of responding firms cited cases in which they have recruited technical/skilled employees from outside the firm.

4. Cross Cutting Issues: Quality versus Quantity

Manpower shortages concern both quantity and quality related issues. When asked whether critical manpower shortages were quantity related (in that there is an inadequate supply of educated/trained personnel) or quality related (in that there is a sufficient supply of educated/trained personnel but they are inadequately prepared to effectively to contribute to the firm) 79 percent of the respondents cited quality issues and 71 percent quantity issues (the issues were not mutually exclusive). Generally, those citing quantity issues considered shortages of engineers and experienced managers as the most important constraint. (It should be noted that while experience may be a quality issue, the research team chose to classify it as a quantity issue since interviewees felt that no amount of education or training could replace or compensate for experience.) The most important quality issues related to English language skills and applied learning at the educational level.

At the university level, most businesspersons agree that Thais are well educated and graduate with strong theoretical backgrounds. Many feel, however, that domestic universities do not provide enough "applied" learning experiences. The JICA study confirms this view stating that, "Education in Thailand, especially at the university level is equivalent to Japan...However, there are very few places for Thais to gain practical experience applying the theories they learned in [the] university."

English language deficiencies are probably the biggest quality related factor affecting human resource utilization and development in Thailand. All firms interviewed by the research team cited lack of English skills as the biggest constraint in hiring and developing engineers and managers. Firms reported that they often interviewed people who were technically competent but the lack of strong English communications skills prevented the hire of such personnel. The research team found this to be true in both foreign-owned and Thai companies. Firms view English communication skills as critical since the Thai economy is heavily dependant on international markets for both inputs and exports.

Lack of English capabilities also forms a significant barrier to training and hence, technology transfer. American firms often cite lack of English skills as a major constraint to overseas training. The Japanese concur. According to the JICA study,

The Japanese, although weak in English themselves, are very aware of the importance of English fluency. There are many Japanese managers who say that language is the critical element of technology transfer ... Language communication and training is a major problem. English is the mother language for neither side, [yet] it remains a barrier for training in most companies.

At the technical/skilled labor level, companies view skill shortages as mostly quality related. The TDRI study team reached the same conclusion citing present and projected excess supply of S&T vocational school graduates who are unable to find S&T related jobs. According to the study "This may be a reflection of the quality of output at the vocation level and is consistent with the very high unemployment rate for workers with vocational education." The companies in the USAID survey group complain that vocational graduates often lack the know-how and training to operate in a production environment. Specifically, they have been trained on obsolete equipment, lack general problem solving skills, and are unable to move into leadership roles (such as line foreman).

B. Private Sector Response to Labor Skill Constraints

Firms have reacted in a variety of ways to increasing manpower skill shortages. Table 4 summarizes responses to skilled manpower shortages on the part of firms in the formal survey sample group. A more detailed discussion of specific activities follows.

Table 4

Private Sector Response to Labor Skill Shortages

Response	Percentage
Intensify in-house training efforts	100%
Increase salaries, wages, and perks	92%
Recruit employees from other firms	85%
Utilize less qualified personnel than described	58%
Contract out work which the firm would rather undertake itself	58%
Utilize expatriates more than the firm would like	42%
Delay product introductions, projects, etc.	33%
Intensify Campus Recruiting	33%
Collaboration through associations	33%
Slow the pace of technology transfer	17%
Improve Work Environment	17%
Recruit Overseas Thais	8%
Intensify PR Efforts	8%

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1. Training

All firms interviewed stated that they have intensified training efforts due to recent manpower shortages. While the quality and amount of training varies from firm to firm, some trends are clear.

- ♦ Professional training is provided in the form of overseas placement, overseas management and technical training, and local management and technical training (off-site and in-house). Senior managers are usually sent overseas annually, while middle level managers and technical staff are sent abroad for introductory training. Introductory training is usually in the range of two weeks to four months; however, introductory training of one to two years is also provided by some firms.
- ♦ Management and technical staff are more likely to receive general training while training for skilled and unskilled workers is usually firm and task specific.
- ♦ Blue collar training is usually conducted in-house and is introductory in nature, particularly at American and Thai firms. The Japanese and a few other firms, however, often send line workers overseas for new product/process training.
- ♦ Many companies are focusing training efforts on upgrading the skills of technical workers to compensate for the shortage of engineers.

Companies utilize trainers from a variety of sources including corporate personnel (local and overseas), university professors, and private training companies. Most companies subsidize continuing education programs for their employees but are concerned that the benefits of their human resource investments are accrued to other firms due to high employee turnover. While not verified by the research team, one might expect high turnover to act as a disincentive to general training.

2. Recruiting, Promotion, and Personnel Practices

The scarcity of skill personnel has also forced firms to alter recruiting, promotion and other personnel practices. Key reactions on the part of firms are described below.

♦ Recruiting Employees from Other Firms

While many firms would, under ideal circumstances, hire directly from educational institutions and develop their own employees up the career ladder, recent turnover problems have made this practice extremely difficult. Furthermore, newly established firms have no choice but to hire experienced workers.

Generally, only large, established firms with strong human resource capabilities are able to fill vacancies internally with 83 percent of the firms in the sample group resorting to recruiting experienced employees from other firms.

♦ Use of Less Qualified Personnel than Desirable

A majority of the firms in the sample group (58 percent) also fill vacancies with personnel who are not fully qualified for the positions. As mentioned earlier, the relatively low level of management experience of managers in many of the firms indicates that firms are moving Thai personnel into positions of responsibility relatively early in their careers.

♦ Use of Expatriates

More than 40 percent of the firms surveyed feel they are using expatriates more than they would like. Many expatriates are here on short-term (1 to 2 years) employee development assignments in technical and management functional areas. Since the cost of utilizing expatriates is quite high, firms prefer to fill vacancies with Thais. The shortage of experienced managers and engineers, however, has left firms little choice but to import skilled employees from abroad.

♦ New Approaches to Recruiting

Many firms have taken new approaches to recruiting. Besides using recruitment agencies, several firms are intensifying campus recruiting efforts and/or attempting to recruit Thais from overseas. One firm mentioned that it now offers positions to undergraduates during the third year of school, one year earlier than previously done.

♦ Compensation of Employees

Firms are placing greater emphasis on employee compensation packages. All but one of the firms in the sample reported that they have had to increase salary and benefit packages to new and existing employees. Perks are also increasingly important, especially at the upper management levels.

3. Business Strategies

Manpower shortages have forced firms to alter business strategies. A third of the survey respondents reported delaying new projects or product introductions due to lack of skilled manpower. A few firms claimed that technical manpower shortages have slowed the planned pace of technology transfer. Finally, 58 percent of the survey firms contract out work they would rather do internally such as package design, engineering, and in some cases, manufacturing.

While none of the firms have responded to manpower shortages by slowing the pace of investment or reinvestment, the sample group does not capture companies looking to establish new ventures in the region. BOI officials admit that manpower is one of several critical infrastructure problems in the Thai economy. While it is difficult to evaluate the relative importance of manpower with regard to investment decisions, the BOI reports that Thailand is losing many investors to other countries due to infrastructure constraints, one of which is lack of skilled manpower.

4. Collaborative Efforts through Associations

Although not fully captured in the survey sample, collaborative efforts among private firms through business and industry associations are quite significant in the area of education and training. In the area of human resources, industry associations have been instrumental in disseminating information to members, interfacing with (and sometimes establishing) education and training institutions, and engaging in dialogue with the government. Below are some areas in which businesses have collaborated to address human resource issues.

♦ Dissemination of Information

Several business associations (formal and informal) conduct employee compensation studies annually, sharing information with members. Members use this information to ensure they are offering competitive compensation packages. AmCham has a Human Resources Committee which disseminates information regarding specific HR issues to the AmCham membership via publications, breakfast meetings and luncheons, and workshops and seminars.

♦ Interface with Education Institutions

Business associations have been a key vehicle for business-education interface. Probably the most salient example is the Thai Chamber of Commerce which was instrumental in establishing the University of the Thai Chamber of Commerce, the country's largest private higher education institution. Members of the Electronics and Computer Employers Association have formed a partnership with King Mongkut Institute of Technology (KMUT) whereby Association members help establish curriculum, fund, and supply students to a program at KMUT designed to upgrade technicians to full engineers. Industry has demonstrated a strong interest in participating in the upgrading of education and skills through collaborative efforts with educational institutions. In the September 1988 AmCham survey, 57 percent of all respondents and 61 percent of AmCham respondents said that their company would be willing to participate in cooperative student training programs with local universities. The Board of Trade which comprises members from the foreign and

local chambers of commerce as well as the Federation of Thai industries and the Thai Bankers Association has sought Japanese assistance in establishing a local technical university. As proposed, the university will eventually produce 1500 degrees and associate graduates annually.

♦ Interface with the Government

Finally, business associations provide effective channels for business-government dialogue. The Board of Trade offers a formal channel of dialogue with the government. A key organization focusing on government-business dialogue is the Joint Public-Private Consultative Committee (JPPCC) which is chaired by the Prime Minister and whose members comprise economic ministers and the heads of the Thai Chamber of Commerce, the Federation of Thai Industries, and the Thai Bankers' Association. It is through these organizations that the Thai private sector has been discussing education and training needs with the Royal Thai Government.

ENVIRONMENTAL INFRASTRUCTURE

PROGRAM STATEMENT

1. DEVELOPMENT CONTEXT – OVERVIEW OF ENVIRONMENTAL INFRASTRUCTURE

Thailand's fast growth has not been supported to the extent needed by growth of environmental infrastructure. For example, in all of Thailand there are still only five municipal wastewater facilities and these neither fully cover the sewage discharge of the municipalities nor operate efficiently. Solid waste disposal management in urban and tourism centers is inefficiently managed and much of the waste disposed of in ways that damage the environment. The estimated two million tons of hazardous and toxic waste produced each year is essentially not managed at all. The method of disposal of only a small fraction (70,000 tons) is known to meet environmental standards. The rest is disposed of by producers by whatever method and standard they choose.

The shortage of environmental infrastructure is generally due to a lack of political will from a centralized decision-making body and institutional weaknesses, which reflect shortage of technical skills, lack of necessary legislation, and insufficient knowledge of financing options for public and private investment. Long or short-term training in such fields as sanitary or environmental engineering, scientific monitoring techniques, or municipal tax administration, for example, could strengthen the manpower skills required to achieve environmental infrastructure improvements. In addition, the absence of effective enforcement of environmental regulations becomes, in effect, a subsidy to the polluter at the expense of those in voluntary compliance.

The consequences of environmental infrastructure shortfall are becoming increasingly evident in economic opportunity costs and the decreased quality of life for urban residents and tourists. Water quality in the Chao Phraya River, inner-city canals, and beaches of Pattaya, Hua Hin and Phuket grows steadily worse each year. Fecal coliform levels at previously attractive beaches are now well in excess of health standards and the level of dissolved oxygen (a measure of the ability to support life and destroy organic pollutants) in the urbanized areas of the Chao Phraya river is nearly zero. As noted above, how the estimated two million tons of hazardous and toxic waste produced each year is treated or disposed of is not known. Many believe it is simply dumped in ways and places where it may be threatening to the ecology and human health.

Of all sectors, tourism is most susceptible to the negative impacts of insufficient environmental infrastructure. Already tourism growth and hotel occupancy at the most polluted resorts is beginning to fall behind past trends and national averages. This trend is threatening to the economy since tourism is one of the most important industries in Thailand--tourist expenditures are consistently one of the top foreign exchange earners in Thailand, contributing US\$4 billion to foreign exchange earnings annually.

Fishing and farming are also adversely affected by failure to invest in infrastructure. Toxic effluent from the industrial estates and factories sited close to rural and/or seaside settings have caused damage both to farming and fishing.

A part of the slowdown in industrial investment in Thailand is directly attributable to inadequacy of environmental infrastructure investment. Many foreign investors to Thailand come from countries that have made significant advances in environmental awareness. These investors are aware of environmental consequences of their industrial activities and look for cost effective environmental infrastructure in making plant location decisions.

2. CONFORMITY WITH THAILAND'S PRIORITIES AND PROGRAMS

The RTG has identified both urban and rural environmental protection and restoration as a major theme in its Seventh National Economic and Social Development Plan (1992-1996). Investment funds set aside in the Seventh Plan for infrastructure will increase by 148% over the Sixth Plan--almost double the 76% increase experienced between the Fifth and Sixth Plans. A major environmental objective is to reduce solid waste and wastewater pollution and control water quality in the Chao Phraya River, coastal areas, tourist destinations, and any areas which face sewage problems or contamination of untreated water for consumption. The Plan identifies four principal guidelines to achieve this objective, namely:

- o Enforce the "Polluters Pay" principal for pollution control;
- o Improve relevant organizations, roles, and laws concerning environmental administration conducive to environmental development;
- o Mobilize investment to lessen and control pollution in various aspects, such as through government subsidization, public/private joint venture programs, or grant concessions to the private sector; and
- o Set up tripartite organizations with the government, private enterprise, and the community to supervise and control environmental quality.

To achieve the targets set out in the Seventh Plan, a series of municipal waste treatment projects have been proposed. For example, the Bangkok Metropolitan Authority (BMA) is proposing a two-stage sewerage and treatment plant project worth more than US\$800 million in total. The first stage will serve ten densely populated areas in inner Bangkok. Financial resources for this project will be provided jointly by the RTG (75%) and the BMA (25%). Similar projects are in the works for Chiang Mai, Phuket and several provincial cities adjacent to the Chao Phraya River.

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In October, 1991, the RTG officially launched the Environment Fund which is expected to facilitate the application of the "Polluter Pays" principle. The Fund is designed to be an instrument for promoting investment in pollution control by industry and encouraging polluters to minimize their wastes. An initial investment of US\$20 million has been allocated by the RTG and directives on the use of funds are in preparation.

Privatization of urban services is beginning to be discussed more broadly within the RTG including as it relates to the financing and implementation of different types of environmental infrastructure projects. The cost of these projects are very substantial, yet they are also considered financially attractive for private investment.

In sum, the Partnership Project is conformity with the RTG's priorities and plans. The conformity reflects the fact that the environmental infrastructure component of the Partnership program is an outgrowth of a lengthy process of analysis and discussions with Thai public and private sector entities and individuals.

USAID PROGRAM

The Partnership will tackle environmental solutions directly in an attempt to either remove or find ways around and over the barriers for implementation of specific environmental infrastructure projects.

The approach of the Partnership Project is non traditional - it seeks to initiate change (policy and institutional) through identifying, nurturing and concluding strategic partnership agreements. The Partnership Project will be pushing the established system to change through confronting it with concrete solutions to specific pressing environmental problems. The attraction of this model for policy and institutional change in Thailand is the well known openness and pragmatism of the Thai. New ideas are readily adopted on an experimental basis and rapidly diffused if they succeed; discarded, if they do not.

a. Purpose

The purpose of the Environmental Infrastructure component is to assist Thailand to identify and implement sustainable solutions to environmental infrastructure shortages which, if not addressed, will constrain economic growth and adversely effect equity.

Subsidiary purposes are to:

- o facilitate interventions that will demonstrate alternative technical, administrative and financial solutions to problems faced by Thai agencies in the provision of environmental infrastructure;

- o facilitate the removal of barriers to private sector participation, and to promote policy and legislative changes which create an environment more conducive to private initiatives;
- o provide critical inputs needed to relieve constraints to the development of environmental infrastructure systems such as provision of technical assistance to municipalities in the generation of revenues required to cover costs of environmental infrastructure;
- o provide access for Thai agencies to U.S. expertise and technology for the implementation of sustainable solutions to environmental problems.

b. Program Activities

The heart of the environmental infrastructure components of the Partnership will be the development of sustainable activities. The process of development of strategic partnership agreements and the contributions of the different entities involved are described in the main body of the Project Paper. The types of support that might be provided under the Partnership are described below:

Technical Assistance. Illustrative TA activities are as follows:

- o "Reality testing" transaction concepts;
- o Preparing Development Plans on potential environmental infrastructure transactions;
- o Strengthening local revenue generation mechanisms which would add to the sustainability of urban environmental infrastructure projects;
- o Exploring alternative solutions to specific problems;
- o Establishing and upgrading operations and maintenance programs and systems.

Training. Illustrative training activities are as follows:

- o Management training of municipal staff;
- o Technical training, e.g. O&M for BOT situation;
- o City management training:
 - U.S. city planners/managers visit to Thai cities
 - Thai municipal authorities visit U. S. cities
 - "Sister" wastewater/solid waste city exchange;

Finance. The Partnership will assist in identifying and securing sources of finance from a variety of sources such as --

- o RTG conventional and special funds, e.g. the Environmental Fund;
- o Municipal bonds (assist in developing and marketing the instrument as well as working to provide necessary revenue stream);
- o ADB, IBRD and other multilateral sources of finance;
- o Housing Guaranty Program which can be used to finance a variety of urban infrastructure;
- o Capital Projects Support Facility which can also be used to finance environmental infrastructure;
- o EX-IM Bank facility for environmental infrastructure;
- o Trade and Development Program funds for feasibility studies.

Using the above program elements in various combinations to bring about specific transactions that have been languishing for lack of concerted effort to tackle policy and necessary institutional changes will be an important contribution to development of environmental infrastructure in Thailand. A handful of successful activities may act as path breakers -- a kind of snowplow in the wake of which others will follow.

ILLUSTRATIVE ACTIVITIES

Under limited authority to assess and critique during the period of program suspension, USAID/Thailand has tested the feasibility of U.S. led private sector consortia contributing to the improvement of Thailand's environmental infrastructure. Several attempts to attract U.S. private sector participation in the serious development issues of expanding the supply of urban environmental infrastructure have led to a model for specific urban environmental infrastructure opportunities. Two examples of experience to date that contributed to the final model concept are described below.

a. Phuket Wastewater Project

Phuket Island is a major tourist resort with more than 1.2 million visitors a year spending more than \$600 million. The island has a waste water treatment facility at its primary beach resort town, Patong Beach, with hook ups to only a part of the town's hotels, restaurants and residences. A combination of design flaws and inefficient operations and maintenance have caused the facility to actually worsen pollution in the beach area. USAID contracted a U.S. firm to assess and critique the role that might be played by U.S. led private sector consortium in improving not only Patong Beach's, but also the whole island's waste water treatment facilities.

The U.S. firm over a period of six months defined three separate wastewater treatment facilities required to maintain water quality at a level that would not jeopardize Phuket's future as a first class tourist destination. Tourism on Phuket employs thousands of Thai in hotel, restaurant and related industries. In Pattaya on Thailand's Eastern Seaboard, the decline of tourism has already started principally because the city has failed to deal with wastewater treatment.

The firm laid out a program of "next steps" required not only to implement the individual projects, but also to ensure adequate operations and maintenance. Three scenarios were set out for funding the program - private, public/private joint venture and public. USAID will take up this program and financing options with the Thai Government under the Partnership.

b. Hazardous and Toxic Waste

The RTG in an effort to bring the problem of hazardous waste under control has identified several sites to become regional hazardous and toxic waste management facilities. At the same time, Thailand has very limited experience and capability in the technical and financial problems of management of hazardous and toxic waste. Technical expertise and know how is very much needed to bring Thailand's management of hazardous and toxic waste up to international standards.

USAID contracted a U.S. consortia to assess and critique feasibility of U.S. led private sector consortia contributing to improved environmental infrastructure in Thailand, specifically in the area of hazardous and toxic waste at two potential sites. The contract provided valuable feedback. First, it confirmed the enormity of the problem of hazardous and toxic waste disposal; second, it indicated the absence of basic data required to make informed decision on technical solutions, third, it verified the contributions that technically capable U.S. firms could potentially make to solution of the problem.

The contractor concluded that the most important next step was for the RTG to develop a hazardous and toxic waste profile for the waste that would be coming to the proposed sites and develop measures that would ensure the waste would actually be delivered to the sites. The disposal facilities at the sites would have to be tailored to the expected waste profile. Alternatively, the firm saw potential for a private sector investment with RTG concurrence to jump start improved management of hazardous and toxic waste. The key to this alternative would be to obtain (1) delivery commitments at a commercially viable price per ton from firms with large volumes of hazardous and toxic waste and (2) a permit from the Ministry of Industry to build, own and operate a waste disposal facility. Under the Partnership Project the Mission will actively explore this area, building on the assessment of options.

USAID/Thailand
AMP RESEARCH AGENDA

ENVIRONMENTAL ISSUES FOR AN
ADVANCED DEVELOPING COUNTRY

Final Report

Prepared by
The Environmental Advisory Team

Theodore Panayotou
David Foster
Malcolm Baldwin
Teerana Bhongmakapat

March 1990

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EXECUTIVE SUMMARY

ENVIRONMENTAL ISSUES FOR AN ADVANCED DEVELOPING COUNTRY

INTRODUCTION

The terms of reference of the Environmental Advisory Team were to:

- (a) Assess and identify the macroeconomic and sectoral trends critical to present and future economic growth;
- (b) Identify potential natural resource and environmental constraints in sustaining these trends;
- (c) Recommend an appropriate environmental program for USAID in Thailand, that focuses on environmental constraints to the leading growth sectors, enhances the role of the private sector and advances the US-Thai mutual interests;
- (d) To assess the USAID/Thailand natural resources and environment program with emphasis on MANRES and recommend modifications in the light of the conclusions of items (a) to (c).

Points (a) to (c) are covered in this executive summary and the main report. The conclusions of this report should not be construed to imply a judgment on the appropriateness of applying the economic growth and mutual interest screens to environmental problems (a subject which is beyond the scope of the team) nor to suggest that the selected environmental problems are necessarily the most important ones. The correct interpretation is that given these screens and USAID's dwindling resources the following conclusions and priorities emerge:

PROSPECTS FOR ECONOMIC GROWTH

1. Economic growth in Thailand over the past 30 years has been higher and steadier than that of most other comparable developing countries. It has averaged 6-7% in the past 20 years and has accelerated in recent years to reach a double digit rate. It is projected by the team that the Thailand economy will continue to grow at a rate exceeding 9% for the next 2-3 years; it will slow down to 8% during 1992-95 and stabilize around a respectable 6% during the latter part of the 1990s.
2. Thailand has accomplished this remarkable success through a dynamic export-oriented private sector operating in increasingly open markets. The government has contributed to this success through prudent macroeconomic management, provision of physical and social infrastructure and export promotion. Thailand's rich natural

resource base, fertile land, abundant water, extensive forests, rich fisheries and attractive natural environment have made a critical contribution to economic growth by generating investable surpluses in terms of food, labor, savings and foreign exchange, for industrialization, at a time when there was little else to fuel economic growth. Partly because of this intensive resource exploitation and partly because of mismanagement, many of Thailand's natural resources are now depleted or degraded.

3. The center of gravity of Thailand's growth has shifted from agriculture and other resource-based activities to industry and services. The share of agriculture in GDP has declined from 27% in 1970 to 16% today and is expected to fall below 9% by the year 2000. In contrast, the share of industry has increased from 26% in 1970 to 36% today and is expected to reach 41% by the year 2000. Services grew more slowly, increasing their share from 47% in 1970 to 49% today; they are projected to slightly exceed 50% by the year 2000. Within the industry sector the fastest growing sub-sector has been export-oriented manufacturing; within services, tourism; and within agriculture, high-value export crops. It is expected that these same sectors will continue to be the leading growth sectors in the 1990s. The team projects that industry and services will grow during the 1990s at rates exceeding 7% while traditional agriculture will average 2%.
4. Evidently, the sources of growth have shifted. On the supply side, savings and capital accumulation, technology and skills and imported materials and capital equipment are increasingly replacing land expansion and resource depletion as new sources of growth. On the demand side, export demand and growth of domestic demand derived from higher incomes and changing tastes are replacing subsistence demand driven by population growth and import substitution driven by protectionist policies. The contribution of export demand to economic growth rose from 11% in the 1960s to 45% in the late 1980s, while import substitution made a negative contribution taking away as much as 23% of growth during 1985-88. By 1987 only 44% of the manufacturing value added was natural-resource dependent and 56% import-dependent; about 2/3 of each was export-oriented.
5. Clearly the future engine of Thailand's economic growth is export-oriented industry, tourism, urban-based commerce and financial services, and high-value export agriculture, in increasingly processed form. Labor costs are still relatively low for the level of skills, and adaptability and discipline characteristic of the Thai labor force. Thailand is well prepared to assume industries of moderate labor costs and intermediate level of technology that are being spun off by more advanced NICs as their labor costs rise and technological sophistication increases. Thailand still accounts for a negligible share (less than 0.1%) of the world manufactured exports and therefore fears of market saturation are unfounded. External shocks, and rich country protectionism do not pose a major risk to sustained growth of export

...oriented industries because of the diversified composition of Thai exports and the demonstrated ability of the industry to shift product composition to avoid protectionism and find new market niches. Under rather conservative assumptions industry is projected to continue its double-digit growth through 1992, averaging at least 9% growth during 1992-95 and growing at over 6% for the last half of the decade. Thailand continues to be a choice destination for foreign investment and is rapidly emerging as a regional center for financial, trade and transportation services. The growth potential of tourism is at least as strong because of Thailand's considerable tourism assets, including a scenic natural environment, exotic culture, world class hotels and airlines, and an unsurpassed level of service. The rapid growth of industry and tourism and the development needs of neighboring countries will further stimulate the growth of related services such as trade and commerce, financial services and banking, insurance, communications, etc.

6. To sum up, the prospects for continued economic growth are excellent. With a rapidly expanding cadre of entrepreneurs and the rise of a sizable and growing middle class there is a large and expanding constituency for continued economic growth. With its increasing integration in the world financial and capital markets, and the successful penetration of world product markets, Thailand's open and flexible economy faces abundant opportunities for expansion. Yet, threatening clouds are looming on the horizon. Constraints are emerging everywhere. Some are structural, some are institutional, some are policy-related and others are infrastructural. Inadequate physical and social infrastructure, labor skill shortages, an unresponsive bureaucracy, an outdated legal system, excessive centralization of authority and lagging policy reforms may retard the economy's response to new market opportunities, and thereby slow down economic growth. No less threatening to economic growth are unchecked environmental problems: air pollution arising from the growing amounts of industrial and auto emissions; water pollution arising from wastewater from households, hotels, restaurants and industries; solid waste, especially hazardous waste from hospitals, toxic waste from industries and household garbage; coastal pollution and degradation of the natural environment caused by haphazard tourist development; land subsidence and flood damage arising from excessive pumping of ground water; rapidly disappearing forests and open spaces and deteriorating quality of life in major urban centers and tourist resorts, as a result of congestion, noise, air and water pollution. Failure to develop and implement sound environmental policies in any of the leading growth sectors can severely limit the sustainable growth of the Thai economy.

ENVIRONMENTAL CONSTRAINTS ON PROSPECTS FOR ECONOMIC GROWTH

7. The Urban Sector, the major target of foreign and domestic investment, and the producer of more than 80% of GDP and 100% of all net new jobs, is being undermined by infrastructural bottlenecks

and mounting environmental problems that include traffic congestion, water and air pollution, solid waste and lack of a sewerage system. According to some estimates traffic congestion in Bangkok cost the economy close to 10% of GDP last year. Bangkok is the largest city outside China without a sewerage system and Bangkok's canals are probably the most polluted in the world. At least 85% of the waste that finds its way into Bangkok waterways comes from residential and restaurant use. Failure to impose appropriate charges means that otherwise cost-effective resource recovery and recycling programs are impossible to implement. Use of klongs as open sewers increases the risk of disease, lowers property values and ultimately impacts productivity and the ability to attract foreign investment. The Bangkok Metropolitan Area (BMA) is literally being undermined by excessive groundwater pumping, that leads to ground subsidence, lower quality water and ultimately higher costs. Groundwater pumping is being subsidized by below-cost charges that are rarely collected. Leaks in municipal water systems result in loss of up to 30% of public water supply and absorption of contaminated surface water due to loss of pressure. Artificially low water rates subsidize inefficient use and production of correspondingly large quantities of wastewater while water supply costs are not being recovered to repair leaks and provide additional supplies.

8. The industrial sector, the major source of value added and export growth is facing problems of inadequate supplies of water, clean air and sewerage as well as congestion and solid waste disposal problems all of which increase the costs of doing business in Thailand. Disposal of dyes from textile operations and heavy metals from electroplating contaminates the waste stream foreclosing future recycling options for domestic sewage and imposing major hidden costs on the economy. In a competitive economy failure to enforce reasonable environmental requirements or charges ultimately penalizes those manufacturers that provide effective controls while rewarding those who impose additional burdens on the economy through improper disposal.
9. The tourist sector, the single largest earner of foreign exchange, faces a growing danger of debasing itself by failing to invest in, and preserve the environmental resources which attract the high expenditure tourist in the first place. Pattaya, once an attractive beach resort suffers from inadequate water supply, and sewerage, polluted beaches and haphazard development, to such an extent that it has been removed from many overseas recommended package tours (see Bangkok Post, March 23, 1990). Chiangmai and Phuket seem destined for the same fate unless current environmental trends are reversed. The signs are not encouraging: tourist resorts receive a disproportionately small share of central government budget, the local property tax system remains poorly developed, and the private provision of public services is restricted. The current regulatory structure penalizes responsible actors through payment of higher costs and dilution of benefits through the irresponsible actions of their competitors.

10. High-value export agriculture (fruits, vegetable and shrimp farming), the fastest growing subsector of Thai agriculture with bright future growth prospects, is being constrained by poor water control, waterlogging, insecure land ownership, polluted water (high cadmium levels), inadequate access to competitive cost credit and vulnerability to environmental disasters. The failure to price irrigation water results in inefficient water use and waterlogging and at the same time deprives the Royal Irrigation Department of the funds necessary for maintaining the system and improving water control. With poor water control, increased use of pesticides and chemical fertilizers (encouraged partly by subsidies) is a growing source of downstream water pollution that ultimately affects the urban, industrial and tourist sectors.
11. Biologically rich forests, of high commercial value today, and of potential value to industry, tourism, export agriculture, quality of life and environmental stability essential to sustained economic growth, are wastefully used or simply destroyed, imposing major burdens on the economy. Related is the increasing vulnerability to natural and environmental disasters such as landslides, floods and typhoons arising from reduced resilience of coastal and mountainous areas and the location of increasing economic activity and infrastructure in vulnerable areas. Again the failure to establish secure property rights, and full cost pricing that both accounts for increasing scarcity and internalizes externalities is an outright subsidy for environmental degradation.
12. The environmental constraints to growth are inextricably intertwined with the social and physical infrastructure constraints, and both are related to the failure to establish and enforce full-cost pricing that would both encourage efficient use and make resources more available for expanding supply. The failure to fully price water and to charge for waste disposal/treatment result in excessive water use and water shortage as well as excessive wastewater and inadequate funds for sewage and waste collection/treatment systems. These constraints are largely the consequence of self imposed policies which still restrict market choice and private participation. State enterprises exercise monopoly control over the provision of public infrastructure, yet poor cost recovery, inappropriate subsidies and limited access to capital preclude needed expansion.
13. The environmental constraints are also intertwined with the structural imbalances and growing income disparities. The remarkable structural change in GDP is not matched by commensurate structural change in employment. Conservatively and with due allowances for off-farm employment, over 50% of the labor force is still engaged in and depends on agriculture which produces only 15% of GDP. While such imbalance and the implied inequality is typical of this stage of development, the magnitude of this imbalance is unprecedented and poses a threat to both the environment and sociopolitical stability. Simply put, underemployed rural poor

encroach on forest reserves or squat in urban slums contributing to environmental degradation. It is our assessment that policy distortions and institutional constraints are largely responsible for this imbalance. Insecurity of land tenure, interest rate ceilings that dry up rural credit, capital subsidies and other investment incentives that promote capital intensity, and lagging secondary education constrain agricultural productivity, labor mobility and industrial employment, and thereby prevent a large part of the population from benefiting from Thailand's remarkable economic growth. Failure to redress this imbalance and its environmental consequences may gradually erode public support for continued rapid economic growth.

14. Untackled environmental problems could constrain economic growth in many different ways. Industrial output and productivity could be lost to disruptions caused by shortages of water and energy, bottlenecks in infrastructure and damage to economic assets from environmental disasters. Foreign investors could be discouraged by rising costs of operation and falling quality of life. Economic growth could be slowed down by costly second-best mitigation responses (e.g. sound-proofing, bottled water, relocation, etc.) or by overly restrictive government regulations in response to crisis or public pressures. Failure to effectively control industrial pollution may give Thailand the reputation of a pollution haven which may lead to protectionist pressures against Thailand from US and European labor and industrial lobbies. Growing industrial pollution, increasing urban congestion, degradation of the natural environment by uncontrolled tourism and deteriorating quality of life amidst rapid growth may lead to a backlash and erosion of public support for open markets and continued economic growth.

OBSTACLES TO OVERCOMING ENVIRONMENTAL CONSTRAINTS

15. The effective resolution of environmental constraints to sustainable economic growth faces serious obstacles: (a) limited public awareness of the impacts and potential alternatives to current conditions and policies; (b) limited information on the causes and consequences of environmental problems; (c) inadequate expertise on environmental policy analysis, impact and risk assessment, environmental law and economics, etc., (d) inadequate legal and institutional framework; (e) lack of enforcement of existing regulations and nominal penalties for violation; (f) the limited role of markets and inadequate involvement of the private sector; and (g) limited financial resources because of poor cost recovery.

U.S. NATIONAL INTEREST

16. The US has both a comparative advantage and a national interest in helping Thailand remove these obstacles and improve environmental management. The US industry and consulting firms are recognized leaders in environmental resource management and pollution control

services and products. The US environmental legislation and EPA's technical guidelines are used as blueprints worldwide including Thailand. The US PVO/NGO public interest groups have been uniquely successful in raising environmental awareness and elevating the environment to a national political issue. The US based education and training institutions have been world leaders in providing education and training in environmental and policy sciences to developing countries.

17. The US has a national interest that coincides with Thai interests in helping Thailand address effectively and efficiently its emerging environmental constraints to sustainable growth. The US and Thailand share a mutual interest in continued expansion of investment and trade and in avoiding protectionist pressures in the US resulting from the creation of a pollution haven in Thailand. Thailand can benefit from the long American experience in pollution control and the US can expand the market for US goods and services in the pollution control industry. It is conservatively estimated, that Thailand will have a 3-5 billion dollar market for pollution control and services over the next five years just counting new installations and requirements under existing laws. Increased public involvement in environmental issues provides an effective vehicle to promote more open society and democratic pluralism. Close cooperation with important environmental shareholders in Thailand provides opportunities for policy dialogue on global environmental issues such as global warming, ozone depletion and biological diversity for which the US public and Congress have expressed a strong and growing interest.

USAID ENVIRONMENTAL PROGRAM

18. A USAID environmental program that focuses on environmental constraints to key growth sector and advances mutual US-Thai interests must have the following components:
 - (a) an industrial-urban-tourism component that focuses on inefficiencies in water, land and energy use and associated water, land and air pollution problems as they affect economic growth. It is recommended that this sectoral component focus on implementation issues in the Greater Bangkok area and the satellite cities extending to the Eastern Seaboard and including the tourist resort of Pattaya, because of the heavy concentration of economic activity and associated environmental problems in these areas. As a second priority, the growing environmental problems of the urban and tourist centers of Chiang Mai, Korat, Haad Yai and Phuket warrant attention (see figures 2, 3 and 4).
 - (b) a policy analysis and dialogue component that focuses on macropolicy (both economic and environmental) that affects the allocation and efficient use of natural resources and the environment as they relate to economic growth. The critical

issues within the policy component are the aforementioned sectoral environmental issues from a macropolicy perspective plus broader issues that impinge upon them or are too diffused for a sectoral focus yet critical to economic growth such as forest policy, high value export agriculture, nature-based tourism and environmental disasters (see figures 2 & 3).

- (c) a small but strategic global environment component focused on Thai biological diversity and global warming with threads that tie in with energy efficiency, nature based-tourism, the pharmaceutical industry, high-value export agriculture, and forest policy. These issues have a strong constituency in the US and a growing advocacy in Thailand that makes them critical to enlisting the support of environmental NGO's for the industrial-urban-tourist and policy components of the recommended USAID environmental program for Thailand (see figure 2). The critical issues of forest encroachment and loss of biological diversity could be strategically addressed within the policy and global environment components. Moreover, given the limited resources of USAID/ANE for this issue and the relative significance of these problems far and beyond their effect on short term US-Thai economic interests, other USAID bureaus, particularly the S&T, as well as other donors could be leveraged to work in this area.

19. It appears that there is little room for separate rural, agricultural, and coastal resource components in a limited environmental program for Thailand that focuses on critical constraints to economic growth. This is so, partly because these three sectors are too diffused and complex to reshape through micromanagement and partly because the engine of growth has shifted away from these sectors towards urban-industry and tourist centers due to structural change.^{1/} This is not to be construed as a recommendation that Thailand shift resources from rural/agricultural to urban/industrial areas. Rather, the team recommends a focus on policy change which will reduce subsidization of the urban areas by the rural areas and enable the urban areas to more effectively finance the needed urban environmental infrastructure. Furthermore, the team strongly advocates policy reform leading to increased agriculture productivity and off-farm employment that will enable the rural population to share more effectively in the benefits from urban and industrial development. Not only do all three sectoral components have elements relating to coastal, rural, and biological

^{1/} While much of the urban, industrial and tourist activity is concentrated in the coastal area, a separate coastal resource component would be enormously complex because of the many agencies involved and the lack of clear authority. Coastal environmental problems can best (though not ideally) be handled within the urban-industrial-tourist component.

resources (see figure 3), but there is also an increased emphasis on the policy component which, in our assessment, provides a more strategic position from which to address such problems in a cost effective and catalytic way.

20. Critical to the success of such an environmental program is expanded environmental awareness and local participation that makes environmental issues part of the national debate and the political agenda and enhances people's voice and choice in resolving them. Here we see a crucial role for NGO activity and for a better informed parliament, perhaps through an institution similar to the Congressional Research Service in the US. Critical to the proposed program are also enhanced analytical and technical skills to deal with complex environmental issues. We feel, however, that support for NGO activity, for a parliamentary Research Service and for human resource development would be more cost-effectively provided through Mission-wide Programs that address other issues in addition to the environment. Yet, within such programs it is essential to have environmental earmarks, at least for the first few years, because the environment is a nascent concern that needs to be fostered. These cross-cutting themes of awareness and human resource development as well as that of policy ought to focus on broader environmental issues as they relate to economic growth than the sectoral component which will also have substantial policy, short term training and NGO inputs.
21. Within this limited environmental program we see considerable scope for the growth of democratic pluralism, for enhancement of the role of the private sector and advancement of Thai-US mutual interests. We see an expanded role for NGO's, elected municipal councils, industry groups, parliamentary committees, and academic institutions as critical to the success of the program. The private sector has a key role to play in the provision of environment related infrastructure (water supply and water treatment, solid waste disposal, sewage system, reforestation, etc) and in self-regulation and self-enforcement, given an appropriate institutional framework. Mutual interests are being served by comparable pollution standards, technical assistance, training, market for US goods and services in pollution control, expanded trade and investment opportunities.

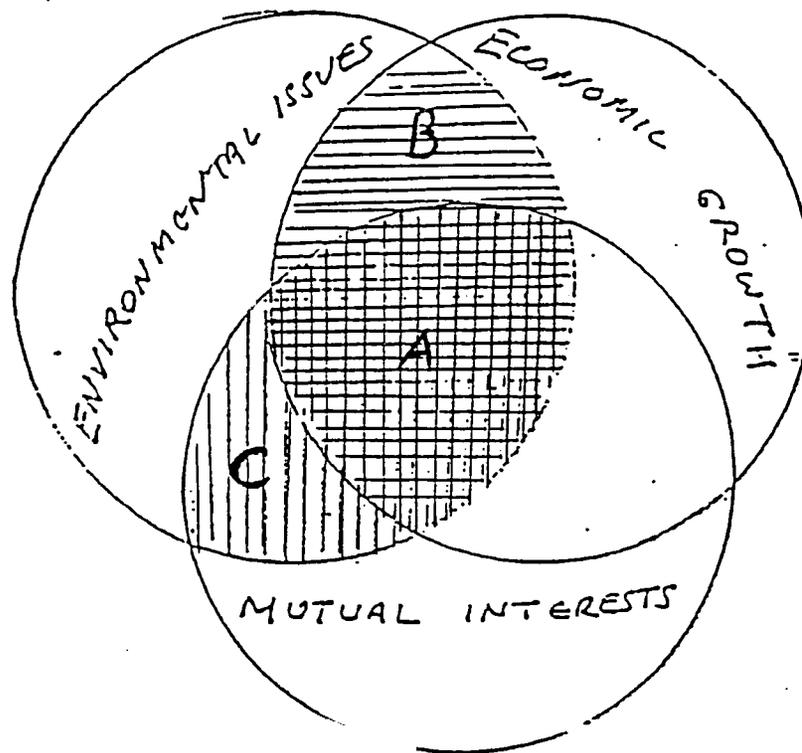


Figure 1 : Applying Economic Growth and Mutual Interest Screens to Environmental Issues

- A. "Economic growth and mutual interests-focussed environmental issues
- B. "Economic growth only"-focussed environmental issues
- C. "Mutual interests only"-focussed environmental issues

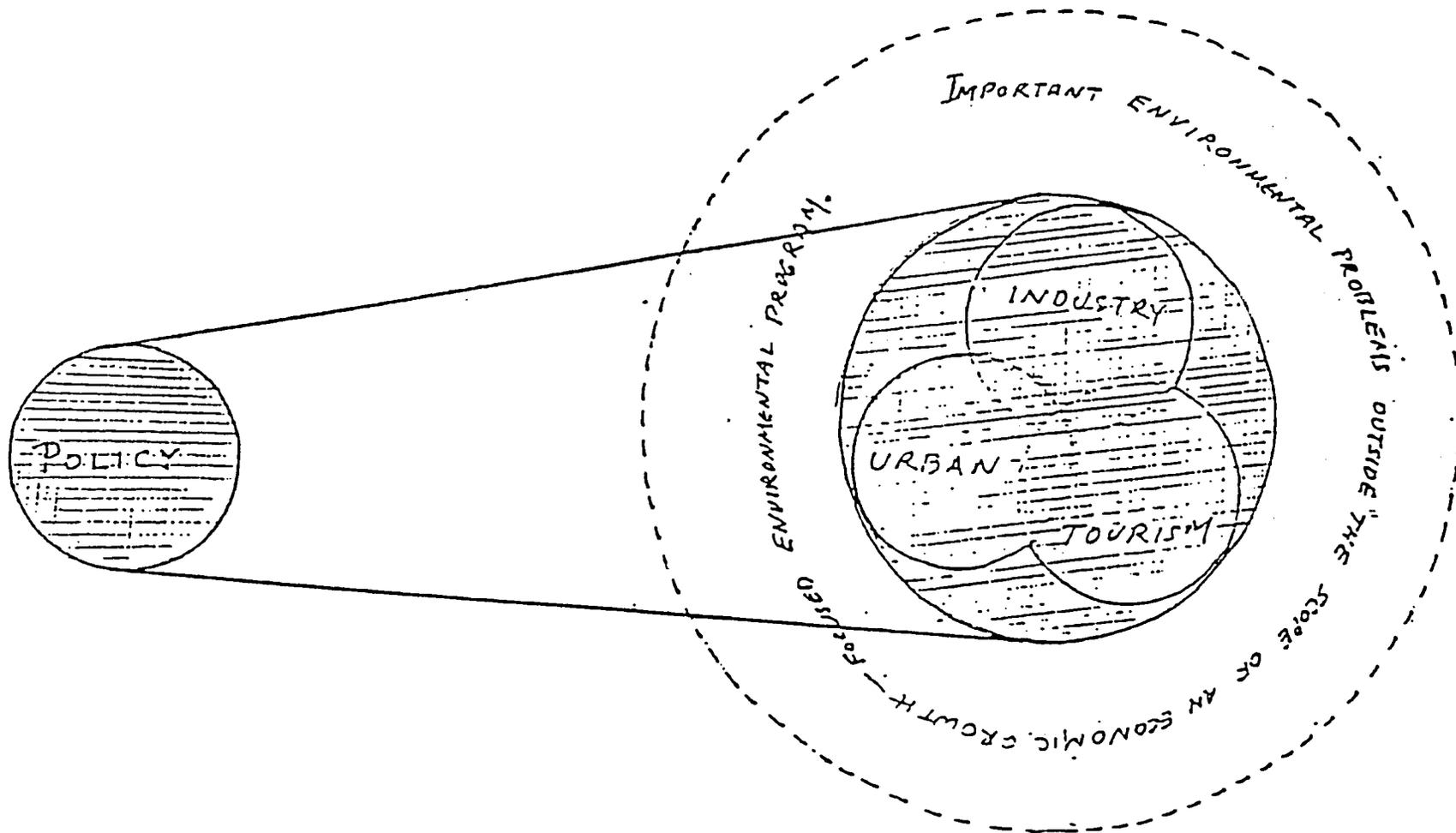


Figure 2 An Economic Growth-Focussed Environmental Program for Thailand as an Advanced Developing Country (Areas A & B in Figure 1).

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Legend

1. High-value export agriculture and agroprocessing
2. Nature-based tourism and pharmaceuticals
3. Coastal environment important to tourism and vulnerable coastal growth areas
4. Global environmental component focussed on biological diversity and global warming (Area C in Figure 1)

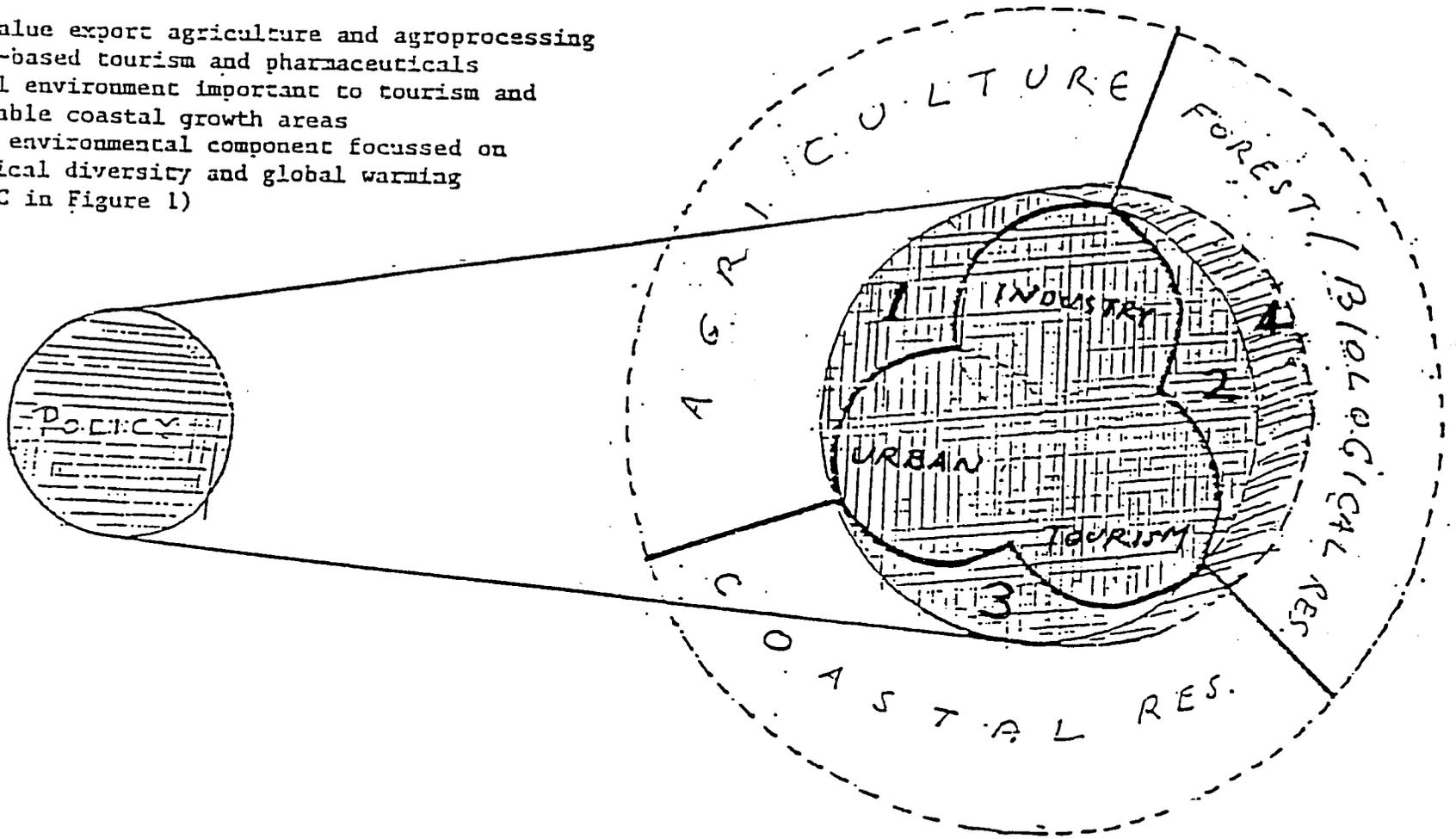


Figure 3 An Economic Growth/Mutual Interests-Focussed Environmental Program for Thailand as an Advanced Developing Country (Areas A, 3 & C in Figure 1).

Figure 4 Environmental Issues for Thailand as an Advanced Developing Country : Sectoral Component

	W A T E R	:	L A N D	:	E N E R G Y			
	inefficient water use	Water pollution	land subs. flood dam.	Solid/ toxic waste	inefficient land use congestion	Traffic pollution	Air/noise pollution	inefficient energy use
I : Satellite								
M : Cities	A	A	-	A	A	C	D	A
D : (of S.Pr.								
U : ESN)								
S :								
T :								
R : Bangkok	A	A	A	A	A	A	A	A
Y :								
U :								
R : Muni-								
B : palities	A	C	-	D	A	C	C	C
A :								
N :								
Chiang-	A	D	-	B	A	D	D	B
Mai								
T :								
O : Pattaya	A	A	-	A	A	D	D	D
U :								
R :								
I :								
S :								
N :								
Phuket	A	A	-	D	A	C	C	B

A : first priority
 B : second priority
 C : third priority

AIDS

PROGRAM STATEMENT

1. DEVELOPMENT CONTEXT - OVERVIEW OF THE AIDS EPIDEMIC

Human Immunodeficiency Virus (HIV) transmission was first detected in the late 1980's in Thailand. Although high HIV infection rates were initially limited to intravenous drug users and commercial sex workers in Bangkok, the disease is now spreading at an alarming rate throughout the general population. Conservative estimates recently issued by the World Health Organization indicate that approximately 200,000 - 400,000 Thais are now infected with HIV. Among those infected are 3% of 20-21 year-old men recruited by the Royal Thai Army, 1% of women attending public antenatal clinics, and at least 25% of Thailand's female commercial sex workers. More than half of these people contracted HIV through heterosexual sex. According to U.S. and Thai researchers, if current behaviors that facilitate the spread of HIV continue, 2-4 million Thais will be infected by the year 2000. Most, if not all, of these people will develop AIDS and die.

Unless effective policies and intervention programs are implemented now, the effects of the HIV/AIDS epidemic are likely to halt or reverse hard-won social and economic gains made in Thailand. HIV/AIDS will damage the very core of Thai society by striking men and women at their peak economically productive years. Therefore, the epidemic threatens to deplete a labor force that in many critical areas is already in short supply. The impact on the Thai economy is potentially devastating. In addition, at the current rate of spread, AIDS will soon overwhelm the capacity of Thailand's health care system to provide adequate and essential care to people with HIV/AIDS-related illnesses. Besides a lack of physical infrastructure, there will also be a shortage of health care providers to deal with special needs of AIDS patients.

AIDS will also increasingly affect the survival of children. An increasing number of infants will be born infected due to perinatal transmission and concern is growing over an expected increase in the number of uninfected children left orphaned when their parents die of AIDS.

2. CONFORMITY WITH THAILAND'S PRIORITIES AND PROGRAMS

The RTG has recently made a bold and commendable commitment to fighting AIDS. The Thai AIDS Control Program has been strengthened by placing the National AIDS Committee (NAC) under the chairmanship of the Prime Minister. To enlist the active participation of the country's key decision-makers and promote a truly multi-sectoral approach to combatting AIDS, membership on the Committee has been expanded to include representatives from all relevant ministries, universities,

and non-government organizations working on AIDS. The RTG has committed almost \$10 million for multi-sectoral AIDS prevention activities over the next two years. These activities are to be implemented by all ministries, the private sector, business and religious organizations. The activities will be carried out in all 73 provinces of Thailand.

Recognizing that the success of any AIDS control program depends on the establishment and regular monitoring of sound policies, the RTG plans to emphasize policy reform in addition to prevention programs. A central planning, coordinating and monitoring office is being established within the Office of the Permanent Secretary of the Office of the Prime Minister. This office, referred to as the AIDS Policy Coordination and Planning Bureau, will interface with subcommittees and working groups of the NAC, ministerial AIDS committees, non-government and business organizations involved in HIV/AIDS activities and the National Economic and Social Development Board. The scope of work for the Bureau will be to:

- review national AIDS policies and make policy recommendations to the Prime Minister;
- coordinate NAC policies and plans;
- ensure coordination of ministerial AIDS action plans;
- monitor and evaluate AIDS activities implemented by various ministries; and
- assist in the preparation of a yearly National AIDS Action Plan consistent with the five-year National Economic and Social Development Plan.

3. USAID PROGRAM

USAID has responded to the AIDS epidemic in Thailand with bilateral support through private voluntary organizations and the Bangkok Metropolitan Administration. In addition, Thailand has been an emphasis country under the centrally-funded Family Health International/AIDSTECH Project which has provided substantial support to both public and private sector initiatives. Some AIDS prevention activities have also been supported through the centrally-funded Academy for Educational Development/AIDSCOM Project.

USAID will increase support for AIDS prevention activities in Thailand: (a) by collaborating closely with the five-year, centrally-funded AIDS Control and Prevention Project (AIDSCAP) implemented by Family Health International and (b) through the Partnership. By combining what will be two mutually-reinforcing projects, USAID aims to create a full-scale, comprehensive AIDS control program in Thailand.

a. AIDSCAP

Thailand has been designated a priority country under the AIDSCAP Project and a strategic plan for HIV/AIDS prevention and control is currently being developed. The basis of that plan will be HIV/AIDS prevention and control programs specifically aimed at:

- increasing access to and use of condoms;
- improving diagnosis and treatment of sexually-transmitted diseases; and
- reducing numbers of sexual partners.

b. Partnership

The purpose is to assist Thailand to slow the spread of HIV infection by supporting Thai capacity to identify and implement solutions for the human and economic costs of the looming impact of the AIDS epidemic.

The HIV/AIDS prevention component under the Partnership will be composed of three subcomponents that are consistent with the overall country strategy goals of AIDS prevention and control and which complement the centrally funded AIDSCAP program. These activities will add an important dimension to the overall USG effort by engaging the USG directly with the RTG on AIDS-related issues. The contribution while important to the overall AIDS prevention and control effort was not large enough to justify a separate project.

i. Policy Dialogue

There is a critical need for materials and information that illustrate the seriousness of AIDS to policymakers. Policymakers must also have accurate information concerning the potential developmental impact of the epidemic, the effectiveness of proven interventions, findings of research, public perceptions about HIV/AIDS, and many other related issues. In order to assist these efforts, USAID/Thailand proposes to support the AIDS Policy Coordination and Planning Bureau within the Office of the Prime Minister. Funds will be provided to conduct activities within the following areas:

- o Policy Workshops: engage technical experts and decision-makers in policy debate on specific AIDS-related issues (e.g., child prostitution, compulsory HIV testing, human rights of people with AIDS, etc.); expected outputs are policy recommendations.

- o Pilot Projects: support policy and/or program-oriented pilot research projects (e.g.; applicability of universal precautions models to various Thai health care settings, specific inventories of research, etc.); findings will be used to guide national AIDS policy recommendations.
- o Monitoring and Evaluation: review progress and assess impact of national programs and ensure adherence to national AIDS policies; findings to be used in development and refinement of programs and policy reform.
- o Modeling for Decision-Making: support the Thai Working Group on HIV/AIDS projections to collect and update data needed for interagency working group (iwg)AIDS simulation modeling; provide technical assistance on use of the iwgAIDS model for projections and in the preparation of presentations and reports to support policy dialogue.

The budget for activities in these areas of HIV/AIDS policy coordination and reform will be approximately \$1,600,000 over the five years of the Partnership. Quarterly reviews will be scheduled to evaluate and document progress achieved and refine the workplan as necessary. The Partnership will not support salaries of RTG employees, operating expenses or equipment and supplies.

ii. Technical Assistance

An AIDS technical assistance fund of approximately \$400,000 over five years will be established to enable USAID to respond flexibly and rapidly to requirements for short term assistance related to the policy dialogue subcomponent. In addition, a part of the technical assistance fund would be used to obtain independent assessments and audits of the AIDS subcomponent of the Partnership, as necessary. Management of the funds will rest with the Mission, but consideration may be given to seeking an intermediary to manage some technical assistance activities as experience with the program accumulates.

4. ILLUSTRATIVE STRATEGIC PARTNERSHIP

A number of possible strategic partnerships may be developed which will complement the HIV/AIDS prevention and control activities. All strategic partnerships will be subject to the review, approvals and funding procedures described elsewhere. Areas of interest might include: AIDS education in the workplace, sexually-transmitted disease diagnosis, and biomedical technology for HIV/AIDS diagnosis and treatment. For illustration, a potential AIDS in the workplace transaction is described as follows:

AIDS Education in the Workplace: A Sustainable Model for Prevention

With approximately 400,000 Thais already infected with HIV and an estimated rate of spread of 700 new infections each day, all areas of industry will be affected by HIV/AIDS. The business community must be prepared to deal responsibly with HIV/AIDS in the workplace and should recognize the benefit of providing HIV/AIDS prevention education to all employees.

There are currently several AIDS education in the workplace activities in Thailand but most of these programs are one-time educational sessions for low level employees. A more effective, on-going, comprehensive plan for recruiting and sensitizing company executives, providing referral services, updating training and educational messages and assessing the impact of the program is proposed.

This activity would seek to establish a self-sustaining program on AIDS education in the workplace that would actively encourage and assist businesses to set up HIV/AIDS policies and comprehensive education programs.

Several successful corporate collaborative endeavors address AIDS prevention and education in the workplace in the United States. Examples of such collaborative efforts include: the San Francisco Business Leadership Task Force, the New England Corporate Consortium for AIDS Education, Design Industries Foundation for AIDS and the Citizens Commission on AIDS for New York City and Northern New Jersey. The lessons learned by these groups may provide guidance for a strategy to develop a consortium of businessmen and women, health professionals and representatives of professional associations who are concerned with the threat AIDS poses in Thailand.

The consortium would have the diverse and relevant expertise necessary to establish extensive relations with and recruit involvement and support for AIDS education in the workplace activities from various companies. The group should have the potential of focusing on employers' interests while at the same time addressing those of workers. The primary objective of the consortium would be to mobilize business support and develop and implement fee-based AIDS education in the workplace activities. The consortium would undertake to:

- support the development of HIV/AIDS training and education module(s) for use in various business settings;
- provide advice and assistance in formulating and implementing sound and effective corporate AIDS policies; and
- be an advisory and informational resource center for members.

USAID may provide catalytic funds to:

- determine the feasibility of creating such a consortium in Bangkok, Thailand;
- facilitate contact with U.S. groups with relevant experience to develop a framework for the business consortium;
- support start-up costs of establishing the consortium.

Strategic partnerships aimed at AIDS prevention and control such as the one described above would be identified and funded in the same way as other strategic partnerships under the Partnership.

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ANNEX C.3.b.

THE ECONOMIC IMPACT OF AIDS ON THAILAND

Mechai Viravaidya

Office of the Prime Minister
Royal Thai Government

Stasia A. Obremsky

Population and Community
Development Association

Dr. Charles Myers

Harvard Institute of
International Development

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THE ECONOMIC IMPACT OF AIDS ON THAILAND

I. Executive Summary

Thailand has achieved impressive economic growth over the past five years and is often cited as an example for other developing countries to follow. Equally impressive growth is seen in Thailand's AIDS epidemic which is silently but steadily moving through the population. In the few short years the epidemic has been in Thailand, experts estimate that 200,000-400,000 Thais have become HIV-positive. Because the epidemic is so new, and on average it takes ten years from infection to illness, very few people have yet to become sick or die. However, semi-annual national sampling of blood by the Ministry of Public Health indicates that the epidemic has broken out from smaller groups engaging in high risk behaviors to the general population.

Projections for the epidemic, developed with several demographic and epidemiological modeling tools, estimate that if current behaviors do not change by 1993, 2-4 million Thais will become infected by the year 2000. During that period, 650,000 AIDS cases and 560,000 AIDS-related deaths are projected to occur.

The projected levels of illness and death will create a significant financial burden to families and the government. Health care costs for people with AIDS are estimated to be between \$615 and \$1,000 per year. These estimates make conservative assumptions about the type and level of care received. Expensive drug treatments, namely the anti-viral AZT, available in the US and Europe are not included because of the prohibitive cost. Treatment costs for AIDS represents between 30-50% of annual household income for the average Thai family. The inability of families to bear this financial burden will require that the government fund the cost of care. With current health care expenditures of \$20 per capita, the per person cost of AIDS treatment will severely strain the government's budget.

A far greater cost to the economy will result from the the deaths of individuals during their most productive years. AIDS affects adults when they are most economically productive and women in their childbearing years. The value of this lost income due to premature death has been estimated assuming 25 prime years are lost and average annual income is \$1,500. Discounting the prime adult years lost using a social discount rate of 5%, the future foregone earnings equates to over \$22,000 per death.

Over the ten year period, the aggregate direct and indirect costs to Thailand of AIDS ranges between \$7.3 billion and \$8.7 billion. AIDS is likely to have an even broader impact on the Thai economy particularly on valuable sectors such as tourism, foreign direct investment and labor remittance from abroad.

Thailand will spend an estimated \$100 million on AIDS prevention efforts in 1991-1992. If significant behavioral change occurs as a result of this investment the epidemic's growth can be slowed. The projections indicate that by reducing sexual partners by half, doubling condom use, and treating sexually transmitted diseases will result in 3.5 million fewer people becoming infected and \$5.1 billion saved by 2000. These behavioral changes must be made by 1993. Even as Thai government's AIDS prevention budget triples, the investment in prevention yields a 17 times return, mostly in savings on health care expenditures and foregone wages.

II. Introduction

Over the past several years, Thailand has experienced significant growth in two very different sectors, one of which is observable and the other of which is not. Since 1987, the Thai economy has achieved impressive 9-13% annual growth in the Gross Domestic Product (GDP).

Growing unobserved, along with this economic prosperity, is an AIDS epidemic. As the initial data indicate, the human toll for the country in terms of death and illness will be significant. This epidemic will also likely have a significant impact on one of the world's fastest growing economies. This paper will examine the potential economic impacts of the AIDS epidemic on Thailand. The direct costs (healthcare and systems costs), and the indirect costs (the value of lost wages) of AIDS in Thailand based on differing future paths of the epidemic. The work is still in process and at a later stage will involve use of a CGE model of the Thai economy to yield better estimates of the possible macro economic consequences.

The model for evaluating the economic impact of the AIDS epidemic in Thailand is similar to methodologies used in other developing countries, namely, Africa¹ and Puerto Rico². This analysis is important in order to demonstrate the magnitude of the financial burden of AIDS, to rank the costs in relation to other health care issues, to justify budgets for prevention efforts, and to assist in the planning of health care needs for AIDS patients. By demonstrating the potentially enormous costs of the epidemic to Thailand, the authors hope to motivate policy makers to take strong and immediate action to reduce the spread of the AIDS epidemic. As this paper will demonstrate, the financial savings from prevention efforts which reduce the spread of AIDS will be significant.

Sponsorship for this research was provided by a Ford Foundation grant to the Population and Community Development Association. The authors wish to express their gratitude to the Ford Foundation for their generous support.

III. Characteristics of the AIDS Epidemic

AIDS is not a single, distinct disease but rather a complex illness that results from an immune deficiency. The causal agent is the Human Immunodeficiency Virus-"HIV". HIV is transmitted by sexual contact, by blood contact and by infected mothers to children during pregnancy or birth. AIDS is eventually fatal, but the causes of death among AIDS patients vary. Unusual types of pneumonia and cancer are among the leading causes of death in the United States and Europe. In Africa, they include meningitis, tuberculosis, and the syndrome of wasting, recurrent fever and diarrhea called "Slim Disease"³. It is too early to know what the leading cause of death of infected people in Thailand will be, but the pattern will have important consequences for health care services and costs.

A complicating feature of the epidemic is a long period of latency between the initial HIV infection and the onset of serious illness. In the United States and among middle and upper income Africans, the average interval between infection (HIV-positive) and illness (AIDS cases) for adults is about ten years⁴. During this latent period, infected individuals appear healthy, but they can and do infect others. The epidemic thus spreads unobserved and undetected. Some infected individuals are identified through routine blood screening and through special surveys in which blood tests for the presence of antibodies are conducted. AIDS cases are confirmed through blood tests once individuals develop illnesses that are associated with previously confirmed AIDS cases. But those people who tested positive for HIV or who are confirmed AIDS cases represent only a small proportion of the total number of infected people. Cost of testing and the logistics of large scale screening prevent any country from knowing with certainty the exact number of HIV-positive individuals.

AIDS epidemics typically advance in waves of infection starting with those engaging in the highest risk behaviors, then spreading to the general population. In the U.S and Europe the epidemic began with the male homosexuals and hemophiliacs, and then spread to injecting drug users (IDU). In contrast, the epidemic in Africa and in Thailand has spread through other risk groups and into the general population.

In Thailand, the first and second waves were homosexuals and IDUs. The third wave infected female prostitutes - via IDUs and homosexuals. The fourth wave infects the male clients of the female prostitutes. These infected men then pass the virus to their girlfriends and wives which make up the fifth wave. The sixth and final wave involves the children who receive the infection from their mothers. Infected mothers have a 30% chance of passing the virus to their children.

IV. AIDS in Thailand

A. The Current Situation

The AIDS epidemic is relatively new in Thailand. Experts believe that widespread transmission of HIV began in the late 1980s. Because of the long latency period between infection and AIDS symptoms, on average ten years, Thailand has observed very few AIDS-related illnesses or deaths. Significant number of AIDS cases and deaths should begin to develop in the middle to latter part of the 1990s. Despite the absence of AIDS cases, the infection continues to spread through the population. As described above, the first wave of infected male homosexuals was followed over time by IDUs, female prostitutes, male clients of female prostitutes, partners of males infected by prostitutes, and finally children of infected women. Each of these groups has its own AIDS epidemic with specific start date, size of population at risk and infection rates and increases.

Since 1989, the Ministry of Public Health (MOPH) of the Royal Thai Government has conducted testing of various groups engaging in high and low risk behaviors to track the epidemic's spread. This sampling, referred to as the National Sentinel Seroprevalence Survey, is conducted by the MOPH every six months - in December and June. Currently, all seventy-three provinces are included in the semi-annual survey. Exhibit 1 summarizes the results of the last five surveys⁵. The figures given are the national mean rate (the unweighted average of all the reporting provinces) and the national median rate (the midpoint rate of all the reporting provinces). Also included are the range of prevalence rates observed among the provinces and the number of provinces reporting prevalence rates for the respective test group.

The individual waves and the rapidly progressing spread of the epidemic can be observed from this data. Most notably is the high level and increasing rates of infection found during the June 1991 survey. Of the groups sampled, 24% of brothel prostitutes, 8% of males attending MOPH Communicable Disease Control Department Sexually Transmitted Disease (STD) clinics and 1% of women attending MOPH ante-natal clinics (ANC) tested positive for HIV. Between December 1990 and June 1991, a mere six months, prevalence rates increased by 30% for brothel prostitutes, 50% for males attending STD clinics, and 50% for women attending ANC clinics.

While the national rates are alarming, regional variation may signal even higher prevalence rates in the future. For example, in the June 1991 survey, prevalence rates among brothel prostitutes in the northern provinces of Chiang Rai, Chiang Mai and Phayao were over 40%. Prevalence rates for males attending STD clinics in those provinces were over 20%, and for women attending ANC clinics the rates were over 3%⁶.

The data from the MOPH's sentinel survey is used to estimate the number of HIV-positive individuals. As of December 1990, the MOPH estimates that approximately 200,000 Thais are HIV-positive⁷. The method used by the MOPH estimates the number of people in the following risk groups: IDUs, Commercial Sex Workers, High Risk Men, Partners of High Risk Men, and Newborns. For each of these groups the regional median prevalence rate is applied to the group's population to arrive at the total estimate of 200,000 people. Exhibit 2 describes the MOPH's methodology. Preliminary analysis from the June 1991 sentinel survey indicates that an additional 50,000-100,000 Thais became infected in the first six months of 1991 raising the cumulative total to 250,000-300,000 infected⁸.

An alternative method for estimating the number of HIV-positive individuals indicates that 240,000 people were infected as of December 1990. This method multiplies the female adult population, age 15-49, in each province by the province-specific ANC rate. The male adult population, age 15-49, is multiplied by the Blood Donor prevalence rate. Exhibit 3 presents details of the the province-weighted method. By using the June 1991 ANC and Blood Donor rates, this method estimates that an additional 50,000-100,000 people became infected in the first six months of 1991 raising the cumulative total to 300,000-350,000 infected.

The MOPH and other AIDS experts in Thailand have concurred that currently between 200,000 and 400,000 people are infected with the AIDS virus. The trends in the survey prevalence rates indicate that the epidemic continues to grow at alarming rates and, with the exception of the IDU population, shows no signs of slowing. In addition, the epidemic has spread to the general population implying that the behaviors of a large number of people need to change in order to reduce the spread of the epidemic.

B. The Future Situation

Projecting the future spread of HIV is inherently very difficult. Because the infection is unobservable, even estimating the current situation to determine the epidemic's starting point is problematic. Furthermore, changes in social behavior, medical breakthroughs and other unpredictable factors could impact future growth. However, in order to understand the potential magnitude of the problem and its impact on the economy future scenarios must be developed. Several modeling tools have been used to develop a conservative set of HIV projections, full-blown AIDS cases and AIDS deaths for Thailand. A high and low scenario has been created to show a possible range of estimates.

HIV Infection

The projections for the spread of HIV infections in Thailand were constructed using the iwgAIDS model⁹. This model was developed by the U.S. Department of State's

Interagency Working Group on AIDS Models and Methods. A demographic model is used as a foundation for the iwgAIDS model with AIDS-related processes integrated into it. The model projects the spread of HIV by heterosexual sex, between both casual and married partners, homosexual/bisexual sex, intravenous drug use, blood transfusions, and perinatal transmission.

This is a behavior-based model which requires detailed data on demography, sexual and drug injecting behavior, epidemiology, and blood banking. In March 1990, the Thai Working Group on HIV/AIDS Projections was founded to work with the U.S. team¹⁰. The Thai Working Group, comprised of experts from the public, academic and private sectors, compiled and reviewed the available data required by the iwgAIDS model. Exhibit 4 describes the projections for the spread of HIV in Thailand. A high and low scenario have been developed to show a range of projections.

Highlights from the iwgAIDS model of HIV projections for Thailand are:

- The number of people infected with HIV is projected to grow from 160,000 in 1990 to between 2-4 million by the year 2000.
- While more males are initially infected, by the year 2000 more women will be infected than men.
- People in the 15-34 age group will be the most infected.
- Urban prevalence rates among the general population will increase from 0.9% to 11.2% and rural prevalence rates increase from 0.12% to 2.5% between 1991 and 2000.

The iwgAIDS model is still under development with adjustments and revisions occurring, particularly with respect to AIDS cases and AIDS deaths. For this reason, a separate model, Epimodel, was used to project AIDS cases and deaths for this analysis.

AIDS Cases and Deaths

Projections for future AIDS cases and AIDS deaths, as shown in Exhibit 5, were developed with a tool known as Epimodel, developed by James Chin and Stephen Lwanga of the World Health Organization/Global Programme on AIDS¹¹. This is an extrapolation model which can be used for predicting AIDS cases and deaths once a given infection level has been determined. The HIV infections generated by the iwgAIDS model are duplicated by Epimodel to match the infection curve for Thailand. Epimodel assumes that the mean time from infection to AIDS illness is 9.8 years and the time from AIDS illness to death is 1.5 years. Applying these assumptions to the iwgAIDS model HIV projections, Epimodel then generates the

resulting number of AIDS cases and AIDS deaths. It should be noted that the mean conversion time of 9.8 years applies only to adults. Conversion intervals for infants and children have been observed to be much shorter. Thus, the AIDS cases and deaths generated by Epimodel are somewhat understated because the HIV infections from the iwgAIDS model includes both children and adults.

V. The Economic Impact

A. Direct Costs of the Epidemic

Two broad categories of direct costs will be considered: overall system costs of prevention and personal health care expenditures. Overall system costs of the epidemic which have been assessed include cost of blood testing, education and prevention programs, HIV testing by the Thai military and other groups, and training of health care workers. These are costs borne by many sectors of society due to the spread of AIDS.

Personal health care expenditures covers the cost of health care treatment for persons with AIDS. At this point, the analysis does not cover asymptomatic HIV-positive individuals. The assumption is that these individuals consume very few health care resources. Furthermore, it is unlikely in Thailand given the overwhelming needs of AIDS patients, that current drug therapies, namely the anti-viral AZT, would be given prophylactically to HIV-positive individuals.

Several other direct costs are incurred by the AIDS epidemic which are not covered in this analysis. Namely, costs of death such as funeral expenses and mourning rituals are expected to be significant as AIDS deaths increase. These costs have not been covered in this analysis. Likewise, the cost of caring for orphaned children in the event of both parents' death or illness has not been considered. A million and a half women are projected to be infected by the year 2000. If these women have two children each, three million children will be born to infected women. One million, or one third, can be expected to die from AIDS themselves, leaving the remaining two million to be orphaned when their mothers eventually die from AIDS. Providing for these children will be an additional burden for society.

Methodology

The information for determining the systems costs of the epidemic came from interviews with individuals at the Thai Red Cross, World Health Organization, Ministry of Public Health, and the Prime Minister's Office.

Since the AIDS epidemic is relatively new in Thailand, very little clinical data exists on AIDS patient care and costs. Therefore, a variety of secondary sources were used to estimate personal health care expenditures. The first step of the analysis was to determine the unit cost of care for non-AIDS patients in Thailand. The Ministry of

Public Health and others have undertaken several of these cost studies. The most recent study, completed by the MOPH in July 1991, evaluates unit costs for 89 provincial hospitals from 1988-1990¹². This report provides information on material and labor costs for outpatient cost per visit and inpatient cost per day. The information is categorized by size and type of provincial hospital.

The next step in the analysis is to determine the AIDS-specific cost variables such as patient days per episode, drug costs per episode, episodes per year and others described below. This AIDS-specific data was estimated based on a study of AIDS patients at Bamrasnaradura Hospital by Charles Cameron and Doris Schopper in June 1990^{13 14}. This was a relatively small sample of patients. Other sources, namely a report on "Cost of AIDS in a Developing Area: Indirect and Direct Costs of AIDS in Puerto Rico" by Donald S. Shepard¹⁵, which examined the cost of care for AIDS patients supplemented the Bamrasnaradura data.

Health care services are delivered in a variety of settings in Thailand including private hospitals, Ministry of Public Health hospitals, and other Ministry hospitals such as Military, Police and Interior. Each hospital setting has its own cost structure. The cost of care considered here pertains to hospitals run by the MOPH, these facilities currently comprise over 60% of the total hospital beds in the country.

This analysis represents an initial attempt at collecting and organizing the information required to assess the cost of care for AIDS patients. Many of the key assumptions need more empirical research to verify and refine the estimates. The analysis is shown using two scenarios, low and high in order to show a range of possible outcomes.

1. System Costs

In the past five years, Thailand has implemented a number of initiatives to attempt to contain the AIDS epidemic. System Costs, excluding personal health care costs, are those expenses incurred by governments, businesses, and individuals to reduce the spread of the disease. Exhibit 6 summarizes the major expenditures identified to date. In 1991, the estimated systems costs equals approximately \$107 million or Baht 2.7 billion.

The private sector provided most of the expenditure through television and radio stations by providing an estimated \$48 million or Baht 1.2 billion in free commercial air time for AIDS messages. Businesses are estimated to contribute another \$32 million or Baht 800 million for AIDS education programs for their employees.

The Thai government will spend an estimated \$20 million or Baht 489 million on its AIDS program. Sixty percent of those funds are allocated to the Ministry of Public Health to cover medical and social care, health education, program management,

training, coordination and Laboratory support. The remaining forty percent of the funds are to be distributed to other government ministries, such as Education, Defense, and Interior, to support AIDS education programs. These other ministries The average cost per inpatient day in 1990 for capital is realized difference 8.00% This cost is AIDS cases grows 11.5% per year over the past three years. This historical growth rate was applied to the 1990 cost per inpatient day to generate the 1991 estimate of Baht 550 \$6 million or Baht 145 million is expected to be provided by international donor agencies to the MOPH, non-governmental organizations, and Researchers private organizations for implementing AIDS programs. A study for HIV unit cost analysis of approximately \$2 million and Baht 50 million. The Thai Red Cross study of hospital and tests blood products and the Thai military which tests new study yield a range of costs per inpatient day similar to the MOPH's survey.

This is clearly only a partial list of expenditures for AIDS prevention activities. As Dr. Arthur S. Clemens continues to grow, additional resources will be required to fight the (material and labor) for non-AIDS patients at Bamrasnaradura Hospital to be Baht 531¹⁷.

2. Personal Health Care Expenditures
These are the costs of treatment of AIDS patients at Bamrasnaradura Hospital in Bangkok. Full-blown AIDS, while incomplete, is valuable in that it provides the only actual application of the government. In the case of Thailand, which has very little health findings, which coverage, individuals or the government will most likely bear most of the costs. The annual cost of AIDS treatment is estimated to be approximately \$1,000 or Baht 25,000 per case. This figure represents over 50% of the average annual household income, implying that the government will most likely carry the burden charged for the costs of AIDS care. With current per capita health expenditures at \$20, AIDS treatment costs will severely strain the MOPH's budget.

Clearly, more information on cost per inpatient day for AIDS patients needs to be collected and analyzed to improve the estimates. Furthermore, some estimates of capital costs need to be included. For this analysis, capital costs per bed are estimated at Baht 400,000 with an average life of 30 years. Exhibit 8 illustrates the assumptions and calculations used to arrive at a capital cost per inpatient day of Baht 46. Total inpatient costs are driven by the type of treatment received, lab procedures, surgery, etc.) and the length of hospitalization, and the number of episodes of hospitalization required in a year. Exhibit 7a describes the assumptions and the results of the health care cost analysis for personal expenditures. Since limited data exists for many of the key assumptions, two scenarios are developed: low and high.

Cost per Inpatient Day
The number of patient days per episode is estimated to be 25 days in 1991 in the high scenario and 20 days in the low scenario. This is based on data collected from the Cameron Hospital of AIDS patients at Bamrasnaradura Hospital. It is expected that over time strategies will be adopted to reduce the length of inpatient care as physicians gain experience in treating AIDS cases. This has certainly been well-documented in San Juan, Puerto Rico. In San Juan the mean length of stay of AIDS inpatients has been reduced from 22.5 days in 1987 to 11.3 days by 1988. The MOPH recently completed a cost study on 89 provincial hospitals, using data from 1988-90. This was accomplished by implementing a very aggressive patient management program including offering alternative treatment options such as homecare, outpatient clinics and hospices.

The average cost per inpatient day in 1990 for hospitals of all sizes was Baht 496. This cost has increased by 11.5% per year over the past three years. This historical growth rate was applied to the 1990 cost per inpatient day to generate the 1991 estimate of Baht 550.

Researchers at Thammasat University are in the process of completing a study of unit cost analysis of hospital services in Thailand¹⁶. This has been a three year study of two district and two provincial hospitals. Preliminary results from this study yield a range for costs per inpatient and outpatient day similar to the MOPH's survey.

Dr. Anawat Supachutikul, a Thai researcher, estimated the cost per inpatient day (material and labor) for non-AIDS patients at Bamrasnaradura Hospital to be Baht 531¹⁷. This analysis was undertaken in connection with a visit in June 1990 by Charles Cameron, WHO/GPA, and Doris Schopper of the School of Public Health, Harvard University. Cameron and Schopper were in Thailand to develop the first estimates for the cost of treatment of AIDS patients at Bamrasnaradura Hospital in Bangkok. Their analysis, while incomplete, is valuable in that it provides the only actual treatment data on AIDS patients to date. Based on their preliminary findings, which included only the charges for drugs and procedures, the average cost per inpatient day was Baht 182. One issue with this estimate which Cameron and Schopper acknowledge is that the direct costs were estimated using charges not actual costs. Charges, which have not changed for ten years, are defined as the price charged to patients and most likely significantly understate actual costs.

Clearly, more information on cost per inpatient day for AIDS patients needs to be collected and analyzed to improve the estimates. Furthermore, some estimates of capital costs need to be included. For this analysis, capital costs per bed are estimated at Baht 400,000 with an average life of 30 years. Exhibit 8 illustrates the assumptions and calculations used to arrive at a capital cost per inpatient day of Baht 46. Total cost per inpatient day, including capital, labor, and materials, is estimated at Baht 596 for the high scenario and 485 for the low scenario.

Patient Days per Episode

The number of patient days per episode is estimated to be 25 days in 1991 in the high scenario and 20 days in the low scenario. This is based on data collected from the Cameron/Schopper study of AIDS patients at Bamrasnaradura Hospital. It is expected that over time strategies will be adopted to reduce the length of inpatient care as physicians gain experience in treating AIDS cases. This has certainly been well-documented in San Juan, Puerto Rico¹⁸. In San Juan, the mean length of stay of AIDS inpatients has been reduced from 22.3 days in 1987 to 11.3 days by 1988. This was accomplished by implementing a very aggressive patient management program including offering alternative treatment options such as homecare, outpatient clinics and hospices.

In the case of Thailand, many of these alternative treatment options do not currently exist. However, the analysis assumes that they will be developed in the future resulting in a decrease in inpatient care. This analysis assumes an annual 10% reduction in patient days per episode both as a result of physician experience and alternative care options. The net result is that patient days per episode fall from 25 days to 10 days in the high scenario and from 20 days to 5 days the low scenario from 1991 to 2000.

Drug Cost per Episode

Drug cost per episode is calculated separately from inpatient cost per day. The assumption is that AIDS patients will require more medication on average than non-AIDS patients. Handling this cost separately also allows us to look at the use of AZT or other therapies on the overall cost of treatment. As an initial estimate, drug cost per episode is set at Baht 1,500 in the high scenario and Baht 1,000 in the low scenario. This estimate is consistent with the average drug cost per episode which Cameron/Schopper found for AIDS patients at Bamrasnaradura.

Again, this is an area where more research is required to understand the specific diseases people are presenting with as well as the likely drug treatments and therapy duration. These initial drug cost estimates do not include the use of AZT which would increase the cost substantially.

Episodes per Year

Episodes per year are estimated at 1.5. This is consistent with the data collected by Cameron and Schopper for AIDS patients at Bamrasnaradura Hospital. Data from Don Shepard's study in Puerto Rico of direct health care costs shows 1.67 episodes per patient per year. This estimate is held constant over time for both of the scenarios.

b. Outpatient Costs

Total Cost per Outpatient Visit

The estimate for total cost per outpatient visit is Baht 160 in the high scenario and Baht 130 in the low scenario. The sources and studies described above in the Cost per Inpatient Day section were used to arrive at the total cost per outpatient visit. Again, the primary data source is the Ministry of Public Health's study of 89 provincial hospitals from 1988-90. The average cost per outpatient visit in 1990 for all hospitals was Baht 137. This cost has grown by 15% over the past three years. The base scenario estimate for 1991 applies the historical growth rate to the 1990 estimate.

Outpatient Visits per Year

The analysis assumes that AIDS patients frequent outpatient facilities 5 times per year to receive treatment in the high scenario and 3 times in the low scenario.

Limited data exists in Thailand on outpatient care. The experience in other countries, namely Puerto Rico, indicates outpatient visits per year range from 4.4 to 16 times. This number increases by 10% per year as patient care is shifted from an inpatient to an outpatient setting.

c. AIDS Cases per Year

Projections for annual AIDS cases are described above in "The Future Scenario" section. Two projections are generated corresponding to the high and low scenarios. Exhibit 5 summarizes the projections of AIDS cases from 1991-2000.

AIDS cases per year are adjusted further to reflect the fact that not all those afflicted will receive treatment. For inpatient care, 30% of AIDS cases are treated in 1991 growing to 70% treated by 2000 in the high scenario. The range of percent of patients treated for the low scenario is 20-60%. For outpatient care, 40% are treated in 1991 increasing to 70% by 2000 in the high scenario. The percent of patients receiving outpatient care ranges from 30-60% for the low scenario.

d. Infrastructure and Capacity Analysis

Exhibit 7d illustrates the impact the epidemic is likely to have on the current health care infrastructure. Assuming that the country has 75,000 general hospital beds, government and private, available over the ten year time horizon, AIDS patients will consume 1% of the bed days in 1991 increasing to 12% of the bed days by 2000 in the high scenario.

If, however, hospital beds need to be added when the system reaches a certain level of capacity, the MOPH will be required to build additional hospitals to meet the demand of AIDS patients. Assuming capital costs are Baht 400,000 or \$1,600 per bed, this would be a conservative estimate of expanding government facilities, the MOPH would have to make significant outlays over the next ten years to add capacity for AIDS patients. If beds are added when AIDS patients consume 5% of the bed days available, then the discounted costs of total capital investment required would be \$311 million. If capacity is not required until 10% of bed days are used by AIDS patients then the cumulative, discounted capital costs amount to \$176 million. Since hospital construction requires a three to five year lead time to complete the structure, advanced planning is critical to avoid a shortage of available hospital beds.

e. Summary: Personal Health Care Expenditures

Annual health care cost for AIDS patients equals Baht 25,657 or \$1,015 in the high scenario and and Baht 15,390 or \$615 in the low scenario. These amounts represent 50% and 30% respectively, of the annual household income for an average Thai family. Likewise, the cost of AIDS treatment is ten times the amount of money currently being spent by families on health care. Given the high costs of care

relative to family resources, most families will not be able to afford to pay for treatment.

Assuming that patients live for one and a half years (on average) from the onset of AIDS, the lifetime cost per patient would be \$1,522 in the high scenario and \$923 in the low scenario. Exhibit 7d summarizes these personal health care expenditures.

The MOPH's current per capita health expenditure is \$20. The cost of treatment for AIDS patients far exceed this amount. In the high scenario, aggregate health care costs grow from \$1.7 million in 1991 to \$65 million by 2000. In the low scenario, costs increase from \$709,000 to \$20 million.

B. Indirect Costs of the Epidemic

The indirect costs are a measure of the burden on society of an increase and redistribution of the mortality due to AIDS. In other words, the prospective economic costs of illness and death of adults of working age include not only the cost of medical care but also the product lost to the economy and society which these individuals would have otherwise contributed. Deaths from AIDS will increase among women in their twenties and thirties; men in their thirties and forties and eventually among infants and young children of HIV-positive mothers.

In the next decade, most AIDS deaths in Thailand will be of adults in their prime working years. Because the epidemic is now mainly urban, most of these deaths will be of adults in cities whose marginal product is higher than their rural counterparts. To estimate the present value of the indirect cost of AIDS in the high and low scenario, an average loss per AIDS death of 25 years is assumed and the 1991 urban marginal product of labor (marketed and non-marketed) is \$1,500. National average GDP per capita in 1991 is approximately \$1,250. The methodology used is the now conventional approach of discounting prime adult years lost¹⁹. A social discount rate of five percent is used. The results of this analysis are shown in Exhibit 9.

The present value of cumulative indirect costs in the high scenario are \$8.5 billion and \$7.3 billion in the low scenario. The loss per death of \$22,000 is equivalent to 17.6 times per capita income in 1991.

C. Aggregate Costs: Direct and Indirect

The total annual health care costs plus the value of lost income is projected to grow from \$100 million in 1991 to \$2.2 billion by 2000 in the high scenario and from \$97 million to \$1.8 billion in the low scenario. Over the ten year period, \$8.7 billion will be lost due to AIDS illness and death in the high case and \$7.3 billion in the low

case. These annual costs, both direct and indirect, equal about 16-18 times the per capita GDP.

Similar analyses have been done in other developing countries to assess the direct and indirect costs of AIDS. In Zaire, total costs range from 15 to 54 times the per capita GDP and in Tanzania the costs range from 24 to 52 times per capita GDP²⁰. The Puerto Rico analysis showed multiples more in line with the numbers for Thailand with the costs equalling 19 times per capita GDP. In Puerto Rico, the health care costs are substantially higher; however, the epidemic has affected primarily injecting drug users and homosexuals. Adjustments have been made in the indirect costs to allow for the fact that these two groups are generally unemployed or have below average income. Even with this adjustment, the indirect costs still significantly outweigh the direct costs²¹.

D. Other Macro-Economic Impacts

Unless significant behavior change occurs, the AIDS epidemic is likely to alter the performance of the Thai economy. The health care costs and lost income outlined above are not the only prospective costs of the epidemic. Domestically, a shortage of labor, both in quantity and quality, may occur with an increase in AIDS illness and death. High rates of absenteeism brought on by illness will certainly be disruptive to companies. Finding and retraining workers to replace those that have died will be difficult and costly, especially if the unemployment rate remains at the current low 3-4% level.

Various business surveys researching foreign investment criteria, cite a large supply of inexpensive labor as a key factor in selecting Thailand. Foreign direct investment has surpassed \$2 billion annually for the past two years. A reduction in the supply and health of labor could increase both wage rates and production costs, making Thailand a less attractive place to invest.

In 1991, approximately 70,000 Thai laborers travelled abroad to find employment. These workers remitted nearly \$1 billion in wages to their families. Already countries are testing prospective foreign workers for HIV before permitting them to enter. If Thai workers are no longer able to work abroad, a valuable source of income will be lost.

Household savings, historically 20% of GDP, may decline as spending on medical care rises relative to income. The country's aggregate investment may be further eroded as the government is required to devote more resources on social and health services, rather than investing in infrastructure and other productive projects.

Thailand's \$5 billion tourism industry may already be feeling the effects of AIDS. Tourist arrivals are down for a variety of reasons, with the fear of AIDS certain to be a significant factor in the future.

Additional work is being completed to assess the impact of a decline in several of these sectors on the overall performance of the Thai economy. The authors hope to make use of a CGE model of the Thai economy to estimate the broader consequences of the epidemic other than using the conventional technique of estimating indirect costs.

VI. Investment in Prevention

The iwgAIDS model used to generate the high and low scenario is capable of measuring various interventions on the spread of the epidemic. The following behavioral changes were made to the assumptions in the high scenario to generate an alternative scenario:

- Sexual contacts with different partners are reduced by one half,
- Condom use doubles from about 25% to 50%, and
- Sexually transmitted diseases are treated quickly and effectively.

As Exhibit 11 shows, this level of extensive behavior change, assumed to occur in the very near future, results in dramatic savings of lives and costs. In this scenario, 3.5 million fewer people become infected and \$5.1 billion will be saved by 2000. Even if the AIDS prevention budget, shown in Exhibit 6, triples in the next several years, the cost of prevention yields a 17 times return on that investment in human life.

The challenge is for all sectors of society, government and private, to devote adequate resources, people and money, to attempt to reduce the spread of the epidemic. The financial justifications, as well as the humanitarian reasons, argue for immediate action.

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⁸Personal Memo.

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²⁰Over M., Bertozzi S., Chin J., N'Galy, B. and Nyamuryekung'e, K. (1988). The direct and indirect cost of HIV infection in developing countries: the cases of Zaire and Tanzania. In: The Global Impact of AIDS (eds. A.F. Fleming, M. Carballo, D.W. Fitzsimons, M.R. Bailey, and J. Mann). Alan R. Liss, Inc., New York, 123-153.

²¹Shepard D. (1990). Cost of AIDS in a Developing Area: Indirect and Direct Costs of AIDS in Puerto Rico. Economic Aspects of AIDS and HIV Infection, pp.226-237.

**The Economic Impact of AIDS on Thailand
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EXHIBIT 1

National Sentinel Seroprevalence Survey National Prevalence Rates

Population

Group	June 89	Dec 89	June 90	Dec 90	June 91*
<u>Injecting Drug Users (IDU)</u>					
Mean Rate	33.00%	32.26%	35.56%	37.62%	30.73%
Median Rate	39.00%	30.10%	30.40%	30.10%	30.00%
Number of Provinces	14	26	49	53	53
Range of Rates	(0-51.5%)	(0-66.6%)	(0-70%)	(0-100%)	(0-63.3%)
 <u>Brothel Prostitutes</u>					
Mean Rate	6.37%	9.95%	13.78%	16.75%	24.17%
Median Rate	3.50%	6.30%	9.30%	12.20%	15.80%
Number of Provinces	13	30	70	71	69
Range of Rates	(0-44%)	(0-42.7%)	(0-67%)	(0-56.3%)	(0-62.9%)
 <u>Males Attending STD Clinics</u>					
Mean Rate	1.36%	3.31%	4.39%	5.55%	8.19%
Median Rate	0%	2.00%	2.55%	4.40%	5.00%
Number of Provinces	14	30	70	71	70
Range of Rates	(0-10%)	(0-17.8%)	(0-24%)	(0-23%)	(0-30.5%)
 <u>Women Attending ANC Clinics</u>					
Mean Rate	.15%	.41%	.21%	.67%	1.00%
Median Rate	0%	0%	0%	.30%	.79%
Number of Provinces	13	30	73	71	70
Range of Rates	(0-1%)	(0-4%)	(0-3.1%)	(0-4.5%)	(0-12.1%)

	June 89	Dec 89	June 90	Dec 90	June 91*
Blood Donors					
Mean Rate	.56%	.96%	.60%	.89%	.99%
Median Rate	.28%	.23%	.44%	.40%	.46%
Number of Provinces	13	31	72	71	67
Range of Rates	(0-3.7%)	(0-7.7%)	(0-4.7%)	(0-7.3%)	(0-5.9%)

National mean rates equal the average of the reporting provinces. The number tested HIV positive divided by the total number tested.

National median rates equal the midpoint of all the reporting provinces. One half the provinces report higher rates and one half the provinces report lower rates.

* Results as of September 1991.

EXHIBIT 2

Estimated Number of HIV Positive People As of December 1990 Ministry of Public Health

Population Group	Population Size at Risk for HIV (Range)	Prevalence Rate (Range)	HIV Infected People (Range)
IDU	49,550-99,100	22-45%	16,000-32,000
Sex Workers:			
-Brothel	41,665-58,331	6-20%	5,200- 7,200
-Non-Brothel	66,452-93,033	1-8%	3,300- 4,600
High Risk Men	4.6-5 million	1-5%	92,000-184,000
Partners of High Risk Men	3.6-4 million	.3-.5%	12,300-15,000
Newborns	3,000-6,000	30%	1,000-2,000
Total HIV Infected People			129,000-244,000

EXHIBIT 3

Estimated Number of HIV Positive People As of December 1990 Province Weighted Methodology

<u>PROVINCE</u>	<u>FEMALE POPULATION AGE 15-49(1)</u>	<u>ANC INFECTION RATE(2)</u>	<u>TOTAL FEMALES INFECTED</u>	<u>MALE POPULATION AGE 15-49(1)</u>	<u>BLOOD DONOR RATE(3)</u>	<u>TOTAL MALES INFECTED</u>
BANGKOK	1,957,000	0.3%	5,436	1,830,000	1.4%	25,620
SAMUT SAKHON	93,200	2.0%	1,864	92,300	0.3%	254
SAMUT PRAKARN	210,000	1.0%	2,100	223,600	0.0%	0
SAMUT SONGKRAM	55,000	0.7%	393	53,500	0.2%	117
NONTHABURI	163,600	0.8%	1,309	174,100	0.4%	714
PATHUM THANI	114,300	2.4%	2,689	113,100	0.0%	0
NAKHON PATHOM	180,600	0.0%	0	168,700	0.2%	412
RATCHABURI	192,000	0.8%	1,600	186,100	0.4%	679
KANCHANABURI	186,600	0.5%	933	206,800	1.5%	3,133
PETCHBURI	112,500	1.2%	1,324	110,500	2.1%	2,267
PRACHUAB	115,500	0.0%	0	123,100	2.0%	2,522
SUPHANBURI	204,500	0.0%	0	203,100	0.0%	0
SINGBURI	56,000	0.5%	269	56,100	0.0%	0
AYUTHAYA	172,200	2.8%	4,822	174,000	0.7%	1,252
SARABURI	133,700	1.0%	1,337	140,800	0.4%	516
LOPBURI	195,500	0.7%	1,339	202,300	1.0%	2,012
CHAINAT	91,300	0.0%	0	91,900	0.2%	185
ANGTHONG	72,100	0.0%	0	77,600	0.0%	0
NAKHON NAYOK	58,000	0.0%	0	56,500	0.0%	0
CHONBURI	215,200	0.3%	635	237,400	0.3%	733
CHACHOENGSAO	143,500	0.7%	983	145,200	0.3%	493
RAYONG	117,000	2.0%	2,340	124,100	1.8%	2,234
CHANTHABURI	111,600	0.0%	0	119,100	1.6%	1,906
TRAD	46,700	0.0%	0	50,800	2.5%	1,270
PRACHINBURI	220,200	0.0%	0	232,000	1.6%	3,702
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TOTAL CENTRAL	3,260,800	0.7%	23,936	3,365,700	0.7%	24,401
CHIANG RAI	275,800	4.0%	11,032	290,200	5.2%	15,141
PHAYAO	130,500	3.5%	4,568	137,300	7.3%	19,057
CHIANG MAI	360,000	4.5%	16,200	381,200	4.0%	15,248
MAE HONG SON	47,100	3.0%	1,396	47,800	4.1%	1,938
LAMPANG	198,700	1.1%	2,186	205,200	0.7%	1,436
LAMPHUN	114,300	0.7%	822	121,900	1.1%	1,341
NAN	115,700	0.8%	933	124,000	1.2%	1,429
PHRAE	133,600	0.0%	0	141,900	1.2%	1,757
UTTARADIT	122,500	0.0%	0	142,900	0.3%	429
TAK	92,100	0.0%	0	100,000	1.3%	1,300
SUKOTHAI	163,300	0.0%	0	163,700	0.0%	0
PITSANULOK	207,400	0.0%	0	203,900	0.3%	550
PHETCHABUN	273,100	0.0%	0	287,200	0.3%	842
PICHIT	153,800	0.5%	769	154,500	0.0%	0
UTHAI THANI	87,800	0.0%	0	89,200	0.0%	0
KAMPAENGPHET	192,300	2.4%	4,525	201,100	1.3%	2,681
NAKHON SAWAN	281,100	0.5%	1,406	300,000	0.4%	1,094
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TOTAL NORTH	2,949,100	1.5%	43,835	3,092,000	1.8%	55,243

PROVINCE	FEMALE POPULATION AGE 15-49(1)	ANC INFECTION RATE(2)	TOTAL FEMALES INFECTED	MALE POPULATION AGE 15-49(1)	BLOOD DONOR RATE(3)	TOTAL MALES INFECTED
NAKON RATCHASIMA	620,300	0.5%	3,102	602,900	0.8%	4,905
KHON KAEN	431,600	0.3%	1,163	505,800	0.7%	3,313
CHAIYAPHUM	262,200	0.0%	0	268,500	0.0%	0
SAKHON NAKHON	247,600	0.0%	0	233,500	0.0%	0
NAKHON PHANOM	170,000	2.6%	4,359	168,900	0.2%	331
KALASIN	223,800	0.0%	0	229,100	0.0%	0
NONGKHAI	229,400	0.0%	0	229,000	0.2%	571
MAHASARAHAM	229,400	0.0%	0	225,000	0.5%	1,108
ROI-ET	311,700	0.0%	0	310,400	1.0%	3,104
BURIRAM	363,100	0.0%	0	407,300	0.3%	1,299
LOEI	143,200	0.0%	0	148,200	0.3%	452
SRISAKET	331,400	0.9%	2,986	344,300	0.0%	0
SURIN	335,800	0.5%	1,679	391,500	0.4%	1,605
UDON	465,000	2.0%	9,300	454,000	1.0%	4,680
UBON	506,800	0.3%	1,520	497,400	0.7%	3,482
YASOTHON	138,100	0.0%	0	131,600	0.0%	0
MUKDAHARN	78,100	0.3%	234	77,300	0.4%	317
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TOTAL NORTHEAST	5,087,500	0.5%	24,343	5,224,700	0.5%	25,167
CHUMPON	98,800	0.0%	0	102,100	0.8%	817
RANONG	28,700	0.0%	0	30,400	0.5%	156
SURAT	203,900	1.0%	2,039	185,400	0.5%	887
PHANGNGA	56,000	0.0%	0	58,800	0.0%	0
PHUKET	34,600	0.0%	0	41,900	0.0%	0
KRABI	76,800	0.0%	0	82,800	3.0%	2,509
PATTALUNG	121,500	0.0%	0	120,900	0.0%	0
NAKORNSRI THAMMA	371,500	0.0%	0	372,700	0.6%	2,251
TRANG	132,400	0.5%	662	135,900	0.0%	0
SONGKLA	285,900	0.0%	0	286,100	1.2%	3,327
SATUN	56,800	0.0%	0	59,500	0.0%	0
PATTANI	132,800	0.0%	0	136,200	1.0%	1,335
YALA	89,700	0.0%	0	94,300	0.0%	0
NARATHIWAT	142,200	0.0%	0	144,200	0.4%	641
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TOTAL SOUTH	1,831,600	0.1%	2,701	1,851,200	0.6%	11,922
TOTAL COUNTRY	15,086,000	0.7%	100,252	15,363,600	0.9%	142,353
TOTAL HIV INFECTED PEOPLE						242,605

(1) Population estimates for males and females age 15-49 from "Population Projections 1987-1992", Working Group on Population Projections, Human Resource Planning Division, NESDB 1987

(2) Prevalence rates for females are the antenatal clinic (ANC) rate reported by the province in the December 1990 Sentinel Seroprevalence Survey, MOPH. If no ANC rate reported the national median rate of .3% was used.

(3) Prevalence rates for males are the blood donor rate reported by the province in the December 1990 Sentinel Seroprevalence Survey, MOPH. If no Blood Donor rate reported, the national median rate of .41% was used.

EXHIBIT 4

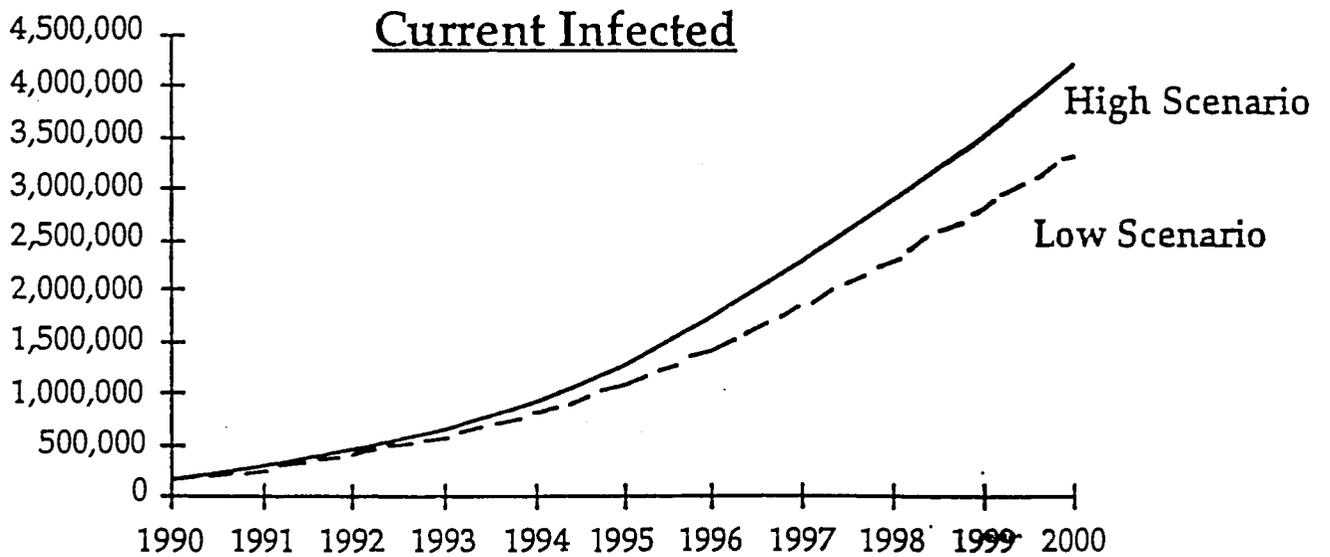
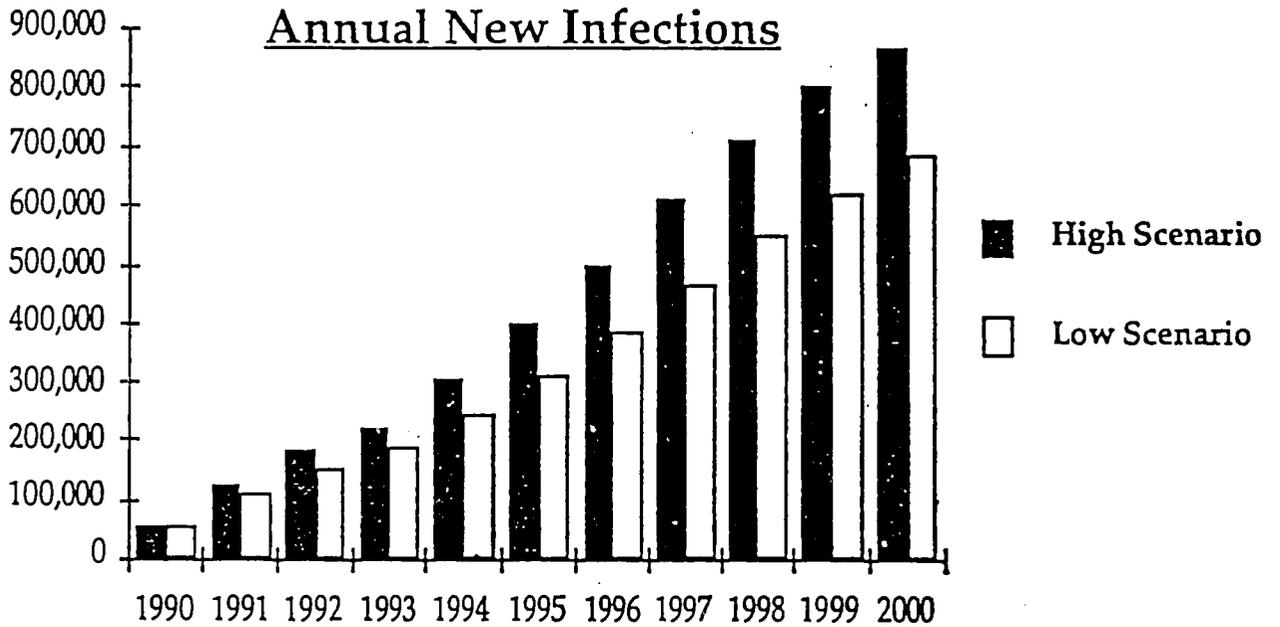


EXHIBIT 5

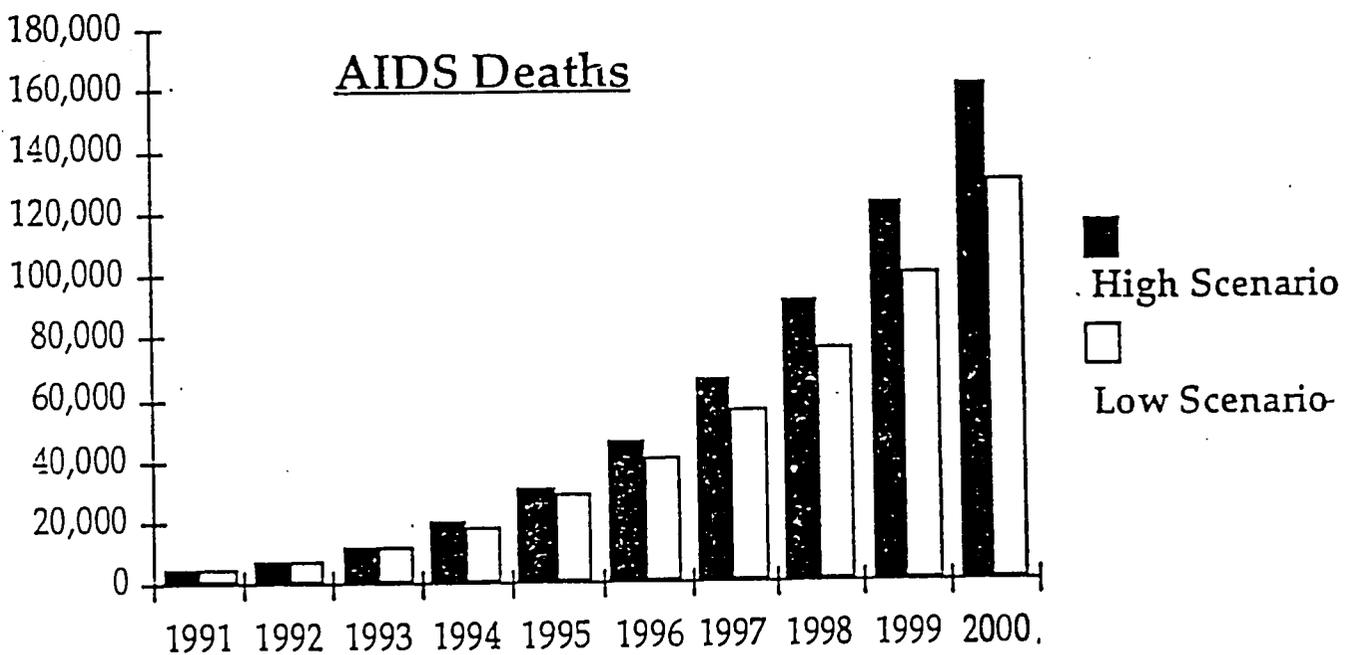
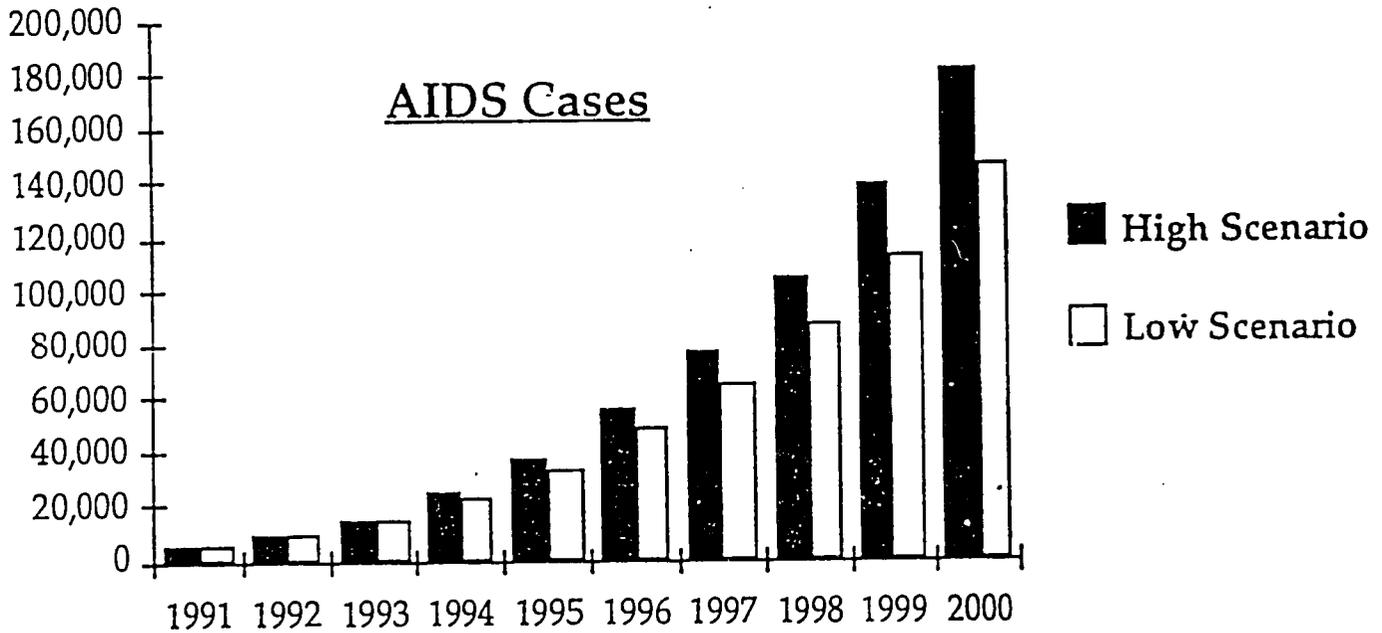


EXHIBIT 6

Systems Costs of AIDS Epidemic
Estimates for 1991-1992

		Dollars	Baht(4)
Blood Supply		\$1,880,000	47,000,000
Annual Units Tested	800,000		
ELISA Test Cost	\$1		
Percent Tested-ELISA	110%		
WESTERN BLOT Test Cost	\$25		
Percent Tested-WB	5%		
Military Recruits Testing		\$40,000	1,000,000
Annual Recruits Tested	40,000		
ELISA Test Cost	\$1		
Thai Government -AIDS Program (1)			
Ministry of Public Health		\$9,560,000	239,000,000
Other Ministries		\$10,000,000	250,000,000
International Donors-AIDS Program (2)			
To Ministry of Public Health		\$1,500,000	37,500,000
To Non-Governmental Organizations		\$2,750,000	68,750,000
To Private Organizations		\$1,500,000	37,500,000
Private Sector (3)			
Businesses-AIDS Education		\$32,000,000	800,000,000
Media Airtime-AIDS Education		\$48,000,000	1,200,000,000
TOTAL		\$107,230,000	2,680,750,000

(1) Based on projections of Thai government's FY 1992 Budget.

(2) Estimates from World Health Organization.

(3) Estimates from Prime Minister's Office.

(4) Conversion rate = \$1: Baht 25

EXHIBIT 7a

Personal Health Care Expenditures Assumptions

<u>INPATIENT COSTS</u>	SCENARIOS	
	HIGH	LOW
COSTS PER PATIENT DAY-BAHT (MATERIAL AND LABOR)	550	450
CAPITAL COSTS PER PATIENT DAY	46	35
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TOTAL COSTS PER PATIENT DAY-BAHT	596	485
PATIENT DAYS PER EPISODE	25	20
ANNUAL % REDUCTION IN DAYS	10%	10%
DRUG COSTS PER EPISODE-BAHT	1500	1000
EPISODES PER YEAR	1.5	1.5
PERCENT RECEIVING TREATMENT	30%-70%	20%-60%
 <u>OUTPATIENT COSTS</u>		
TOTAL COSTS PER VISIT-BAHT	160	130
VISITS PER YEAR	5	3
ANNUAL % INCREASE IN VISITS	10%	10%
PERCENT RECEIVING TREATMENT	40%-70%	30%-60%
<u>DISCOUNT RATE-REAL</u>	5%	5%

EXHIBIT 7c

Personal Health Care Expenditures-Low Scenario

	YEARS									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
INPATIENT COSTS										
TOTAL COST PER PATIENT DAY	450	450	450	450	450	450	450	450	450	450
PATIENT DAYS PER EPISODE X	20	18	16	15	13	12	11	10	5	5
COST PER EPISODE	9,000	8,100	7,290	6,561	5,905	5,314	4,783	4,305	2,250	2,250
DRUG COSTS PER EPISODE +	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
TOTAL COST PER EPISODE	10,000	9,100	8,290	7,561	6,905	6,314	5,783	5,305	3,250	3,250
EPISODES PER YEAR X	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
TOTAL COST PER YEAR-BAIT	15,000	13,650	12,435	11,342	10,357	9,472	8,674	7,957	4,875	4,875
AIDS CASES PER YEAR	5,691	9,217	14,324	22,507	33,338	47,563	64,832	86,614	113,364	145,342
PERCENT RECEIVING TREAT X	20%	20%	30%	30%	40%	40%	50%	50%	60%	60%
AIDS CASES TREATED PER YEAR	1,138	1,843	4,297	6,752	13,335	19,025	32,416	43,307	68,018	87,205
TOTAL INPATIENT COSTS -BAIT	17,073,000	25,162,410	53,435,682	76,578,942	138,117,334	180,199,370	281,191,085	344,594,152	331,589,700	425,125,350
DOLLARS @ BAIT 25=\$1	\$682,920	\$1,006,496	\$2,137,427	\$3,063,158	\$5,524,693	\$7,207,975	\$11,247,643	\$13,783,766	\$13,263,588	\$17,005,014
PERCENT OF TOTAL COST	96.25%	95.50%	95.18%	94.25%	93.55%	92.35%	91.28%	89.72%	85.36%	84.13%
OUTPATIENT COSTS										
TOTAL COST PER VISIT-BAIT	130	130	130	130	130	130	130	130	130	130
VISITS PER YEAR X	3	3	4	4	4	5	5	6	6	7
TOTAL COST PER YEAR-BAIT	390	429	472	519	571	628	691	760	836	920
AIDS CASES PER YEAR	5,691	9,217	14,324	22,507	33,338	47,563	64,832	86,614	113,364	145,342
PERCENT RECEIVING TREAT X	30%	30%	40%	40%	50%	50%	60%	60%	60%	60%
AIDS CASES TREATED PER YEAR	1,707	2,765	5,730	9,003	16,669	23,782	38,899	51,968	68,018	87,205
TOTAL OUTPATIENT COSTS-BAIT	665,847	1,186,228	2,703,798	4,673,263	9,517,982	14,937,134	26,875,799	39,495,967	56,863,358	80,193,867
DOLLARS @ BAIT 25=\$1	\$26,634	\$47,449	\$108,152	\$186,931	\$380,719	\$597,485	\$1,075,032	\$1,579,839	\$2,274,534	\$3,207,755
PERCENT OF TOTAL COSTS	3.75%	4.50%	4.82%	5.75%	6.45%	7.65%	8.72%	10.28%	14.64%	15.87%
TOTAL COSTS										
IN/OUT PATIENT COSTS-BAIT	17,738,847	26,348,638	56,139,480	81,252,206	147,635,316	195,136,504	308,066,884	384,090,119	388,453,058	505,319,217
IN/OUT PATIENT COSTS-\$	\$709,554	\$1,053,946	\$2,245,579	\$3,250,088	\$5,905,413	\$7,805,460	\$12,322,675	\$15,363,605	\$15,538,122	\$20,212,769
DISCOUNTED COSTS	\$709,554	\$1,003,758	\$2,036,807	\$2,807,548	\$4,858,398	\$6,115,782	\$9,195,370	\$10,918,627	\$10,516,813	\$13,029,331
TOTAL DISCOUNTED COSTS	\$61,191,987									

Personal Health Care Expenditure-High Scenario

	YEARS										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
INPATIENT COSTS											
TOTAL COST PER PATIENT DAY	596	596	596	596	596	596	596	596	596	596	596
PATIENT DAYS PER EPISODE X	25	23	20	18	16	15	13	12	11	10	
COST PER EPISODE	11,892	13,402	12,062	10,856	9,770	8,793	7,914	7,123	6,410	5,769	
DRUG COSTS PER EPISODE	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	
TOTAL COST PER EPISODE	16,392	14,902	13,562	12,356	11,270	10,293	9,414	8,623	7,910	7,269	
EPISODES PER YEAR X	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
TOTAL COST PER YEAR-DAIT	24,587	22,354	20,343	18,534	16,906	15,440	14,121	12,934	11,865	10,904	
AIDS CASES PER YEAR	5,691	9,286	14,827	24,288	37,199	54,409	76,438	104,455	139,310	181,062	
PERCENT RECEIVING TREATMT X	30%	30%	40%	40%	50%	50%	60%	60%	70%	70%	
AIDS CASES TREATED PER YEAR	1,707	2,786	5,931	9,715	18,600	27,205	45,863	62,673	97,517	126,743	
TOTAL INPATIENT COSTS -DAIT	41,977,946	62,272,647	120,651,666	180,060,668	314,434,245	420,036,644	647,627,330	810,604,754	1,157,086,754	1,382,002,281	
DOLLARS @ DAIT 25=\$1	\$1,679,118	\$2,490,906	\$4,826,067	\$7,202,427	\$12,577,370	\$16,801,466	\$25,905,093	\$32,424,190	\$46,283,470	\$55,280,091	
PERCENT OF TOTAL COST	95.84%	95.01%	94.39%	93.30%	92.32%	90.90%	89.52%	87.67%	87.37%	85.25%	
OUTPATIENT COSTS											
TOTAL COST PER VISIT-DAIT	160	160	160	160	160	160	160	160	160	160	
VISITS PER YEAR X	5	6	6	7	7	8	9	10	11	12	
TOTAL COST PER YEAR-DAIT	800	880	968	1,065	1,171	1,288	1,417	1,559	1,715	1,886	
AIDS CASES PER YEAR	5,691	9,286	14,827	24,288	37,199	54,409	76,438	104,455	139,310	181,062	
PERCENT RECEIVING TREATMT X	40%	40%	50%	50%	60%	60%	70%	70%	70%	70%	
AIDS CASES TREATED PER YEAR	2,276	3,714	7,414	12,144	22,319	32,645	53,507	73,119	97,517	126,743	
TOTAL OUTPATIENT COSTS-DAIT	1,821,120	3,268,672	7,176,268	12,930,931	26,142,267	42,060,595	75,832,165	113,989,817	167,229,080	239,083,446	
DOLLARS @ DAIT 25=\$1	\$72,845	\$130,747	\$287,051	\$517,237	\$1,045,691	\$1,682,424	\$3,033,287	\$4,559,593	\$6,689,163	\$9,563,338	
PERCENT OF TOTAL COSTS	4.16%	4.99%	5.61%	6.70%	7.68%	9.10%	10.48%	12.33%	12.63%	14.75%	
TOTAL COSTS											
IN/OUT PATIENT COSTS-DAIT	43,799,066	65,541,319	127,827,934	192,991,600	340,576,512	462,097,238	723,459,495	924,594,571	1,324,315,834	1,621,085,727	
IN/OUT PATIENT COSTS-\$	\$1,751,963	\$2,621,653	\$5,113,117	\$7,719,664	\$13,623,060	\$18,483,890	\$28,938,380	\$36,983,783	\$52,972,633	\$64,843,429	
DISCOUNTED COSTS	\$1,751,963	\$2,490,812	\$4,637,748	\$6,668,536	\$11,207,726	\$14,482,611	\$21,594,265	\$26,283,684	\$35,853,963	\$41,798,653	
TOTAL DISCOUNTED COSTS	\$163,775,960										

EXHIBIT 7d

Infrastructure and Capacity Analysis

	YEARS									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
AIDS PATIENTS										
PATIENT DAYS PER EPISODE	25	23	20	18	16	15	13	12	11	10
EPISODES PER YEAR	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
PATIENT DAYS PER YEAR	38	34	30	27	25	22	20	18	16	15
AIDS INPATIENTS PER YEAR-III/III SCEN.	5,691	9,286	14,827	24,288	37,199	54,409	76,438	104,455	139,310	181,062
TOTAL PATIENT DAYS REQUIRED	213,413	313,403	450,370	663,973	915,235	1,204,799	1,523,336	1,873,519	2,248,815	2,630,517
CURRENT CAPACITY										
HOSPITAL BEDS AVAILABLE	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000
ANNUAL HOSPITAL DAYS PER BED	292	292	292	292	292	292	292	292	292	292
TOTAL HOSPITAL DAYS AVAILABLE	21,900,000	21,900,000	21,900,000	21,900,000	21,900,000	21,900,000	21,900,000	21,900,000	21,900,000	21,900,000
% BED-DAYS FOR AIDS PATIENTS	0.97%	1.43%	2.06%	3.03%	4.18%	5.50%	6.96%	8.55%	10.27%	12.01%
ADDITIONAL CAPACITY REQUIREMENTS										
TOTAL PATIENT DAYS REQUIRED	213,413	313,403	450,370	663,973	915,235	1,204,799	1,523,336	1,873,519	2,248,815	2,630,517
ANNUAL HOSPITAL DAYS PER BED	292	292	292	292	292	292	292	292	292	292
ADDITIONAL BEDS REQUIRED	731	1,073	1,542	2,274	3,134	4,126	5,217	6,416	7,701	9,009
INCREMENTAL BEDS REQUIRED	731	342	469	732	860	992	1,091	1,199	1,285	1,307
CAPITAL COST PER INCREMENTAL BED	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
TOTAL ANNUAL CAPITAL COST	292,345,890	429,318,493	616,945,377	909,552,329	1,253,746,433	1,650,409,439	2,086,761,327	2,566,464,179	3,080,567,827	3,603,448,386
DOLLARS @ BAIT 25=\$1	\$11,693,836	\$17,172,740	\$24,677,815	\$36,382,093	\$50,149,857	\$66,016,378	\$83,470,453	\$102,658,567	\$123,222,713	\$144,137,933
DISCOUNTED CAPITAL COST	\$11,693,836	\$16,354,990	\$22,383,506	\$31,428,220	\$41,258,412	\$51,725,559	\$62,286,937	\$72,957,527	\$83,401,982	\$92,912,598
DISCOUNTED COSTS	\$486,403,568									
DISCOUNTED COST AFTER 5% CAPACITY	\$311,559,045									
DISCOUNTED COST AFTER 10% CAPACITY	\$176,314,581									

ASSUMPTIONS	
OPTIMAL HOSPITAL CAPACITY	80%
ANNUAL HOSPITAL DAYS PER BED	292
CAPITAL COSTS PER BED-BAIT	400,000
DISCOUNT RATE REAL	5%

EXHIBIT 7e

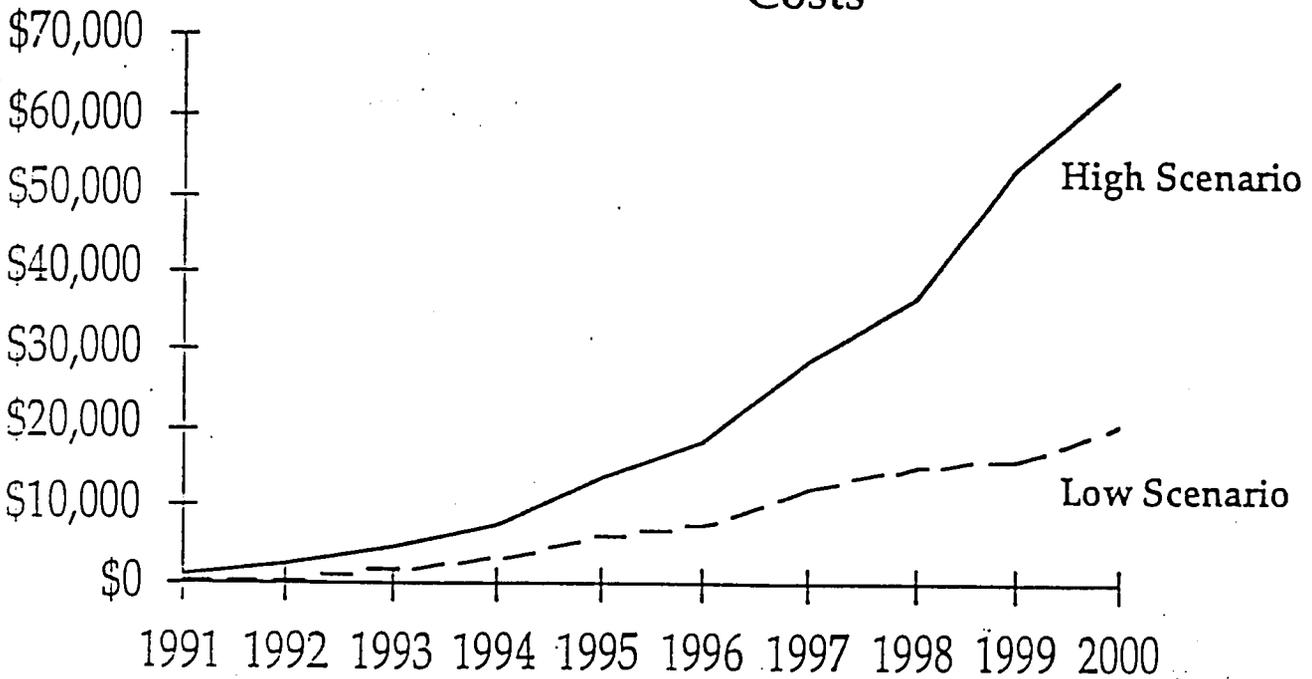
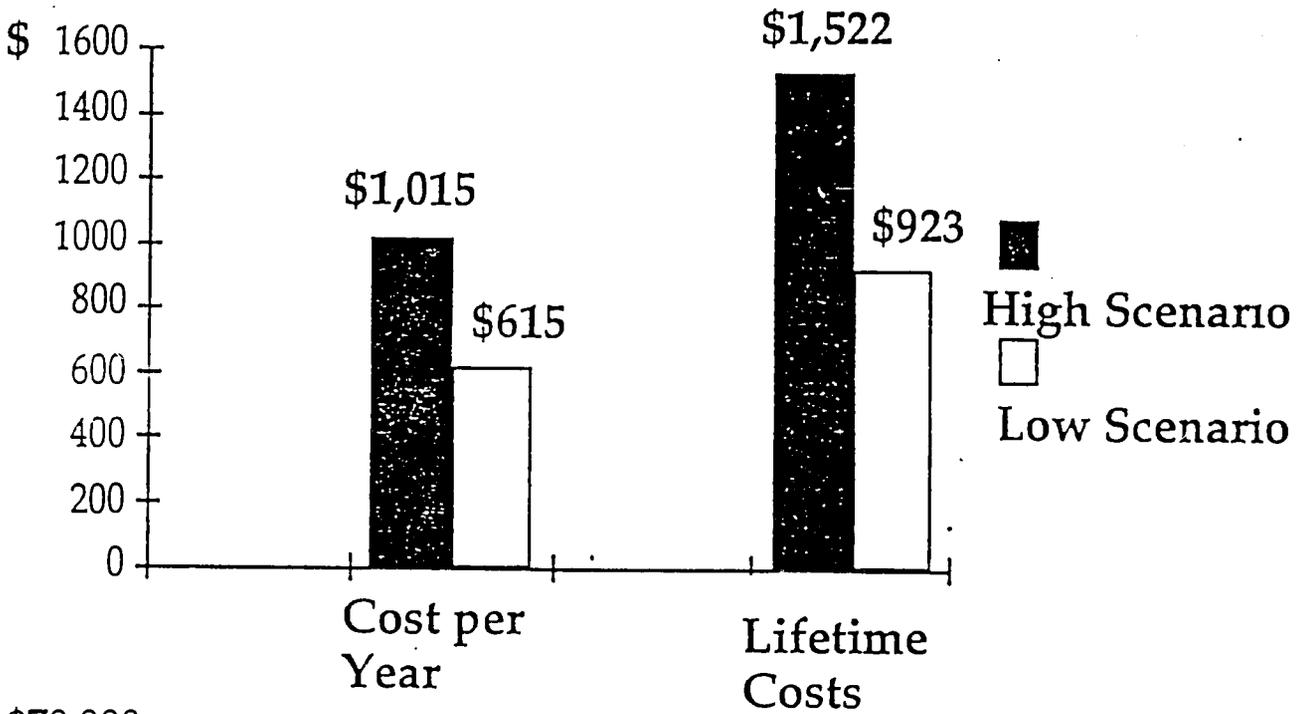


EXHIBIT 8

Capital Cost Analysis

Capital Costs per Bed:	<u>1991</u> 400,000 Baht
Average Life of Bed:	30 years
Optimal Utilization of Bed	80%
Bed Days per Year at Optimal Utilization	292
Capital Costs per Bed/Day: (400,000/(292*30))	46 Baht

EXHIBIT 9

Indirect Cost Analysis

High Scenario

<u>Year</u>	<u>Annual Discounted</u>		<u>Annual Loss</u>	<u>Cummulative Loss</u>	<u>Loss per Death</u>
	<u>Deaths</u>	<u>Years</u>			
1991	4,457	14.45	\$96,605,475	\$96,605,475	\$21,675
1992	7,489	13.73	\$154,235,955	\$250,841,430	\$20,595
1993	12,056	13.04	\$235,815,360	\$486,656,790	\$19,560
1994	19,557	12.63	\$370,507,365	\$857,164,155	\$18,945
1995	30,743	11.77	\$542,767,665	\$1,399,931,820	\$17,655
1996	45,804	11.18	\$768,133,080	\$2,168,064,900	\$16,770
1997	65,423	10.63	\$1,043,169,735	\$3,211,234,635	\$15,945
1998	90,446	10.09	\$1,368,900,210	\$4,580,134,845	\$15,135
1999	121,882	9.59	\$1,753,272,570	\$6,333,407,415	\$14,385
2000	160,186	9.11	\$2,188,941,690	\$8,522,349,105	\$13,665

Low Scenario

<u>Year</u>	<u>Annual Discounted</u>		<u>Annual Loss</u>	<u>Cummulative Loss</u>	<u>Loss per Death</u>
	<u>Deaths</u>	<u>Years</u>			
1991	4,457	14.45	\$96,605,475	\$96,605,475	\$21,675
1992	7,454	13.73	\$153,515,130	\$250,120,605	\$20,595
1993	11,770	13.04	\$230,221,200	\$480,341,805	\$19,560
1994	18,415	12.63	\$348,872,175	\$829,213,980	\$18,945
1995	27,923	11.77	\$492,980,565	\$1,322,194,545	\$17,655
1996	40,451	11.18	\$678,363,270	\$2,000,557,815	\$16,770
1997	56,198	10.63	\$896,077,110	\$2,896,634,925	\$15,945
1998	75,823	10.09	\$1,146,067,605	\$4,042,702,530	\$15,135
1999	99,989	9.59	\$1,438,341,765	\$5,481,044,295	\$14,385
2000	129,353	9.11	\$1,767,608,745	\$7,248,653,040	\$13,665

EXHIBIT 10

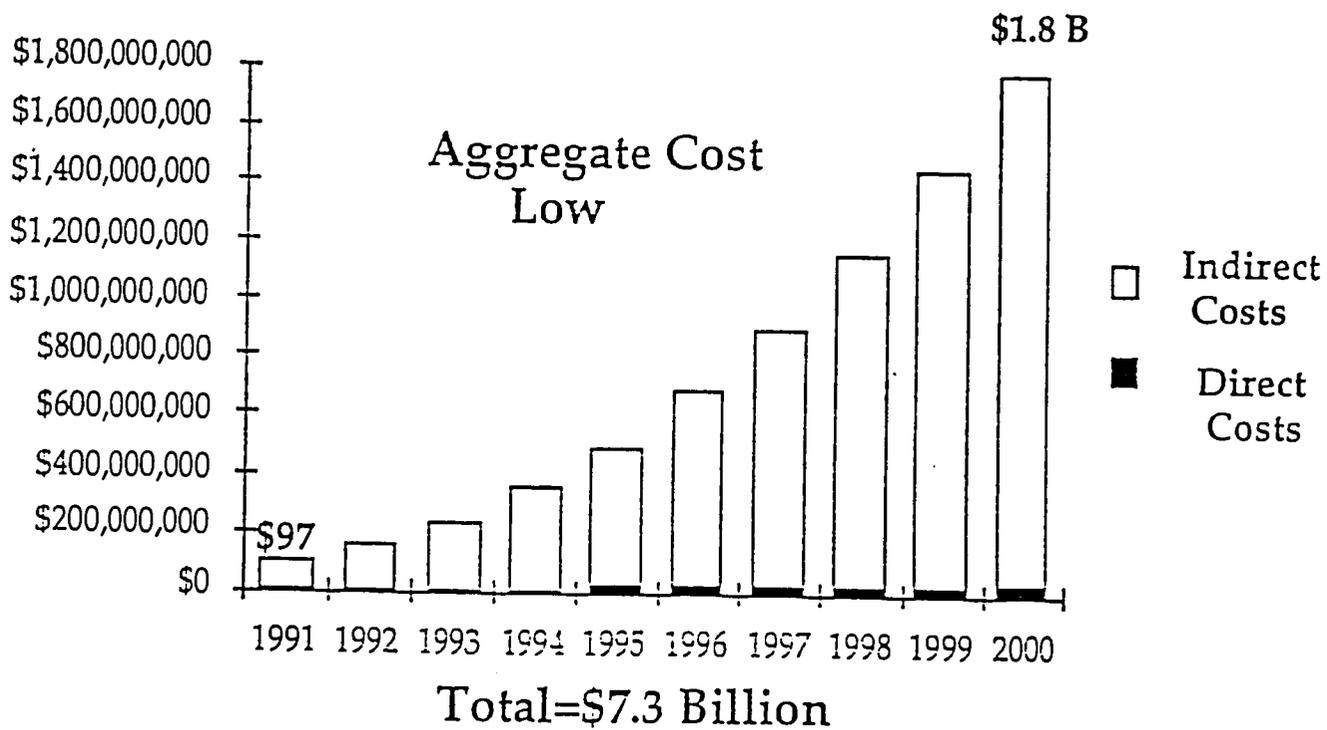
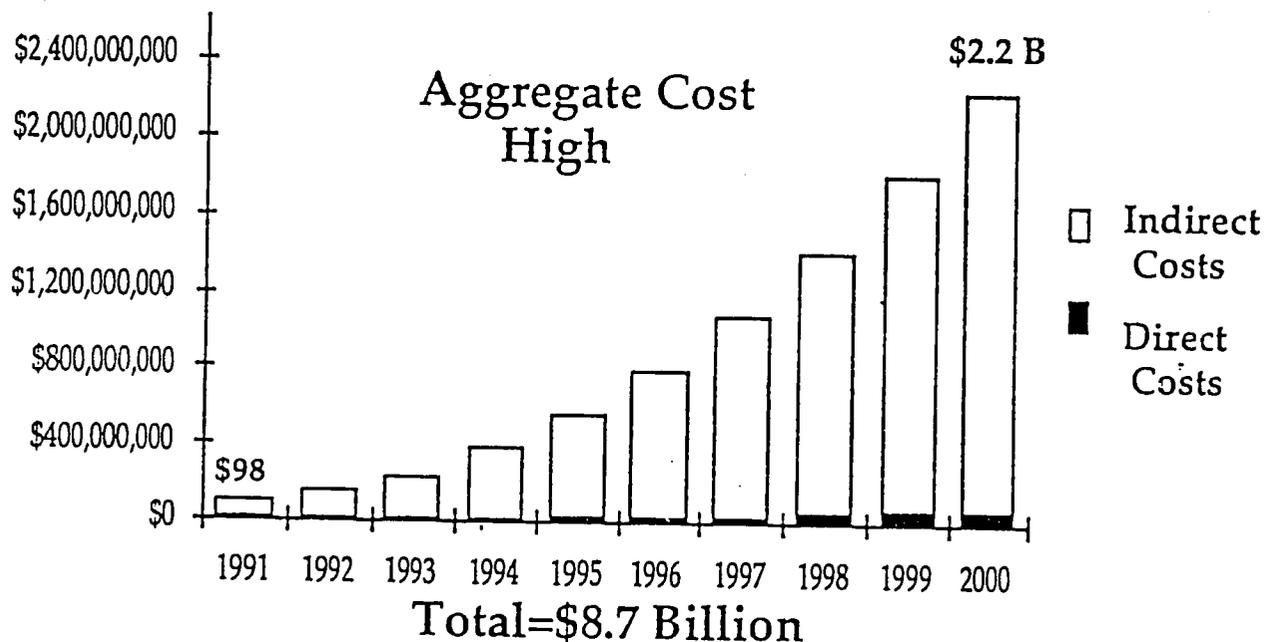


EXHIBIT 11

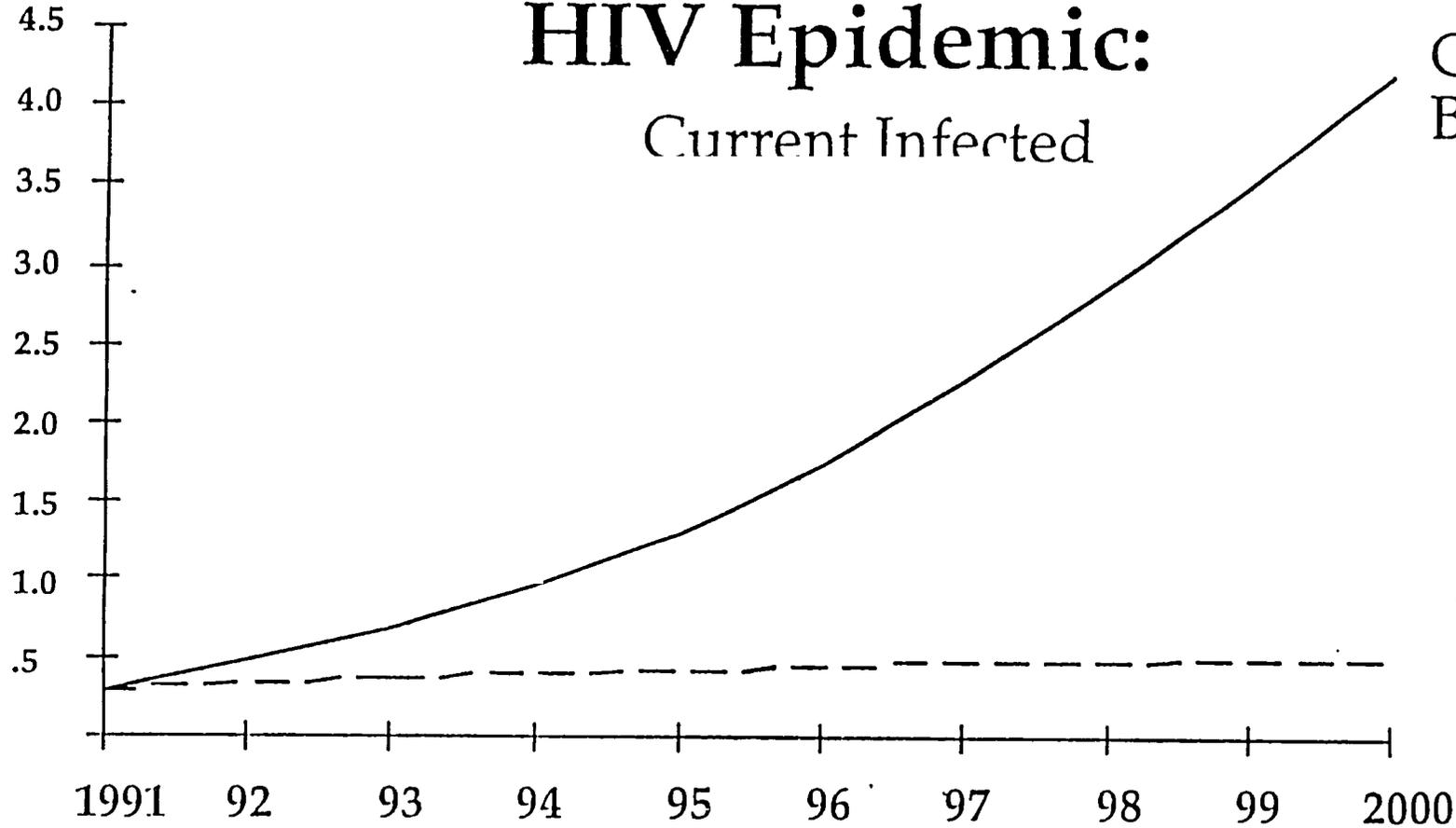
Millions

HIV Epidemic:

Current Infected

Current Behavior

Changed Behavior



Savings:

-3.5 Million Lives

-\$5.1 Billion

-17 X Return on Investment

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FINANCIAL PLAN

Tables 1. - 4. of this Annex provide a different cut and additional detail on Tables 2. - 4. on pp. 41-44 of the Project Paper. The Tables provide insight into the anticipated breakdown of estimated costs between administrative and program expenditures and also by costs at the three stages of the strategic partnership development process.

Table 1. is a summary of estimated costs by Project component. The estimates of strategic partnerships costs at each stage are based on the illustrative strategic partnership flow set out in Table 2.

Table 3. provides the estimated cost for the Partnership Manager under a cooperative agreement to assist in implementation of the strategic partnership component. An important assumption is that the organization selected as the Partnership Manager will absorb some overhead cost, i.e. bring some resources to the Partnership.

Table 4. sets out the flow of resources over the five year life of project. The critical assumption underlying these estimates is the rate of flow by stage of strategic partnership development illustrated in Table 2. These estimates can only be tested through actual experience. An important aspect of the interim evaluation will be to re-estimate the project budget based on the first two years of partnership development flow.

TABLE 1
PROJECT COMPONENT COST ESTIMATES

C O M P O N E N T	COST (\$000)
A. Strategic Partnership Development	
1. Stage I	
Development Agenda Definition	110
Partnership Reality Test (\$15,000 x 96)	1,440
2. Stage II	
Development Plan (\$100,000 x 41)	4,100
Nurturing (\$50,000 x 15)	750
3. Stage III - Development Impact Enhancement Package (\$400,000 x 18)	7,200
4. Partnership Manager (Interim and Long-Term)	3,200
Subtotal A.	<u>16,800</u>
B. AIDS Institution Building Component*	<u>2,000</u>
C. USAID Management	
1. Management	850
2. Evaluations	300
3. Audit	50
Subtotal C.	<u>1,200</u>
TOTAL	20,000

* At least \$2 million of HIV/AIDS related strategic partnerships will be executed under the strategic partnership component (A).

TABLE 2
ILLUSTRATIVE STRATEGIC PARTNERSHIP DEVELOPMENT
(\$000)

ACTIVITY	Y E A R					TOTAL
	FY 93	FY 94	FY 95	FY 96	FY 97	
Reality Test missions under review	35	40	60	60	50	245
Approvals	11	14	18	28	25	96
Development Plan proposals under review	8	10	15	20	25	78
Approvals	3	5	9	12	12	41
Nurturing proposals under review	5	6	7	8	10	36
Approvals	2	2	3	4	4	15
Development Impact Enhancement Packages under review	3	5	8	15	20	51
Approvals ^{1/}	2	3	5	8	10	28
Transactions Completed	1	3	5	6	10	25
Development Impact ^{1/} Enhancement Package grants executed	1	2	4	5	6	18

^{1/} Note: Not all approved Development Impact Enhancement Packages will be executed. In cases packages may be approved, but the U.S.-Thai executed agreement may not materialize.

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TABLE 3

ESTIMATED ANNUAL BUDGET FOR PARTNERSHIP MANAGER

1. Remuneration	<u>U.S. Dols.</u>	<u>U.S. Dols.</u>
<u>Thailand Office</u>		
a. Partnership Manager (260 days @\$320)	83,200	
b. Senior Thai Adviser (60 days @\$200)	12,000	
c. Secretary/Admin Asst.	13,000	
DBA 3.09% (260 days @ \$320)	2,571	
<u>U.S Office</u>		
a. Partnership Manager (260 days @320)	83,200	
b. Senior U.S. Adviser (60 days @\$320)	19,200	
c. Finance and Contracts Manager (260 days @\$320)	83,200	
d. Secretary/Admin. Asst.	33,200	
DBA 3.09% (90 days @\$320)	890	
Subtotal Remuneration		330,461
2. Overhead 50%*		165,231
3. Travel and Per Diem		
a. International (8 trips Thailand-U.S.-Thailand and U.S.-Thailand -U.S. of 14 days @\$6,500)	52,000	
b. Thailand domestic (20 trips of avg. 3 days @400)	8,000	
c. U.S. Domestic (24 trips of average 3 days @\$800)	19,200	
Subtotal Travel and Per Diem		79,200
4. Audit semi-annual @\$15,000		30,000
5. Miscellaneous		
<u>Thailand Office</u>		
a. telephone and fax	3,600	
b. local transport	10,000	
c. photocopy, documents, etc.	3,954	
<u>U.S. Office</u>		
a. telephone and fax	3,600	
b. local transport	10,000	
c. photocopy, documents, etc.	3,954	
Subtotal Miscellaneous		35,108
GRAND TOTAL ITEMS 1.- 4. ABOVE		640,000

*Note: USAID fully expects the award for a long-term Partnership Manager will be made to an entity that will have an overhead charge of less than 50%. If the charge is more than 50%, adjustments will be made to increase the budget for the Partnership Manager. The maximum overhead charge the Mission foresees is 100%. Re the above budget, a 100% overhead charge would increase the annual budget for the Partnership Manager by approximately \$165,000. With minor adjustments the total budget would be about \$800,000.

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TABLE 4
PROJECT COMPONENT COST ESTIMATES
(\$000)

COMPONENT	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
A. Strategic Partnerships						
1. Stage I						
Development Agenda Definition	25	30	20	20	15	110
Partnership Reality Test (\$15,000 x 96)	165	210	270	420	375	1,440
2. Stage II						
Development Plan (\$100,000 x 43)	300	500	900	1,200	1,200	4,100
Nurturing (\$50,000 x 19)	100	100	150	200	200	750
3. Stage III - Development Impact Enhancement Package (\$400,000 x 20)	400	800	1,600	2,000	2,400	7,200
4. Partnership Manager	640	640	640	640	640	3,200
Subtotal A.	1,630	2,280	3,580	4,480	4,830	16,800
B. AIDS Institution Building	400	400	400	400	400	2,000
C. USAID Management						
1. Management Support	170	170	170	170	170	850
2. Evaluations	-	150	-	150	-	300
3. Audit	-	-	50	-	-	50
Subtotal C.	170	320	220	320	170	1,200
TOTAL	2,200	3,000	4,200	5,200	5,400	20,000

PARTNERSHIP PERSONNEL RESPONSIBILITIES AND MINIMUM QUALIFICATIONS

The Partnership will have at a minimum three full time personnel responsible for assisting USAID in implementation. These will include the Partnership Manager team consisting of at least the "Partnership Manager" and the "Finance and Contracts Officer" and a personal services contractor (PSC) with the title of "Senior Partnership Advisor" to directly assist USAID. Their duties and qualifications are discussed in the following sections. The Partnership Manager Team may have an office in the U.S. and Thailand and the two key personnel may be resident in either country. The Senior Partnership Advisor will be resident in Thailand.

1. PARTNERSHIP MANAGER TEAM

- a. Partnership Manager. This individual will be the teams leader and will be responsible for ensuring that the responsibilities of the Partnership Management team as agreed upon under the terms of the Cooperative Agreement are met.

Specific duties will include:

manage Partnership management office and staff in U.S. and Thailand;

plan and prepare, in close coordination with USAID and DTEC, the agenda and documentation for the annual USAID-RTG meeting on Partnership development priorities, progress during the past year, and the work plan for the next year;

generate interest in the community-at-large in developing strategic partnerships for the Partnership;

meet with potential principals who may propose strategic partnerships;

screen potential partnerships at each stage for presentation to the Executive Committee;

identify principals and technical experts, including planning and implementing a competitive selection process when appropriate;

prepare as needed, and respond to requests from USAID to prepare, concept papers on transactions, scopes of work, sub-grant agreements, and other documentation required as part of the strategic partnership development process as outlined in Table 1.A-C of the PP;

disburse grant funds subject to USAID approval for strategic partnership "reality test" missions, Development Plans, strategic partnership nurturing activities and development impact enhancement packages;

monitor the use of the grant funds;

assist in planing and arranging schedules of principals as requested;

maintain records and track all partnership proposals from concept identification to execution of a strategic partnership agreement;

prepare for publication an annual report on accomplishments of the Partnership program, outlook for the next year and an internally audited financial statement.

Minimum Qualifications will include:

at least five years experience in a middle to top management position in the private sector with demonstrated experience in managing a complex program (large number of sub activities in different sectors with many on-going actions) requiring detailed attention.

strong oral and written communication skills;

preference for overseas experience, especially in Thailand; brokering experience; knowledge and experience in human capital and technology development and/or environmental infrastructure; graduate and undergraduate business administration degrees.

- b. Finance and Contract Officer. The large volume of sub grants under this project will require this individual to take responsibility for developing and monitoring them, and ensuring they meet AID requirements.

Specific duties will include:

negotiate, prepare and, subject to USAID approval, execute sub-grants at all stages of strategic partnership development process;

monitor sub-grants;

assist grantee and sub grantees to ensure their accounting procedures are consistent with AID requirements;

design and implement a computerized project management information system that tracks all vital parameters of strategic partnerships from identification stage through the implementation of Development Impact Enhancement Packages;

assist the Partnership Manager in preparation of work plans, reports and budgets;

manage grant disbursements and financial accounting.

Minimum qualifications will include:

at least ten years experience with Federal and AID Acquisition Regulations and familiarity with relevant AID policies, procedures, mandates, and Congressional directives.

experience with computerized accounting and management information systems;

strong oral and written communication skills;

undergraduate degree in business administration with preference for accounting, or equivalent experience.

2. USAID MANAGEMENT SUPPORT

Senior Partnership Advisor. This individual will mobilize and coordinate Mission staff to participate in implementation of the Partnership and liaison on a day to day basis with the Partnership Manager to ensure the Mission is apprised of new and continuing business.

Specific duties will include:

generate interest in the community-at-large in the Partnership;

manage day to day liaison with the Partnership Manager including developing agenda for Executive Committee Meetings, reviewing status of strategic partnership development, coordinating on schedules of principals, arranging debriefings for Mission, etc.;

designate an in-house "lead person" for each partnership proposal, coordinate among staff to avoid duplication of effort and suggest collaboration where it may be beneficial;

manage planning and arranging of schedules of principals by working with "lead persons" and the Partnership management team, as needed;

act as "lead person" on some partnership proposals;

screen principals and technical experts with respect to business/professional credentials and qualifications;

advise Project Officer on daily basis of Partnership Project status and outstanding issues.

Minimum Qualifications will include:

At least five years experience in middle to top level management position in private sector with demonstrated experience in brokering transactions;

strong oral and written communication skills;

preference for overseas experience, especially in Thailand; direct knowledge of and experience with USAID management systems; graduate degree in business administration.

INITIAL ENVIRONMENTAL EXAMINATION

Project Country: Thailand
Project Title: U.S.-Thai Development Partnership
Project Number: 493-0350

Funding: HE - \$3,000,000
FN - 9,000,000
EH - 3,500,000
SD - 4,500,000
\$20,000,000

Life of Project: FY 1992 - FY 1997

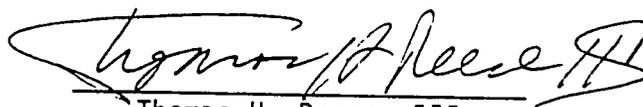
IEE Prepared by:


Mintara Silawatshananai
Mission Environmental Officer

Environmental Action Recommended:

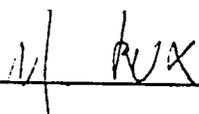
Categorical exclusion on all activities not involving environmental infrastructure support. Environmental infrastructure support activities will be addressed as outlined in Section 4 of "Environmental Determination and Analysis".

Concurrence:


Thomas H. Reese, III
Director, USAID/Thailand

Date: June 5, 1992

Bureau Environmental Officer's Decision:

Approved: 

Date: 6-10-92

Disapproved: _____

Date: _____

ENVIRONMENTAL DETERMINATION AND ANALYSIS

1. BACKGROUND/PROBLEM IDENTIFICATION

a. AIDS

Experts estimate that 200,000 to 400,000 Thais are currently infected with HIV. More than 50% of these people contracted HIV through heterosexual sex. According to U.S. and Thai researchers it is very likely that at least 2 million Thais will be HIV infected and 560,000 will have died of AIDS by the year 2000. If current behavior patterns continue unchanged, estimates are that 2 million to 4 million Thais will be HIV infected by the year 2000. Under the base case, 5.3% of the projected labor force in the year 2001 will die between 1992 and 2010; under the high case, 10.7%. The human tragedy will be immense and the impact on the economy severe. The global consequence also are potentially large. AIDS in Thailand is not only a Thai problem, but one of global dimensions.

b. Environmental Infrastructure

Development of environmental infrastructure has not kept pace with substantial population growth, rapid urbanization and the exceptional surge of industrial and service (tourism) sector growth. Thailand is virtually without any waste water treatment plants (Bangkok is the second largest city in the world without a plant) and only 70,000 tons of an estimated two million tons of hazardous and toxic wastes produced annually are known to be disposed of by methods that are environmentally sound. Changes in institutional relationships at the national and local level and improvement in municipal and provincial government capability to facilitate initiation of environmental infrastructure are necessary if environmental infrastructure development is going to catch up with increased demand. Failure to make the necessary changes and investments now will have adverse consequences for the environment, economic growth and equity.

2. PROJECT ACTIVITIES

The U.S.-Thai Development Partnership (Partnership) will encourage sustainable, broad-based, and environmentally sound Thai economic growth, supported by continuing private, public and professional relations between Thai and U.S. institutions. The fund will have two inter-related purposes:

- a. assist Thailand to slow the spread of HIV infection by supporting Thai capacity to identify and implement solutions to the human and economic costs of the looming impact of the AIDS epidemic.
- b. assist Thailand to identify and implement sustainable solutions to environmental infrastructure shortages which, if not addressed, will constrain economic growth and adversely affect equity;

Partnership resources will be used to promote U.S.-Thai strategic partnerships. Each strategic partnership will match Thai development problem-solvers in partnership with U.S. expertise to produce a sustainable institutional change essential to resolving the development problem. AID funds will act as a catalyst for potential partnerships which will result in the investment of substantial non-AID, U.S., Thai or other resources for targeted Thai development purposes. Project funds will not finance, in whole or in part, the strategic partnerships themselves.

The Partnership will have two major components: HIV/AIDS and Environmental Management and Infrastructure Support.

The AIDS component will focus on expanding access to HIV prevention and control programs in Thailand. This component will differ somewhat from the other two components in that, in addition to promoting U.S.-Thai transactions, some traditional development activities will also be undertaken. These may include policy dialogue, program intervention and support, research and development, institutional development and administration and management. Much of the work to be carried out under this component likely will be done through buy-ins to central, R&D projects.

The Environmental Management and Infrastructure component will focus on predominantly private solutions to Thai environmental infrastructure shortages. A number of potential partnerships have been tentatively identified such as solid waste disposal systems in tourist centers; toxic and hazardous waste disposal systems and wastewater treatment facilities. Also, some work may be undertaken to develop municipal bonds to finance some or all of the above projects; and to facilitate linkages between the Securities Exchange of Thailand and the New York Stock Exchange for Thai financial system expansion.

USE OF PARTNERSHIP FUNDS

The Partnership will be a five-year, \$20 million effort designed to promote some twenty-five strategic partnerships financed from non-project funds. With the exception of some of the more traditional developmental activities under the AIDS component, the Partnership funds will be used to promote and encourage the investment of non-project funds in the target partnerships. Partnership funds will be used for such things as reality testing partnerships, strategic partnership development planning and nurturing, technology transfer, technical assistance, training and institution building, as they relate to promoting the strategic partnerships. Because the Partnership's role will be as a catalyst and not as a financier, generally its oversight of will end when the solution itself commences. For example, the Mission has targeted the creation of a financially sustainable solid waste disposal system for the city of Chiang Mai as a possible strategic partnership. The transaction objective in this case would be the signing of a contract between an RTG entity and a

U.S. waste management firm for the construction supervision, operation and maintenance of the Chiang Mai garbage system. To produce this result, USAID would invest project resources to formulate development plans that would look at the technical, managerial and financial aspects of the activity. The plan also would look at measures needed to encourage the creation of a municipal revenue stream to make the project bankable. The Partnership would not itself assist in financing the solid waste disposal system; thus, the Mission would have no long-term implementation responsibility. As in any other commercial transaction, implementation would be the responsibility of the investors themselves and environmental standards would be subject to normal host country standards.

In certain instances, the Mission contemplates that Partnership involvement may extend beyond the actual execution of a formal strategic partnership agreement. For instance, in the Chiang Mai solid waste example, the Partnership may offer to finance a range of activities if, and when, a contract is signed with a U.S. waste management firm. These activities would be negotiated between the Partnership and the responsible Thai RTG entity before enactment of the partnership. They would enhance the development impact of the strategic partnership. Subject to negotiation, these activities may include training and/or the provision of pollution control devices designed to protect the environment beyond normal Thai requirements. In this regard, the project will coordinate with the ASEAN Environmental Improvement Project and the U.S.-Asian Environmental Partnership to identify and draw on other resources and sources of environmental expertise.

4. ENVIRONMENT ANALYSIS:

Most of the activities planned under the Partnership (i.e., AIDS, Human Capital and Technology, and Environmental Infrastructure) will not have any negative environmental consequences or identifiable adverse effects. On the contrary, the AIDS component will slow the spread of the AIDS virus among the Thai population through the use of information, education, communication, and preventive measures. The other component will only have beneficial environmental effects through better use and management of natural resources, and implementation of pollution prevention and waste minimization programs.

Based on the Project description and identification of impact noted above, it is judged that the Project meets the criteria for a Categorical Exclusion except for those activities listed in the last paragraph of this section. The relevant language that provides the basis for a Categorical Exclusion for most of the Project's activities under Section 216.2(c)(2)(i)(iii)(x)(xiv) of the A.I.D. Environmental Procedures (22 CFR Part 216) is quoted below:

- Section 216.2(c)(2)(i) Education, technical assistance, or training programs;
- Section 216.2(c)(2)(ii) Analyses, studies, academic or research workshops and meetings;
- Section 216.2(c)(2)(x) Support for intermediate credit institutions when the objective is to assist in the capitalization of the institution or part thereof and when such support does not involve reservation of the right to review and approve individual loans made by the institution;
- Section 216.2(c)(2)(xiv) Studies, projects or programs intended to develop the capability of recipient countries to engage in development planning;

Thus, neither an Environmental Assessment nor an Environmental Impact Statement are proposed.

However, Development Plans and Development Impact Enhancement Packages for environmental infrastructure projects funded wholly under the Project or in collaboration with other organizations such as PRE/H, TDP, or the Ex-Im Bank, may require such assessments. These activities will be reviewed prior to their initiation to determine whether an Environmental Assessment (EA) is required. This will be done by preparing a brief Initial Environmental Examination (IEE) for each. This IEE will also indicate country requirements for Environmental Impact Assessments that can be met by the EA. The cost of carrying out EAs for certain activities would be eligible for funding consideration under the Partnership as an integral step leading to a strategic partnership.

USAID/Thailand
Assistance Management Plan

June 1990

I. Introduction

U.S. foreign economic assistance programs are an integral element of U.S. foreign policy in a rapidly changing international environment. In a recent statement, Secretary of State Baker outlined the major elements of U.S. foreign policy and the role of AID in supporting that policy. He said:

"In my view, our foreign policy must meet five major challenges over the next decade. AID can become a major tool in helping us meet them.

First, we must help to consolidate the worldwide trend toward democracy...

Our second challenge is to help build strong, free-market economies. Democracy and development must go hand in hand. We must lead in helping other nations along the path of reform, economic growth, and integration into an open world trading system...

Our third challenge is to help the peace-makers. Even as East-West tensions decrease, regional conflicts still pose major threats to world peace. We must strengthen the hand of regional actors committed to peace...

The fourth challenge is to work with the world community to address transnational threats -- environmental degradation, drug trafficking, and terrorism...

The fifth challenge is to strengthen our international ties so as to ensure that the positive world trends we see will continue. Jointly with other free-market democracies and the multilateral economic institutions, we must respond to needs in the developing world..."

Responding to Secretary Baker's statement, the AID Administrator developed the following formulation of the role and mission of AID:

"AID's mission is to further the U.S. national interest in an expanding world economy led by a strong U.S. economy. An expanding world economy benefits everyone who has the opportunity to participate, by creating jobs and markets, increasing wealth and enhancing human dignity and the quality of life. In these times of historic political and economic change, AID's challenge is to be a catalyst for global economic growth with broader participation by all people and nations and expanded opportunity for the United States..

AID works to encourage free market economies and broad-based, sustainable, environmentally-sound growth, recognizing that such growth depends upon a hospitable legal, policy and political environment, a dynamic private sector, trade, foreign

investment, and management of debt, augmented by appropriate technical assistance, training and technology and resource transfers."

These statements reflect a fundamental shift in AID's worldwide programmatic priorities and directions. Simultaneously, severe and growing resource constraints diminish AID's ability to mount a broad range of economic assistance programs.

Within the context of these broad changes, AID and other elements of the U.S. Government have noted Thailand's remarkable development progress, and Thai emergence as a growing player in the world economy. These realities encourage a fundamental shift in the U.S.-Thai economic relationship, i.e., from the donor-recipient relationship of earlier years, to that of a mature economic partnership. AID's task in developing a new Thailand strategy was thus to justify the continuation of a program in Thailand that will support this increasingly mature economic partnership. At the same time, AID must respond to emerging U.S. foreign policy directions and severe limitations on program funding and personnel. AID concluded that continuation of a Thai program required a narrowing of programmatic focus and heightened emphasis on mutual U.S.-Thai interests and concerns, particularly with respect to relations between the U.S. and Thai private sectors. The strategy proposed herein meets these criteria and provides a strong basis for maintaining an AID program in Thailand.

II. The U.S.-Thai Economic Assistance Relationship

Only 20 years ago, security concerns dominated the U.S.-Thai relationship. Thailand has successfully handled the continuing challenges emerging from that era and, despite the unsettled politics and stagnant economies on her borders, emerged as the most economically dynamic nation in Asia. As Thailand changed over the 1980s, so did the U.S.-Thai relationship. Individual regional security issues and humanitarian concerns remain, but no longer drive the relationship. In their place, economic issues have assumed preeminence. Concurrently, bilateral trade and investment have become the dominant element in economic relations.

Since the early 1980s, AID has assisted Thailand to address some of the emerging problems of its industrializing economy. Even now, when Thai economic growth appears sustainable for at least the medium term, no one seriously challenges the relevance of these problems to the future of the Thai economy. But key U.S. Government decision-makers have challenged AID's approaches to these emerging problems. Their challenges reflect new perspectives:

--In view of its own budget deficit, negative trade balances and other domestic concerns, the U.S. should devote less of its AID resources to the developmental needs of countries which have achieved rapid growth.

--Over the last few years, development economists have synthesized the lessons of the last two decades' economic successes and failures. They have concluded that there is a high correlation between economies' openness to the flow of goods, services, capital and ideas and their success in the

International marketplace. Moreover, although the relationship is more difficult to quantify, it is increasingly well accepted that democratic societies have a better chance of integrating themselves fully with the world economy than those which deny freedom of choice within their own political and economic milieu. These are the themes, emphasized by Secretary Baker, which AID now calls "open markets, open societies."

--Countries such as Thailand outpace their trade and financial presence in this expanded presence, countries such as Thailand are of more direct economic interest to the U.S. than are less developed countries (LDCs), because their success creates new trade and investment opportunities which expand growth prospects for the U.S. and the rest of the world, as well as for Thailand.

--Over the last several decades, the U.S. has consistently championed free markets, supported and sustained by democratic societies. Thailand's recent success reflects Thai adherence to these values. As a result, a mature economic partnership, built on shared values and mutual economic interests, can help to ensure an abundance of future economic opportunities for both Thailand and the U.S. It can also provide a forum for the resolution of inevitable differences, and an arena in which U.S. ideas, policies and products can compete with those of other nations.

In the face of these perspectives, AID chosen to re-orient its objectives in Thailand toward encouraging even broader and deeper Thai integration with the world economy, particularly by nurturing the new trade and investment-dominated U.S.-Thai economic relationship rather than to phase out its relationship with Thailand on the basis of Thai development success. AID believes this re-orientation will better serve both U.S. and Thai interests in a mature economic partnership founded on mutual interests and shared values.

III. Thai Growth and Opportunity in the 1990s

AID recently outlined a new framework for programs in countries which have outpaced LDCs in their growth patterns, but have not yet joined the ranks of developed nations. AID calls these countries "Advanced Developing Countries", or "ADCs" and believes that they can be identified by their expanded trade and financial presence in the world economy. But while countries can be identified as ADCs, individual sectors within ADCs may be relatively less developed. International trade, investment and finance policies play a major role in countries' ability to participate in the world economy; but inadequacies within domestic economies, e.g., shortages of skilled labor or infrastructure deficiencies, also inhibit integration by diminishing international competitiveness. While the private sector plays a preeminent role in international economic integration, the public sector plays a critical role in facilitating private sector actions. Thus, together with individual ADCs, AID seeks to enhance ADCs' abilities to respond to opportunities offered by the world economy. Moreover, as ADCs expand their presence in international markets, the U.S. and other developed nations want them to share the responsibilities as well as the benefits of international economic integration, e.g., by helping to sustain an open multilateral trading system, and supporting global environmental protection.

AID assessed Asian, Near Eastern and selected European countries' relative integration with the world economy in: export growth, composition and diversity; direct foreign investment inflows; income on foreign investment; bank transactions; and private borrowing from foreign sources. Thai indicators clearly resembled those of the dynamic East Asian economies rather than those of South Asia and the Middle East. By these measures, Thailand is now an ADC.

Beyond these broad indicators, AID also assessed Thai domestic productive capacity and institutional and human capital development indicators against those of other developing and developed countries. In several areas, Thai capacity for broader and deeper integration with the world economy still appears relatively weak. Financial markets remain narrow. Natural resources are being rapidly depleted and severely degraded. Human capital indicators lag. Moreover, the Thai institutional structure remains dominated in key infrastructure and utilities sectors by public enterprises that have, in a number of instances, fallen short of providing the amount and quality of services demanded by a rapidly growing economy. AID concluded that these areas could guide a future program in Thailand:

AID's detailed economic analysis concluded that in the short-term output growth will depend on maintenance of Thailand's comparative advantage in labor intensive products. Given rising wages, this requires increases in labor productivity and reductions in other costs. Labor force skills, provision of adequate infrastructure, environmental issues, and access to finance at reasonable costs will be critical concerns for the next several years.

Over the longer run, improving policy and capacity in education, technology, infrastructure, and finance will be crucial. Issues here include: trade liberalization to stimulate technological adaptation; developing an adequate pool of technically competent labor; improving firms' capacity to absorb, adapt, and develop new technologies; and evolution of a legal and regulatory structure that will create adequate quantity and quality of infrastructural and financial services.

The Thai government has found that, despite a rapidly expanding economic pie, addressing economic efficiency and productivity issues involves tough resource allocation choices. These developments over the 1980s have expanded democratic participation by Thai society; they have also made the economic decision-making process more complex. The future competitiveness of the Thai economy depends on economic decisions taken in the next few years. These decisions will be easier if they take into account the wishes of the popular majority.

IV. The AID Strategy for Thailand in the Nineties

The development assistance strategy AID proposes for Thailand in the 1990s retains as its broad program goal the achievement of fully sustainable, increasingly broad-based Thai economic growth. But AID recognizes that Thailand's growth path in the 1990s will increasingly depend on the country's ability to avail itself of new opportunities offered by the global marketplace. The proposed strategy will thus be targeted on broadening and deepening Thai integration with the world economy, and particularly with the

U.S. economy. Within this focal area, AID defines its program objectives for the 1990s as follows:

1. Improved Efficiency and Productivity of Selected Aspects of the Thai Economy: Short-term issues related to maintaining competitiveness in labor-intensive production, and longer-term issues related to increasing the value of Thai products and services, will be critical to Thailand's further integration with the world economy over the 1990s. In particular, expanding human capital (including technical capacity), broadening and deepening financial markets, and managing the environment will be central to the sustainability of Thai growth. These are also areas where U.S. expertise is strong, and private solutions abound.

2. Achieving a Sustainable Political Consensus on Economic Issues: Over the 1990s, Thai economic prospects and the success of nascent democratic institutions will depend on the country's ability to broaden and deepen the avenues of political and economic dialogue, achieve a sustainable political consensus on the solutions to economic issues, and act decisively to implement the chosen solutions. The professional capacity of elected national and local representative bodies and other elements of Thai society, and the legal and regulatory framework in support of economic growth will be critical elements of the Thai political economy in the 1990s. These are also areas where private, non-profit U.S. organizations are now supporting the programs of various Thai organizations.

3. Mutual Interests (The ADC Dimension): Expanding U.S. trade and investment with Thailand and enhancing U.S.-Thai collaboration on global or transnational concerns of bilateral interest. This focus includes: expanded use of the expertise and resources of the U.S. private sector to enhance Thai competitiveness in the world economy; expanded participation by the U.S. private sector in Thailand in implementation of the AID program; support of the business community's efforts to improve the climate and incentives for bilateral trade and investment; the provision of capital projects "software", e.g., feasibility studies and other technical services, to assist Thailand in undertaking infrastructure improvements; and support of selected activities encouraging bilateral cooperation on global or regional issues, e.g. environment, AIDS, narcotics, etc. In selecting areas of substantive program focus, the Mission also looked for areas where the U.S. has clear comparative advantages that could be applied in addressing critical Thai economic growth issues.

The conceptual framework for targeting AID program efforts is shown in Chart 1. With diminishing program and staff resources, AID recognized that program approaches serving more than one objective are more valuable than those serving only one objective. Accordingly, AID will focus on the shaded portion of Chart 1.

V. The Proposed Program Content of the Strategy

AID's analyses of a wide range of issues critical to sustaining broad-based Thai economic growth in the 1990s led to the summary conclusions outlined in the attached Chart 2. AID believes that its limited resources can be most

Chart 1

Integrating the Program Objectives

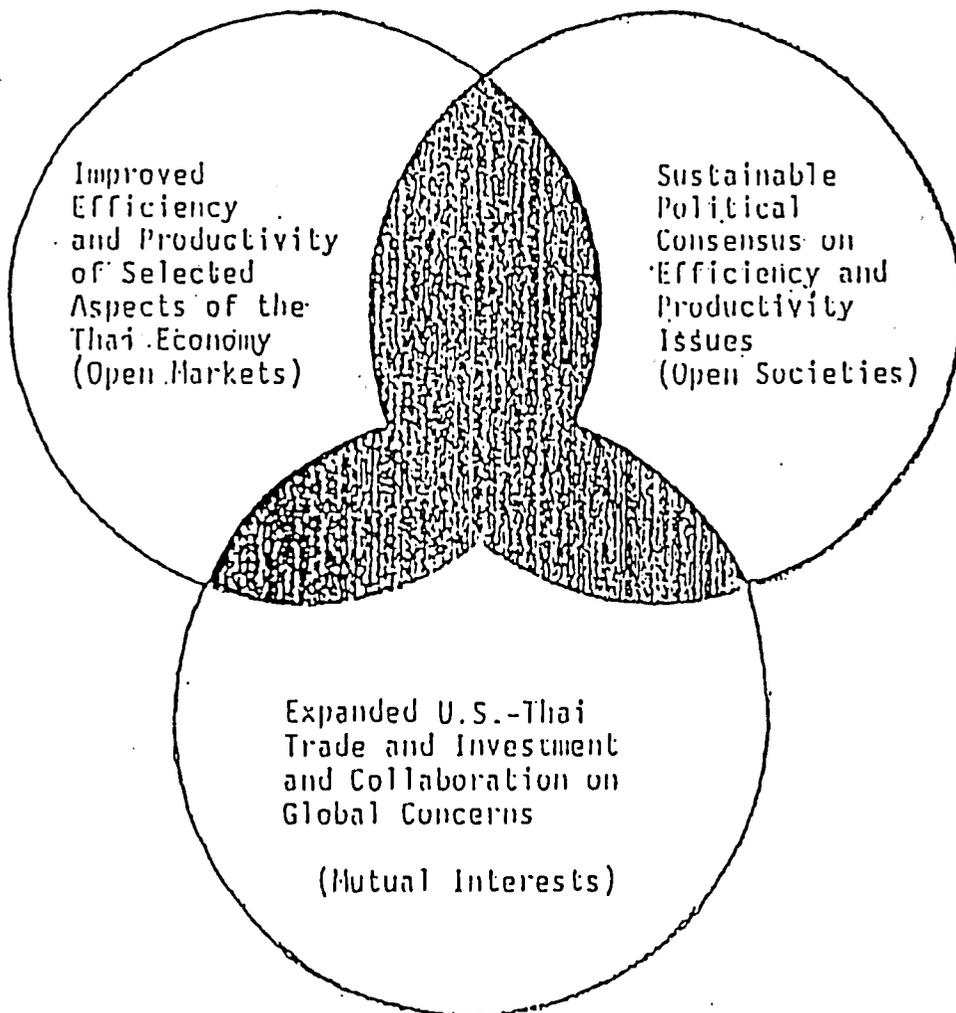


Chart 2 - Thai Growth Path for the 1990s
(Summary Framework)

U.S.-Thai Objective: Sustainable,
Increasingly Broad-based, Thai Economic Growth

Thai Growth Path: Broader and Deeper Integration
With the International Economy

Agricultural Growth Path	Industrial Growth Path	Services Growth Path
Enhanced Productivity: Product Diversity and Higher Value Added	Enhanced Efficiency: Cost Effectiveness in Labor-Intensive Production Enhanced Productivity: Product Diversity and Higher Value Added	Enhanced Efficiency: Cost Effectiveness in Labor-Intensive Services Enhanced Productivity: Product Diversity and Higher Value Added
Constraints on Agriculture	Constraints on Industry	Constraints on Services
<u>Domestic:</u> Labor Force Skills Technological Capacity Infrastructure Deficiencies Capital for Agribusiness Intellectual Property Protection Environmental Degradation and Depletion <u>International:</u> Protectionism Environmental and Health Concerns	<u>Domestic:</u> Labor Force Skills Technological Capacity Infrastructure Deficiencies Tariff Regime Intellectual Property Protection Environmental Degradation and Depletion <u>International:</u> Protectionism Shifts in the Flow of International Capital	<u>Domestic:</u> Labor Force Skills Technological Capacity Infrastructure Deficiencies Capital for Service Expansion Policy, Legal and Regulatory Framework Environmental Degradation and Depletion AIDS <u>International:</u> Environmental and Health Concerns Shifts in the Flow of International Capital

effectively used in the following three areas which, as Chart 2 illustrates, are relevant across Thailand's productive sectors:

- Expanding the quantity and improving the quality of Thai human capital, with a particular emphasis on the application and management of technology.
- Broadening Thai financial markets, particularly by facilitating the ability of international and domestic financial markets to meet the rising demand for infrastructure and social services.
- Ameliorating environmental degradation which increases costs and diminishes growth prospects in key urban, industrial and tourism sectors.

These substantive areas will be addressed through careful selection of program interventions to resolve continuing policy issues, or transfer problem-solving concepts and techniques from the U.S. to Thai public and private institutions. In addition to these sectorally-targeted interventions, AID proposes to undertake cross-cutting programs in the following areas, not only to support the targeted program areas, but also to expand the range of bilateral linkages critical to the emergence of a fully mature economic partnership:

- Assist Thai representative and non-governmental organizations to play a stronger role in achieving a sustainable political consensus on the steps needed to resolve critical economic growth issues.
- Expand bilateral trade and investment, in collaboration with other U.S. Government agencies.
- Collaborate on global concerns of particular bilateral interest, both to resolve key economic growth issues, and to establish sustainable bilateral links extending beyond the AID presence in Thailand.

Thailand's current level of social and economic development and the dynamic nature of its economy require that AID change its program objectives and program mechanisms to ensure that limited resources are used effectively in support of the program areas described above. AID believes that the 1990s will bring even more change to Thailand than the past decade; therefore the AID program in Thailand must be highly flexible and responsive to rapidly changing circumstances. Thailand already plays an expanded role in the international marketplace. Thus global market forces significantly influence the Thai economy. The AID program must reflect these forces and engage them to accomplish strategic objectives by nurturing more private sector relationships, both in the U.S. and Thailand. Finally, the considerable capacity of the Thai public and private sectors will allow shorter and less costly AID interventions than used in conventional AID projects. These shorter interventions should provide opportunities to establish Thai-U.S. linkages which can endure over the longer term and extend beyond the AID presence in Thailand.

The proposed AID strategy for Thailand in the 1990s will be supported by resources from the existing projects, selected new program initiatives and AID

world-wide and regional projects. AID believes that this array of program activities will also attract additional resources from the U.S. and Thai private sectors, the Royal Thai Government, and possibly other donors.

The existing projects provide opportunities for expanding human capital for the application and management of technology, addressing environmental issues, assisting non-government organizations and promoting U.S. private sector participation with Thai institutions in resolving selected Thai development problems, e.g., through the provision of U.S. expertise and technologies for pollution control. The existing projects represent a substantial level of resources already in place. A process of continual adjustment is foreseen to ensure that they remain relevant to their substantive areas while serving the objectives of the new strategy as closely as possible.

AID proposes the following new program initiatives to assist in accomplishing the objectives of the strategy in the early 1990s:

--A Trade and Investment Support Program, planned for initiation in 1990, through which the U.S. and Thai private sectors, in cooperation with representatives of the U.S. and Thai public sectors, can fashion their own program for expanding U.S.-Thai commercial linkages. AID proposes that this program be administered by a non-profit U.S. corporation "Joint U.S.-Thai Business, Inc.", or "JUST Business", with a subsidiary in Thailand. AID will provide initial support. However, JUST Business will be expected to become a self-sustaining entity over the life of the program.

--A Thai Growth and Investment Fund, proposed for initiation in 1991 as a flexible, innovative program instrument designed particularly (but not exclusively) to finance AID program interventions in human capital and financial markets development, focal areas of the new strategy which cannot be effectively addressed with the on-going project portfolio. It is anticipated that, as existing projects are completed, the Thai Growth and Investment Fund will be AID's primary bilateral program instrument for the duration of AID programs in Thailand.

--A Capital Projects Assistance Facility, proposed for initiation in 1991, will finance feasibility studies and other technical services critical to the expansion of Thai infrastructure, especially transport, telecommunications, power and water and sewage. Through this program component AID expects to expand the participation of U.S. expertise in decisions on needed Thai infrastructure investments. AID may propose to include this program component under one of the new program mechanisms outlined above.

--Over the next several years, AID also proposes to encourage the development of a new private entity, tentatively called "Managing U.S.-Thai Linkages", or MUST Link, to match continuing Thai development needs and problems with U.S. sources of expertise in these areas. AID believes that an organization like MUST Link can play an important role in fostering U.S.-Thai mutual interests long after AID's tenure in Thailand is over. AID will work to identify an appropriate organizational structure and initiate the process of raising funds from various public and private sources in the U.S. and Thailand.

VI. Management of the Program

AID faces the challenge of implementing a changing program with substantially reduced staff. American staff will be halved by the end of FY 1991, and will consist of a small AID Representative Office by mid-decade.

During the approaching transitional period, the large portfolio of existing projects will continue to require responsible oversight. This has implications for how AID conducts its business in Thailand; an increasingly narrowed program focus, streamlined procedures, and management focus on objectives rather than inputs are anticipated.

By mid-decade, the AID Representative Office will be in place, possibly within the Embassy. The Office will be charged with managing remaining bilateral programs, identifying other AID resources (central and regional), U.S. institutions and expertise which meet mutually desirable objectives, and with identifying and promoting opportunities for a U.S. role in meeting Thailand's development challenges. It is anticipated that the AID Representative Office will be staffed by no more than three American officers and some complement of Thai staff.

Also by mid-decade, it is anticipated that JUST Business and MUST Link will be fully established, self-sufficient organizations, mandated with serving a range of U.S.-Thai mutual interests. Both of these organizations will be independent of AID, yet can work synergistically with the AID Representative Office to serve mutual U.S.-Thai interests and encourage full maturation of the U.S.-Thai economic partnership.

VII. Conclusion

Thailand has faced tremendous economic and political challenges over the past 40 years. AID has been a strong and consistent partner as these challenges have been met and overcome by the Thai. Thailand is an excellent example for neighboring countries to emulate. Thailand's experience shows that outward looking economies make sustained and significant economic progress, that domestic stability does not rely on closed political systems, and that the world economy offers opportunities for the taking by countries with responsible leadership and entrepreneurial populations.

The 40 year economic development relationship between Thailand and the United States forms a strong basis for continued joint efforts to address areas critical not only for sustaining Thai economic growth in the 1990s, but also for serving enhanced mutual economic interests over the longer term. The fundamental shift now occurring in AID's relationship with Thailand reflects the value the U.S. government in general, and AID in particular, place on a mature U.S.-Thai economic partnership in the decades ahead.

MEMORANDUM OF UNDERSTANDING
ADVANCING MUTUAL INTERESTS IN A RAPIDLY CHANGING
INTERNATIONAL ENVIRONMENT

The Government of the United States of America and the Royal Thai Government recognize the bonds of friendship created in the course of forty years of economic and technical cooperation on behalf of Thai development. It is their mutual desire that these bonds of friendship be strengthened over the decade ahead, through continued cooperation on the resolution of emerging Thai development issues. Such continued cooperation will build on the remarkable social and economic progress achieved over the last several decades through a dynamic, export-oriented private sector and with the Royal Thai Government continuing to play a key role as supporter and facilitator of economic growth. Cooperation can now be implemented in ways consistent with the maturity of bilateral political and economic relations, a broad range of mutual economic, development and technical interests, and a shared desire to expand the range of private as well as public linkages between our two nations.

Resolving to undertake new efforts to further these broad goals, the Government of the United States of America and the Royal Thai Government have agreed as follows:

1. Objectives

Henceforth, programs of the U.S. Agency for International Development (AID), administered in cooperation with the Royal Thai Government's focal point and appropriate

representatives of the Royal Thai Government and the U.S. and Thai private sectors, will support the following objectives:

A. Promote sustainable, broad-based and environmentally sound Thai economic growth;

B. Broaden and deepen Thai integration with the international economy, as a primary means of ensuring the sustainability of economic growth (in particular, encourage expanded linkages with the U.S. economy);

C. Drawing on the experience and expertise of the U.S. public and private sectors in the resolution of similar problems, cooperate closely in addressing specific problems of the Thai economy which hamper prospects for future competitiveness within the international marketplace;

D. Encourage cooperation between U.S. and Thai public and non-governmental institutions in strengthening the capacity of Thai representative institutions to conceive, enact and administer economic development programs reflecting the will of the popular majority;

E. Expand bilateral trade and facilitate the identification of specific investment opportunities in both countries;

F. Expand avenues of mutual cooperation on global issues of bilateral concern, e.g. environmental protection, narcotics and AIDS.

2. Areas of Cooperation

Sharing a commitment to the principle of free markets, supported and sustained by democratic institutions, and recognizing the valuable contributions of their respective public sectors in establishing a framework for pursuit of economic growth objectives, the Parties agree to encourage and

facilitate greater cooperation between their respective business communities and associations, governmental agencies and non-governmental organizations as an integral element of program activities in the following areas of mutual interest to the U.S. and Thailand:

A. Human capital development, particularly as it relates to Thailand's need for adequate labor force skills and capacity to identify, acquire, adapt and develop technologies needed for sustained economic competitiveness. In this connection, the Parties will place particular emphasis on facilitating linkages between U.S. and Thai universities for programs relevant to Thai participation in the world economy, as well as on links between U.S. and Thai training organizations engaged in the expansion of labor force skills.

B. Technological development, particularly as it relates to Thai commercialization of technology through close relations between the U.S. and Thai private sectors. In this connection, the Parties will place emphasis on the sustainable institutionalization of the Science and Technology Development Board as a vehicle for promoting Thai technological development through public/private collaboration and expanded U.S.-Thai private sector linkages.

C. Expansion of Thai capital markets, particularly to meet emerging national infrastructure and social service requirements. In this connection, the Parties will give attention, inter alia, to: developing an adequate legal and regulatory structure for effective capital markets; improving the quantity, quality and timeliness of financial market information; broadening and deepening bond markets for infrastructure finance; and the introduction of new investment forms attuned to the provision of health care and other social

services required by Thailand's changing demographic profile. The Parties anticipate that expanded linkages between the U.S. and Thai private sectors will be particularly relevant to these programs.

D. Environmental management, particularly in relation to prospects for continued sustainable, broad-based economic growth. In this connection, the Parties will give attention, inter alia, to the development of appropriate institutions, policies and human resources required for effective environmental management by both the Royal Thai Government and private sector, as well as to biological diversity and other natural resource degradation and depletion concerns relevant to Thailand's future economic growth prospects, particularly in the urban, industrial and tourism sectors. The Parties anticipate that U.S. expertise and technologies will be particularly relevant in addressing these concerns.

E. Strengthening representative institutions, particularly the professional capacity of national and local representative bodies and non-governmental advocacy groups representing the interests of broad segments of Thai society. In this connection, the Parties will give attention, among others, to developing the capacity of the Thai Parliamentary Committee system, municipal governments and the community of non-governmental organizations to represent the economic interests of various groups within Thai society.

F. Infrastructure expansion, particularly in the areas of energy, telecommunications, water and sewerage and transport. In this connection, the Parties anticipate increased involvement by the U.S. public and private sectors in

the conduct of feasibility studies or the provision of other technical services related to the expansion of Thai infrastructure in targeted sectors.

G. Law and institutional development, particularly as they relate to modernization of the Thai legal system and supporting institutional structure. In this connection, the Parties will give attention, among others, to those aspects of the legal system which protect transferable property rights and efficient commercial transactions, and to building the capacity of the public sector to regulate selected aspects of the Thai economy in a manner consistent with the best economic interests of Thailand and its trading and investment partners.

H. Expansion of bilateral trade and investment, particularly as a vehicle for full maturation of the economic partnership, and for increasing our mutual prospects for sustainable, broad-based and environmentally sound economic growth. In this connection, the Parties will give attention, inter alia, to improving the policy and business climate for bilateral trade and investment, and to close cooperation between our respective public and private sectors on measures to expand the flow of trade and investment between our two nations.

I. Expanded cooperation on a range of global concerns of particular interest to the U.S. and Thailand, e.g. environmental issues such as global climate change, AIDS research and narcotics concerns.

J. Expanded cooperation in engaging Thailand's technical expertise and training institutions as a resource for third-country economic development programs.

K. Any other focal areas on which the Parties may mutually agree.

3. Criteria for Future Cooperation

Recognizing Thai economic and social accomplishments and the growing maturity of Thailand's public and private sector institutions, and desiring to establish a program framework which supports the interests of both Parties in the years ahead, the Parties have established the following criteria for the selection of areas of future cooperation:

A. It should be in areas of critical importance to the Thai economy which Thailand cannot effectively address alone;

B. It should be in areas where the United States has a comparative advantage;

C. It should be assistance which is relatively short-term or otherwise cost-effective, but which has high strategic and catalytic value; and

D. It should be in areas in which the Parties have clear mutual interests.

4. Program Mechanisms

The Parties share a commitment to continued, effective implementation of on-going Agency for International Development projects in Thailand, and are confident that many of the themes outlined herein can be addressed within these projects. The Parties also recognize that effective pursuit of the objectives outlined above requires the introduction of new, more flexible program mechanisms to support, sustain and expand U.S.-Thai development and economic cooperation over the longer term. The Parties hereby agree to facilitate the creation of such organizations or mechanisms as may be required to promote these objectives, and to provide such support as each may deem appropriate. Some examples of mechanisms the Parties believe

would be effective in accomplishing shared objectives are:

A. Creation of a self-sustaining organization to help enhancing Thai development efforts as well as to promote U.S-Thai trade and investment objectives;

B. Creation of a self-sustaining institution to nurture a broad range of bilateral linkages by matching Thai problem-solvers with U.S. sources of expertise; and

C. Development and implementation of a new AID program mechanism, tentatively titled the "Friendship Fund", to be administered by the two Governments in a manner consistent with the objectives and criteria outlined in this Memorandum of Understanding, and to support activities in such fields as human resource development, law and development, financial markets, and other areas as may be mutually agreed by the Parties.

In witness whereof, the undersigned, the duly authorized representatives of their respective Governments have signed this Memorandum of Understanding.

Done this twelfth day of July, 1990 in Bangkok.

FOR THE GOVERNMENT OF THE
UNITED STATES OF AMERICA

FOR THE GOVERNMENT OF THE
KINGDOM OF THAILAND



Ronald W. Roskens
AID Administrator



Anuwat Wattanapongsiri
Minister of the Prime
Minister's Office

5C(1) - COUNTRY CHECKLIST (Revised May 1993)

Listed below are statutory criteria applicable to the eligibility of countries to receive the following categories of assistance: (A) both Development Assistance and Economic Support Funds; (B) Development Assistance funds only; or (C) Economic Support Funds only.

COUNTRY ELIGIBILITY CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUND ASSISTANCE

1. Narcotics Certification

(FAA Sec. 490): (This provision applies to assistance provided by grant, sale, loan, lease, credit, guaranty, or insurance, except assistance relating to international narcotics control, disaster and refugee relief assistance, narcotics related assistance, or the provision of food (including the monetization of food) or medicine, and the provision of non-agricultural commodities under P.L. 480. This provision also does not apply to assistance for child survival and AIDS programs which can, under section 542 of the FY 1993 Appropriations Act, be made available notwithstanding any provision of law that restricts assistance to foreign countries.) If the recipient is a "major illicit drug producing country" (defined as a country producing during a fiscal year at least five metric tons of opium or 500 metric tons of coca or marijuana) or a "major drug-transit country" (defined as a country that is a significant direct

source of illicit drugs significantly affecting the United States, through which such drugs are transported, or through which significant sums of drug-related profits are laundered with the knowledge or complicity of the government):

(1) has the President in the April 1 International Narcotics Control Strategy Report (INSCR) determined and certified to the Congress (without Congressional enactment, within 45 calendar days, of a resolution disapproving such a certification), that (a) during the previous year the country has cooperated fully with the United States or taken adequate steps on its own to satisfy the goals and objectives established by the U.N. Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, or that (b) the vital national interests of the United States require the provision of such assistance?

The President in March 1993 certified that Thailand is fully cooperating with the United States or has taken adequate steps on its own sufficient to satisfy the requirements for certification under FAA Section 481(h)

(2) with regard to a major illicit drug producing or drug-transit country for which the President has not certified on April 1, has the President determined and certified to Congress on any other date (with enactment by Congress of a resolution approving such certification) that the vital national interests of the United States require the provision of assistance, and has also certified that (a) the country has undergone a fundamental change in government, or (b) there has been a fundamental change in the conditions that were the reason why the President had not made a "fully cooperating" certification.

N/A

2. **Indebtedness to U.S. citizens**

(FAA Sec. 620(c): If assistance is to a government, is the government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, (b) the debt is not denied or contested by such government, or (c) the indebtedness arises under an unconditional guaranty of payment given by such government or controlled entity?

No

3. **Seizure of U.S. Property** (FAA

Sec. 620(e)(1)): If assistance is to a government, has it (including any government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities?

No

4. **Communist countries** (FAA Secs.

620(a), 620(f), 620D; FY 1993 Appropriations Act Secs. 512, 543): Is recipient country a Communist country? If so, has the President: (a) determined that assistance to the country is vital to the security of the United States, that the recipient country is not controlled by

No

the international Communist conspiracy, and that such assistance will further promote the independence of the recipient country from international communism, or (b) removed a country from applicable restrictions on assistance to communist countries upon a determination and report to Congress that such action is important to the national interest of the United States? Will assistance be provided either directly or indirectly to Angola, Cambodia, Cuba, Iraq, Libya, Vietnam, Iran or Syria? Will assistance be provided to Afghanistan without a certification, or will assistance be provided inside Afghanistan through the Soviet-controlled government of Afghanistan?

None of the listed countries will receive assistance under this Project

No

5. Mob Action (FAA Sec. 620(j)): Has the country permitted, or failed to take adequate measures to prevent, damage or destruction by mob action of U.S. property?

No

6. OPIC Investment Guaranty (FAA Sec. 620(l)): Has the country failed to enter into an investment guaranty agreement with OPIC?

No

7. Seizure of U.S. Fishing Vessels (FAA Sec. 620(o); Fishermen's Protective Act of 1967 (as amended) Sec. 5): (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel because of fishing activities in international waters? (b) If so, has any deduction required by the Fishermen's Protective Act been made?

No

8. Loan Default (FAA Sec. 620(q); FY 1993 Appropriations Act Sec. 518 (Brooke Amendment)): (a) Has the government of the recipient country been in default for more than six months on interest or principal of any loan to the country under the FAA? (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the FY 1990 Appropriations Act appropriates funds?

(a) No

(b) No

9. **Military Equipment** (FAA Sec. 620(s)): If contemplated assistance is development loan or to come from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget and amount of the country's foreign exchange or other resources spent on military equipment? (Reference may be made to the annual "Taking Into Consideration" memo: "Yes, taken into account by the Administrator at time of approval of Agency OYB." This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur.)

N/A

10. **Diplomatic Relations with U.S.** (FAA Sec. 620(t)): Has the country severed diplomatic relations with the United States? If so, have relations been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?

No

11. **U.N. Obligations** (FAA Sec. 620(u)): What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearages taken into account by the A.I.D. Administrator in determining the current A.I.D. Operational Year Budget? (Reference may be made to the "Taking into Consideration" memo.)

Thailand is current in its payments

12. **International Terrorism**

a. **Sanctuary and support** (FY 1993 Appropriations Act Sec. 554; FAA Sec. 620A): Has the country been determined by the President to: (a) grant sanctuary from prosecution to any individual or group which has committed an act of international terrorism, or (b) otherwise support international terrorism, unless the President has waived this restriction on grounds of national security or for humanitarian reasons?

(a) No

(b) No

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b. Airport Security (ISDCA of 1985 Sec. 552(b)). Has the Secretary of State determined that the country is a high terrorist threat country after the Secretary of Transportation has determined, pursuant to section 1115(e)(2) of the Federal Aviation Act of 1958, that an airport in the country does not maintain and administer effective security measures?

No

13. Discrimination (FAA Sec. 666(b)): Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA?

No

14. Nuclear Technology (FAA Secs. 669, 670): Has the country, after August 3, 1977, delivered to any other country or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards, and without special certification by the President? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device? If the country is a non-nuclear weapon state, has it, on or after August 8, 1985, exported (or attempted to export) illegally from the United States any material, equipment, or technology which would contribute significantly to the ability of a country to manufacture a nuclear explosive device? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.)

To our knowledge no such event has occurred

No

15. Algiers Meeting (ISDCA of 1981, Sec. 720): Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Assembly of the U.N. on Sept. 25 and 28, 1981, and did it fail to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the "Taking into Consideration" memo.)

Thailand was not represented at this meeting

16. **Military Coup (FY 1993 Appropriations Act Sec. 513):** Has the duly elected Head of Government of the country been deposed by military coup or decree? If assistance has been terminated, has the President notified Congress that a democratically elected government has taken office prior to the resumption of assistance?

Subsequent to the 1991 Military Coup, the Secretary of State, notified the Congress that a democratically elected government has taken office, prior to the resumption of assistance

17. **Refugee Cooperation (FY 1993 Appropriations Act Sec. 538):** Does the recipient country fully cooperate with the international refugee assistance organizations, the United States, and other governments in facilitating lasting solutions to refugee situations, including resettlement without respect to race, sex, religion, or national origin?

Yes

18. **Exploitation of Children (FAA Sec. 116(b)):** Does the recipient government fail to take appropriate and adequate measures, within its means, to protect children from exploitation, abuse or forced conscription into military or paramilitary services?

No

COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO DEVELOPMENT ASSISTANCE ("DA")

1. **Human Rights Violations (FAA Sec. 116):** Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy?

No

2. **Abortions (FY 1993 Appropriations Act Sec. 534):** Has the President certified that use of DA funds by this country would violate any of the prohibitions against use of funds to pay for the performance of abortions as a method of family planning, to motivate or coerce any person to practice abortions, to pay for the performance of involuntary

No

sterilization as a method of family planning, to coerce or provide any financial incentive to any person to undergo sterilizations, to pay for any biomedical research which relates, in whole or in part, to methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?

COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO ECONOMIC SUPPORT FUNDS ("ESF")

N/A

Human Rights Violations (FAA Sec. 502B): Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the President found that the country made such significant improvement in its human rights record that furnishing such assistance is in the U.S. national interest?

5C(2) - ASSISTANCE CHECKLIST

Listed below are statutory criteria applicable to the assistance resources themselves, rather than to the eligibility of a country to receive assistance. This section is divided into three parts. Part A includes criteria applicable to both Development Assistance and Economic Support Fund resources. Part B includes criteria applicable only to Development Assistance resources. Part C includes criteria applicable only to Economic Support Funds.

CROSS REFERENCE: IS COUNTRY CHECKLIST UP TO DATE?

Yes

A. CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS

1. **Host Country Development Efforts** (FAA Sec. 601(a)): Information and conclusions on whether assistance will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.

2. **U.S. Private Trade and Investment** (FAA Sec. 601(b)): Information and conclusions on how assistance will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

1:

(a) An objective of the Partnership is to stimulate trade flows between the U.S. and Thailand and to generally enhance the attractiveness of joint U.S.-Thai investments in Thailand; these efforts should increase overall international trade; (b) by enhancing the investment climate in Thailand and providing more opportunities for commercial relationships with U.S. businesses, the Partnership should stimulate both Thai and U.S. private initiative and competition; (c) no significant impact; (d) by making more U.S. companies aware of commercial opportunities in Thailand, and encouraging U.S.-Thai linkages, more companies will enter the Thai market and diminish the possibility of monopolies; (e) by stimulating the competitive environment, companies will be forced to remain competitive; (f) no significant impact.

2: A specific objective of the project is to stimulate U.S. trade with an investment in Thailand by making U.S. businesses more aware of commercial opportunities in Thailand in the two areas of project concentration.

3. Congressional Notification

a. General requirement (FY 1993 Appropriations Act Sec. 522; FAA Sec. 534A): If money is to be obligated for an activity not previously justified to Congress, or for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the Appropriations Act notification requirement has been waived because of substantial risk to human health or welfare)?

A Congressional Notification has been prepared for this project. It cleared without Congressional objection in April 1993

b. Notice of new account obligation (FY 1993 Appropriations Act Sec. 514): If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?

N/A

c. Cash transfers and nonproject sector assistance (FY 1993 Appropriations Act Sec. 571(b)(3)): If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U.S. interests to be served and a description of any economic policy reforms to be promoted?

N/A

4. Engineering and Financial Plans (FAA Sec. 611(a)): Prior to an obligation in excess of \$500,000, will there be: (a) engineering, financial or other plans necessary to carry out the assistance; and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

Yes; such information is included in the Project Paper

5. Legislative Action (FAA Sec. 611(a)(2)): If legislative action is required within recipient country with respect to an obligation in excess of \$500,000, what is the basis for a reasonable expectation that such action

No legislative action is required in order for the project to proceed.

will be completed in time to permit orderly accomplishment of the purpose of the assistance?

6. Water Resources (FAA Sec. 611(b); FY 1993 Appropriations Act Sec. 501): If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U.S.C. 1962, et seq.)? (See A.I.D. Handbook 3 for guidelines.)

N/A

7. Cash Transfer and Sector Assistance (FY 1993 Appropriations Act Sec. 571(b)): Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?

N/A

8. Capital Assistance (FAA Sec. 611(e)): If project is capital assistance (e.g., construction), and total U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?

N/A

9. Multiple Country Objectives (FAA Sec. 601(a)): Information and conclusions on whether projects will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

N/A; This is not a Multilateral assistance project

10. U.S. Private Trade (FAA Sec. 601(b)): Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise):

See A, 2, above,

11. Local Currencies

a. Recipient Contributions (FAA Secs. 612(b), 636(h)): Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized in lieu of dollars.

The Cooperating Country will contribute in cash or "in kind" the equivalent of U.S. \$7,000,000 for the project. This is additional to any costs borne by cooperating Thai private sector partners to a project transaction.

b. U.S.-Owned Currency (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release?

No

c. Separate Account (FY 1993 Appropriations Act Sec. 571). If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies:

N/A

(1) Has A.I.D. (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A.I.D. and that government to monitor and account for deposits into and disbursements from the separate account?

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

(3) Has A.I.D. taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

(4) If assistance is terminated to a country, will any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government?

12. Trade Restrictions

a. Surplus Commodities (FY 1993 Appropriations Act Sec. 520(a)): If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity?

Assistance for a. Surplus Commodities or b. Textiles activities subject to these trade restrictions will be prohibited

b. Textiles (Lautenberg Amendment) (FY 1993 Appropriations Act Sec. 520(c)): Will the assistance (except for programs in Caribbean Basin Initiative countries under U.S. Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U.S.-made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U.S. exports, of

textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?

No

13. Tropical Forests (FY 1991 Appropriations Act Sec. 533(c)(3) (as referenced in section 532(d) of the FY 1993 Appropriations Act): Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas?

No

14. PVO Assistance

a. Auditing and registration (FY 1993 Appropriations Act Sec. 536): If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A.I.D., and is the PVO registered with A.I.D.?

N/A

b. Funding sources (FY 1993 Appropriations Act, Title II, under heading "Private and Voluntary Organizations"): If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government?

N/A

15. Project Agreement Documentation (State Authorization Sec. 139 (as interpreted by conference report)): Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A.I.D. LEG within 60 days of the agreement's entry into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision).

N/A. Since planned A.I.D. LOP funding is less than \$25 million, this reporting requirement is inapplicable at this time

To the maximum extent feasible metric measurements will be included in procurements, grants and other project activities

16. **Metric System** (Omnibus Trade and Competitiveness Act of 1988 Sec. 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

No specific project activities are directed at women-owned businesses, either in Thailand or in the U.S.; however, efforts will be made to ensure project activities are widely publicized so that interested women-owned businesses can participate.

17. **Women in Development** (FY 1993 Appropriations Act, Title II, under heading "Women in Development"): Will assistance be designed so that the percentage of women participants will be demonstrably increased?

18. **Regional and Multilateral Assistance** (FAA Sec. 209): Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs.

N/A

19. **Abortions** (FY 1993 Appropriations Act, Title II, under heading "Population, DA," and Sec. 524):

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a. Will assistance be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? No

b. Will any funds be used to lobby for abortion? No

20. Cooperatives (FAA Sec. 111): Will assistance help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life? N/A

21. U.S.-Owned Foreign Currencies

a. Use of currencies (FAA Secs. 612(b), 636(h); FY 1993 Appropriations Act Secs. 507, 509): Are steps being taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. are utilized in lieu of dollars to meet the cost of contractual and other services. N/A

b. Release of currencies (FAA Sec. 612(d)): Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? No

22. Procurement

a. Small business (FAA Sec. 602(a)): Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? Limited procurement will take place; U.S. procurement will be fully advertised in accordance with A.I.D. policy

b. U.S. procurement (FAA Sec. 604(a) as amended by section 597 of the FY 1993 Appropriations Act): Will all procurement be from the U.S., the recipient country, or developing countries except as otherwise determined in accordance with the criteria of this section? Yes

c. Marine insurance (FAA Sec. 604(d)): If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company?

N/A

d. Non-U.S. agricultural procurement (FAA Sec. 604(e)): If non-U.S. procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)

N/A

e. Construction or engineering services (FAA Sec. 604(g)): Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries.)

N/A

f. Cargo preference shipping (FAA Sec. 603)): Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent such vessels are available at fair and reasonable rates?

No

g. Technical assistance (FAA Sec. 621(a)): If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the

Yes

facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

Yes

h. U.S. air carriers

(International Air Transportation Fair Competitive Practices Act, 1974): If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?

Yes

i. Termination for convenience of U.S. Government (FY 1993 Appropriations Act Sec. 504): If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?

Such a provision will be included in all A.I.D. direct contracts

j. Consulting services

(FY 1993 Appropriations Act Sec. 523): If assistance is for consulting service through procurement contract pursuant to 5 U.S.C. 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)?

N/A

k. Metric conversion

(Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec. 2, and as implemented through A.I.D. policy): Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A.I.D. specifications use metric units of measure from the earliest programmatic stages, and from the earliest

To the maximum extent feasible, metric measurements will be included in all procurements, grants and other appropriate project activities.

documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

1. Competitive Selection

Procedures (FAA Sec. 601(e)): Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes

23. Construction

a. Capital project (FAA Sec. 601(d)): If capital (e.g., construction) project, will U.S. engineering and professional services be used?

N/A. This is not a construction project

b. Construction contract (FAA Sec. 611(c)): If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

c. Large projects, Congressional approval (FAA Sec. 620(k)): If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the Congressional Presentation), or does assistance have the express approval of Congress?

24. U.S. Audit Rights (FAA Sec. 301(d)): If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?

N/A

25. Communist Assistance (FAA Sec. 620(h)). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries?

Yes

26. Narcotics

a. Cash reimbursements (FAA Sec. 483): Will arrangements preclude use of financing to make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? Yes

b. Assistance to narcotics traffickers (FAA Sec. 487): Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have either: (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances); or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance? Yes

27. Expropriation and Land Reform (FAA Sec. 620(g)): Will assistance preclude use of financing to compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? Yes

28. Police and Prisons (FAA Sec. 660): Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? Yes

29. CIA Activities (FAA Sec. 662): Will assistance preclude use of financing for CIA activities? Yes

30. Motor Vehicles (FAA Sec. 636(i)): Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained? Yes

31. **Military Personnel** (FY 1993 Appropriations Act Sec. 503): Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel? Yes
32. **Payment of U.N. Assessments** (FY 1993 Appropriations Act Sec. 505): Will assistance preclude use of financing to pay U.N. assessments, arrearages or dues? Yes
33. **Multilateral Organization Lending** (FY 1993 Appropriations Act Sec. 506): Will assistance preclude use of financing to carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)? Yes
34. **Export of Nuclear Resources** (FY 1993 Appropriations Act Sec. 510): Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology? Yes
35. **Repression of Population** (FY 1993 Appropriations Act Sec. 511): Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? Yes
36. **Publicity or Propaganda** (FY 1993 Appropriations Act Sec. 516): Will assistance be used for publicity or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress? No

37. Marine Insurance (FY 1993 Appropriations Act Sec. 560): Will any A.I.D. contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U.S. marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate?

Yes

38. Exchange for Prohibited Act (FY 1993 Appropriations Act Sec. 565): Will any assistance be provided to any foreign government (including any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law?

No

39. Commitment of Funds (FAA Sec. 635(h)): Does a contract or agreement entail a commitment for the expenditure of funds during a period in excess of 5 years from the date of the contract or agreement?

No

40. Impact on U.S. Jobs (FY 1993 Appropriations Act, Sec. 599):

(a) Will any financial incentive be provided to a business located in the U.S. for the purpose of inducing that business to relocate outside the U.S. in a manner that would likely reduce the number of U.S. employees of that business?

No. (See Annex L)

(b) Will assistance be provided for the purpose of establishing or developing an export processing zone or designated area in which the country's tax, tariff, labor, environment, and safety laws do not apply? If so, has the President determined and certified that such assistance is not likely to cause a loss of jobs within the U.S.?

No. (See Annex L)

(c) Will assistance be provided for a project or activity that contributes to the violation of internationally recognized workers rights, as defined in section 502(a)(4) of the Trade Act of 1974, of workers in the recipient country?

No. (See Annex L)

B. CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

1. Agricultural Exports (Bumpers Amendment) (FY 1993 Appropriations Act Sec. 521(b), as interpreted by conference report for original enactment): If assistance is for agricultural development activities (specifically, any testing or breeding feasibility study, variety improvement or introduction, consultancy, publication, conference, or training), are such activities: (1) specifically and principally designed to increase agricultural exports by the host country to a country other than the United States, where the export would lead to direct competition in that third country with exports of a similar commodity grown or produced in the United States, and can the activities reasonably be expected to cause substantial injury to U.S. exporters of a similar agricultural commodity; or (2) in support of research that is intended primarily to benefit U.S. producers?

N/A

2. Tied Aid Credits (FY 1993 Appropriations Act, Title II, under heading "Economic Support Fund"): Will DA funds be used for tied aid credits?

No

3. Appropriate Technology (FAA Sec. 107): Is special emphasis placed on use of appropriate technology (defined as relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

This project does not involve the provision of appropriate technology as so defined.

4. **Indigenous Needs and Resources** (FAA Sec. 281(b)): Describe extent to which the activity recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.

5. **Economic Development** (FAA Sec. 101(a)): Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

6. **Special Development Emphases** (FAA Secs. 102(b), 113, 281(a)): Describe extent to which activity will: (a) effectively involve the poor in development by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, dispersing investment from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using appropriate U.S. institutions; (b) encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries.

7. **Recipient Country Contribution** (FAA Secs. 110, 124(d)): Will the recipient country provide at least 25 percent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

This project will help contain the rapidly spreading HIV/AIDS epidemic; better manage and implement Thailand's environmental planning in dealing with natural resources and urban and industrial pollution.

Yes. The direct beneficiaries of the project will be Thai, principally living outside of Bangkok who will benefit from the containment of the HIV/AIDS epidemic; improved management of Thailand's natural resources and the environment; and from the technical assistance, training and technology transfer that will stimulate the creation of jobs and raise incomes.

The project will address "equity in development" issues by providing technical training and technology transfer which will improve employment and earning potential for workers in emerging high growth industries in Thailand.

Yes

8. **Benefit to Poor Majority** (FAA Sec. 128(b)): If the activity attempts to increase the institutional capabilities of private organizations or the government of the country, or if it attempts to stimulate scientific and technological research, has it been designed and will it be monitored to ensure that the ultimate beneficiaries are the poor majority? N/A
9. **Abortions** (FAA Sec. 104(f); FY 1993 Appropriations Act, Title II, under heading "Population, DA," and Sec. 534):
- a. Are any of the funds to be used for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions? No
- b. Are any of the funds to be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to undergo sterilizations? No
- c. Are any of the funds to be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? No
- d. Will funds be made available only to voluntary family planning projects which offer, either directly or through referral to, or information about access to, a broad range of family planning methods and services? N/A
- e. In awarding grants for natural family planning, will any applicant be discriminated against because of such applicant's religious or conscientious commitment to offer only natural family planning? N/A
- f. Are any of the funds to be used to pay for any biomedical research which relates, in whole or in part, to N/A

methods of, or the performance of, abortions or involuntary sterilization as a means of family planning?

g. Are any of the funds to be made available to any organization if the President certifies that the use of these funds by such organization would violate any of the above provisions related to abortions and involuntary sterilization?

N/A

10. Contract Awards (FAA Sec. 601(e)): Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes

11. Disadvantaged Enterprises (FY 1993 Appropriations Act Sec. 563): What portion of the funds will be available only for activities of economically and socially disadvantaged enterprises, historically black colleges and universities, colleges and universities having a student body in which more than 40 percent of the students are Hispanic Americans, and private and voluntary organizations which are controlled by individuals who are black Americans, Hispanic Americans, or Native Americans, or who are economically or socially disadvantaged (including women)?

Any contract issued under the project will require that 10% of all subcontracting activities be placed with such disadvantaged entities

12. Biological Diversity (FAA Sec. 119(g)): Will the assistance: (a) support training and education efforts which improve the capacity of recipient countries to prevent loss of biological diversity; (b) be provided under a long-term agreement in which the recipient country agrees to protect ecosystems or other wildlife habitats; (c) support efforts to identify and survey ecosystems in recipient countries worthy of protection; or (d) by any direct or indirect means significantly degrade national parks or similar protected areas or introduce exotic plants or animals into such areas?

In management of natural resources and the environment, USAID will work with the RTG and an array of Thai NGOs to support activities such as the Northern Thailand Upper Watershed project, which seeks integrated solutions to rehabilitate vital watershed areas. USAID will also promote U.S.-Thai linkages on critical Thai environmental issues of: water waste treatment, solid waste management and the major environmental and public health issue of hazardous waste collection and disposal.

13. Tropical Forests (FAA Sec. 118; FY 1991 Appropriations Act Sec. 533(c) as referenced in section 532(d) of the FY 1993 Appropriations Act):

Yes, See Project Paper Annex F

a. A.I.D. Regulation 16: Does the assistance comply with the environmental procedures set forth in A.I.D. Regulation 16?

b. Conservation: Does the assistance place a high priority on conservation and sustainable management of tropical forests? Specifically, does the assistance, to the fullest extent feasible: (1) stress the importance of conserving and sustainably managing forest resources; (2) support activities which offer employment and income alternatives to those who otherwise would cause destruction and loss of forests, and help countries identify and implement alternatives to colonizing forested areas; (3) support training programs, educational efforts, and the establishment or strengthening of institutions to improve forest management; (4) help end destructive slash-and-burn agriculture by supporting stable and productive farming practices; (5) help conserve forests which have not yet been degraded by helping to increase production on lands already cleared or degraded; (6) conserve forested watersheds and rehabilitate those which have been deforested; (7) support training, research, and other actions which lead to sustainable and more environmentally sound practices for timber harvesting, removal, and processing; (8) support research to expand knowledge of tropical forests and identify alternatives which will prevent forest destruction, loss, or degradation; (9) conserve biological diversity in forest areas by supporting efforts to identify, establish, and maintain a representative network of protected tropical forest ecosystems on a worldwide basis, by making the establishment of protected areas a condition of support for activities involving forest clearance or degradation,

See 12., above. The project's environmental activities will take place primarily in secondary and smaller cities

and by helping to identify tropical forest ecosystems and species in need of protection and establish and maintain appropriate protected areas; (10) seek to increase the awareness of U.S. Government agencies and other donors of the immediate and long-term value of tropical forests; (11) utilize the resources and abilities of all relevant U.S. government agencies; (12) be based upon careful analysis of the alternatives available to achieve the best sustainable use of the land; and (13) take full account of the environmental impacts of the proposed activities on biological diversity?

c. Forest degradation: Will assistance be used for: (1) the procurement or use of logging equipment, unless an environmental assessment indicates that all timber harvesting operations involved will be conducted in an environmentally sound manner and that the proposed activity will produce positive economic benefits and sustainable forest management systems; (2) actions which will significantly degrade national parks or similar protected areas which contain tropical forests, or introduce exotic plants or animals into such areas; (3) activities which would result in the conversion of forest lands to the rearing of livestock; (4) the construction, upgrading, or maintenance of roads (including temporary haul roads for logging or other extractive industries) which pass through relatively undergraded forest lands; (5) the colonization of forest lands; or (6) the construction of dams or other water control structures which flood relatively undergraded forest lands, unless with respect to each such activity an environmental assessment indicates that the activity will contribute significantly and directly to improving the livelihood of the rural poor and will be conducted in an environmentally sound manner which supports sustainable development?

See 12., above.

d. **Sustainable forestry:** If assistance relates to tropical forests, will project assist countries in developing a systematic analysis of the appropriate use of their total tropical forest resources, with the goal of developing a national program for sustainable forestry?

N/A

e. **Environmental impact statements:** Will funds be made available in accordance with provisions of FAA Section 117(c) and applicable A.I.D. regulations requiring an environmental impact statement for activities significantly affecting the environment?

Yes

14. **Energy** (FY 1991 Appropriations Act Sec. 533(c) as referenced in section 532(d) of the FY 1993 Appropriations Act): If assistance relates to energy, will such assistance focus on: (a) end-use energy efficiency, least-cost energy planning, and renewable energy resources, and (b) the key countries where assistance would have the greatest impact on reducing emissions from greenhouse gases?

N/A

15. **Debt-for-Nature Exchange** (FAA Sec. 463): If project will finance a debt-for-nature exchange, describe how the exchange will support protection of: (a) the world's oceans and atmosphere, (b) animal and plant species, and (c) parks and reserves; or describe how the exchange will promote: (d) natural resource management, (e) local conservation programs, (f) conservation training programs, (g) public commitment to conservation, (h) land and ecosystem management, and (i) regenerative approaches in farming, forestry, fishing, and watershed management.

N/A

16. **Deobligation/Reobligation** (FY 1993 Appropriations Act Sec. 515): If deob/reob authority is sought to be exercised in the provision of DA assistance, are the funds being obligated for the same general purpose, and for countries within the same region as

N/A

originally obligated, and have the House and Senate Appropriations Committees been properly notified?

17. Loans

a. Repayment capacity (FAA Sec. 122(b)): Information and conclusion on capacity of the country to repay the loan at a reasonable rate of interest.

N/A. This is a grant-funded activity.

b. Long-range plans (FAA Sec. 122(b)): Does the activity give reasonable promise of assisting long-range plans and programs designed to develop economic resources and increase productive capacities?

c. Interest rate (FAA Sec. 122(b)): If development loan is repayable in dollars, is interest rate at least 2 percent per annum during a grace period which is not to exceed ten years, and at least 3 percent per annum thereafter?

d. Exports to United States (FAA Sec. 620(d)): If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 percent of the enterprise's annual production during the life of the loan, or has the requirement to enter into such an agreement been waived by the President because of a national security interest?

18. Development Objectives (FAA Secs. 102(a), 111, 113, 281(a)): Extent to which activity will: (1) effectively involve the poor in development, by expanding access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (2) help develop cooperatives, especially by technical

The Partnership's activities will be focused on critical Thai development issues, mainly in the poorer regions of the country. The five-year \$20 million project will develop sustainable activities between the U.S. and Thailand that will: slow the spread of the HIV/AIDs epidemic and improve management of natural resources and the environment.

assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (3) support the self-help efforts of developing countries; (4) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (5) utilize and encourage regional cooperation by developing countries?

19. Agriculture, Rural Development and Nutrition, and Agricultural Research (FAA Secs. 103 and 103A):

a. Rural poor and small farmers: If assistance is being made available for agriculture, rural development or nutrition, describe extent to which activity is specifically designed to increase productivity and income of rural poor; or if assistance is being made available for agricultural research, has account been taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made.

In the management of natural resources and the environment, project will support activities such as the Northern Thailand Upper Watershed project, which seeks integrated solutions to rehabilitate vital watershed areas.

b. Nutrition: Describe extent to which assistance is used in coordination with efforts carried out under FAA Section 104 (Population and Health) to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value; improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people.

N/A

c. Food security: Describe extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the

N/A

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poor, through measures encouraging domestic production, building national food reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

20. **Population and Health (FAA Secs. 104(b) and (c)):** If assistance is being made available for population or health activities, describe extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems, and other modes of community outreach.

21. **Education and Human Resources Development (FAA Sec. 105):** If assistance is being made available for education, public administration, or human resource development, describe (a) extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, and strengthens management capability of institutions enabling the poor to participate in development; and (b) extent to which assistance provides advanced education and training of people of developing countries in such disciplines as are required for planning and implementation of public and private development activities.

22. **Energy, Private Voluntary Organizations, and Selected Development Activities (FAA Sec. 106):** If assistance is being made available for energy, private voluntary organizations, and selected development problems, describe extent to which activity is:

a. concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and facilitative of

This project will help slow the spread of the HIV/AIDS epidemic a high priority of the RTG. Recent projections indicate that up to 4 million Thais will be infected by the year 2000, at a cost of \$9 billion to the Thai economy in health care and lost production. USAID proposes to cost share with the RTG Office of the Prime Minister of an HIV/AIDS activity that will fund joint U.S.-Thai policy workshops research studies and evaluations.

The project will increase skills and job opportunities as well as alleviate critical shortages of skilled workers. It will provide technical training and technology transfer that will improve earnings potential for workers in emerging high growth industries in Thailand.

The project will work with Thai NGOs to develop self-sustaining HIV/AIDS "Education in the Workplace" Programs.

N/A. This project is not especially focused in this area.

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research on and development and use of small-scale, decentralized, renewable energy sources for rural areas, emphasizing development of energy resources which are environmentally acceptable and require minimum capital investment;

b. concerned with technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations;

c. research into, and evaluation of, economic development processes and techniques;

d. reconstruction after natural- or manmade disaster and programs of disaster preparedness; -----N/A.

e. for special development problems, and to enable proper utilization of infrastructure and related projects funded with earlier U.S. assistance;

f. for urban development, especially small, labor-intensive enterprises, marketing systems for small producers, and financial or other institutions to help urban poor participate in economic and social development.

The partnership represents an advanced developing country strategy that will focus U.S. expertise, know-how and technology on critical Thai development issues

All activities will place emphasis on collaboration with the RTG in identifying critical development issues, prior to engaging U.S. expertise and seeking tangible outputs.

The Partnership will support U.S.-Thai transactions addressing Thai development issues; creating Thai institutional capability; engaging U.S. knowhow, expertise and technology; leveraging non-USAID funding; and defining sources of future revenue.

----- With respect to U.S.-Thai linkages on critical Thai environmental issues of waste water management and waste collection and disposal, these activities will take place mainly in the secondary and smaller cities.

N/A

23. Capital Projects (Jobs Through Export Act of 1992, Secs. 303 and 306(d)): If assistance is being provided for a capital project, is the project developmentally sound and will the project measurably alleviate the worst manifestations of poverty or directly promote environmental safety and sustainability at the community level?

CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY

1. Economic and Political Stability (FAA Sec. 531(a)): Will this assistance promote economic and political stability?

N/A

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To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?

2. **Military Purposes (FAA Sec. 531(e)):** Will this assistance be used for military or paramilitary purposes? N/A

3. **Commodity Grants/Separate Accounts (FAA Sec. 609):** If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? (For FY 1993, this provision is superseded by the separate account requirements of FY 1993 Appropriations Act Sec. 571(a), see Sec. 571(a)(5).) N/A

4. **Generation and Use of Local Currencies (FAA Sec. 531(d)):** Will ESF funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106? (For FY 1993, this provision is superseded by the separate account requirements of FY 1993 Appropriations Act Sec. 571(a), see Sec. 571(a)(5).) N/A

5. **Cash Transfer Requirements (FY 1993 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec. 571(b)).** If assistance is in the form of a cash transfer: N/A

a. **Separate account:** Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds? N/A

b. **Local currencies:** Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A.I.D. entered into an agreement with that government setting forth the amount of the local currencies to be generated, the terms and N/A

conditions under which they are to be used, and the responsibilities of A.I.D. and that government to monitor and account for deposits and disbursements?

c. U.S. Government use of local currencies: Will all such local currencies also be made available to the U.S. government as the U.S. determines necessary for the requirements of the U.S. Government, or to carry out development assistance (including DFA) or ESF purposes?

N/A

d. Congressional notice: Has Congress received prior notification providing in detail how the funds will be used, including the U.S. interests that will be served by the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance?

N/A

6. Capital Projects (Jobs Through Exports Act of 1992, Sec. 306, FY 1993 Appropriations Act, Sec. 595): If assistance is being provided for a capital project, will the project be developmentally-sound and sustainable, i.e., one that is (a) environmentally sustainable, (b) within the financial capacity of the government or recipient to maintain from its own resources, and (c) responsive to a significant development priority initiated by the country to which assistance is being provided. (Please note the definition of "capital project" contained in section 595 of the FY 1993 Appropriations Act.)

N/A

WHY THE PARTNERSHIP IS GOOD FOR DEVELOPMENT

The Partnership Project represents a major shift in USAID's traditional approach to providing development assistance because USAID will neither finance nor manage Partnership activities. Instead, the Partnership Project, using small amounts of seed money, will act as a catalyst to induce U.S. and Thai partners to undertake developmentally significant activities with their own resources and energies. Although USAID will bring comparatively few resources to the table, the Partnership strategy is likely to result in far greater impact per unit of expenditure than traditional assistance approaches. The Partnership should be viewed as an important pilot-demonstration of how to engage the full array of U.S. and Thai public, private, NGO, and university capabilities and resources against urgent Thai development priorities.

The Partnership is good for Thai development for very fundamental reasons. First, it is strategically focused on urgent development issues. Second, it encourages greater resource mobilization against the target problem areas than would have otherwise occurred. Third, it encourages greater resource efficiency, faster solutions, and higher quality solutions than would otherwise have occurred. Fourth, it encourages long-term developmental impact by its emphasis on technology transfer, human resource development, policy reform, institutional change, and the establishment of mutual interest linkages with U.S. institutions. Fifth, the Partnership is potentially the means to achieve extremely high developmental impact from relatively small commitments of public resources.

STRATEGICALLY FOCUSED - The Partnership is focused on urgent development issues that pose significant threats to Thailand's economic prosperity and long-term well-being. HIV/AIDS and environmental and natural resource management pose two of the gravest threats to Thailand's future and are at the center of the Partnership's focus. The Partnership is also intended to promote broad-based participation in Thai economic growth through its focus on increasing workforce productivity.

GREATER RESOURCE MOBILIZATION - The Partnership potentially mobilizes far greater resources against the target problem areas than otherwise would have occurred. Many Partnership solutions will be essentially self-financing because of the introduction of private sector resources and cost recovery principles. In effect, the Partnership will promote the private provision of public services by assisting Thai authorities to identify policies and regulations that constrain private sector participation. It is anticipated that the Partnership will also promote the mobilization of public, NGO, and university resources and energies against the target problem areas as well.

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GREATER RESOURCE EFFICIENCY - Resources effectively allocated against urgent development issues will tend to earn higher social-economic rates of return than they would have in their next best alternative use. In addition to the gains to be obtained from superior resource allocation, the Partnership can be expected to improve the efficiency of resource utilization because of the greater involvement of private sector management and the use of state of the art technology and technical solutions. The Partnership will concentrate on development issues where the U.S. has a clear comparative advantage in providing technology and technical solutions.

FASTER SOLUTIONS - Partnership solutions are likely to be implemented faster because of the greater likelihood of private sector involvement and management. Implementation is also likely to be faster because of the strategic focus of the Partnership on key constraining factors, whether it be the absence of regulations or necessary laws, the presence of bad regulations or policies, or the need for key institutional strengthening. Beyond the self-evident benefit of obtaining faster solutions to urgent problems, quicker solutions also translate into lower costs and higher rates of return.

HIGHER QUALITY SOLUTIONS - Partnership solutions are likely to be of the highest quality and higher than would otherwise have been obtained because of the large potential array of U.S. partners from which Thailand will be able to choose. It is expected that U.S. partners will be able to bring state of the art technology and techniques and long years of experience to many of problems within the Partnership's areas of focus. In addition, it is anticipated that a higher proportion of solutions are likely to involve the Thai and U.S. private sector which can be expected to deliver higher quality results on average than solutions obtained under more typical development projects.

LONG-TERM DEVELOPMENT IMPACT - Partnership solutions by their very nature stress several factors that will tend to promote and sustain long-term development impact. The Partnership emphasizes technology transfer, human resource development, policy reform, institutional change, and the establishment of mutual interest linkages with U.S. institutions. All of this is good for future solutions as well as resolving the immediate problem at hand. In the process of solving one problem the Partnership will tend to lay the foundation for solving others in the future. Beyond positive second and third round effects, it is obvious that the HIV/AIDS and environmental and natural resource management problems are very long-term problems that must be effectively addressed as early as possible if highly negative long-term development impacts are to be avoided.

U.S.-Thailand
Development Partnership
First Year Program

Strategy --- The Partnership will focus on two critical Thai development issues: the spreading HIV epidemic and environmental management, with an emphasis on environmental infrastructure. The approach will be to address these issues with U.S. expertise, knowhow, technology and technical assistance, as well as to structure activities in a manner that provides sustainable solutions. The keys to the Partnership are:

- * Thai Development Problem
- * U.S. Linkage
- * Highly Leveraged Partnership Agreements
- * Sustainability

HIV/AIDS --- This pandemic looms as a critical Thailand development, as well as transnational, issue that could cripple the Thai economy over the next few years. Thai public health officials estimate as many as 400,000 to 600,000 people are currently HIV positive, with possibly 1,000 Thais becoming infected every day. The more dire projections predict that 3 to 5 million people could be infected by the year 2000. In just seven years, there could be 320,000 living AIDS cases and 170,000 deaths, making AIDS one of the leading causes of death. One of the main reasons for the quick spread of AIDS is Thailand's sex industry, which not only serves the local population but, through contact with foreign tourists, can also spread HIV beyond Thailand's boundaries. To combat the spread there is an immediate need for improved diagnostic technology, aggressive AIDS awareness and education programs, and innovative ideas to provide young women promising job opportunities.

- * U.S. HIV Technology Transfers \$400,000

There is a need for U.S. technology for quick, inexpensive venereal disease testing, which will enhance diagnosis and treatment of sexually transmitted diseases (STDs), a major emphasis of the RTG AIDS action program. USAID funds will be used for technology identification, technical assistance,

training, training materials, and quality control. USAID has already demonstrated the possibility of actively engaging the private sector in the delivery of testing services through its collaboration with PATH, FHI and the Thai laboratory testing company, Bria.

* Chambers of Commerce AIDS Alert \$50,000

Cost-sharing with U.S. corporations in Thailand for the production of an AIDS manual that will be presented to U.S. corporations in Thailand at a major American Chamber of Commerce seminar in which the U.S. Ambassador and the Chairman of Levis Strauss will discuss the importance of AIDS education for U.S. corporations operating in Thailand. The expectation is that, following the AmCham kickoff, other Chambers of Commerce (Japanese, European, etc.) will follow suit with AIDS education programs. USAID funds would go for adaptation of a U.S. corporate AIDS manual for use in Thailand, including a Thai language version. U.S. corporations and the American Chamber of Commerce will cost share in the seminar.

* AIDS Education Workplace Program \$1,000,000

USAID will cost-share the development and implementation of an AIDS education in the workplace program with the Thai Red Cross and the Population Development Association (Meechai Viravaidya). The program will be offered for a fee, and will provide guidance on developing a corporate AIDS policy; seminars and materials for corporate workers; training of a key employee as the AIDS referral point; access to the AIDS action "hot line follow-up"; and information on testing and treatment for employees and family. USAID funds will go for technical assistance to develop program elements, especially to share the U.S. experience with such programs; development of a business plan to ensure the sustainability of the venture; and cost-sharing on startup costs to include equipment and staff technical assistance. Other donor and RTG funds will be sought. The expectation is that over time the program will be self-sustaining through company fees for service.

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* Opportunities for Low Income, Rural Women \$550,000

Telecommunications is an expanding industry in Thailand and Thai telcom companies are seeking entry-level technicians to install and service telephones. TelcomAsia and the RTG Telephone Organization of Thailand (TOT) have indicated they would welcome the opportunity to employ rural women on a probationary basis for some of these jobs. Accordingly, USAID is designing a program that will recruit and train lower income young women from provinces in the North and Northeast, areas known as a primary source of commercial sex workers. The young women will be trained at Yonok University in Northern Thailand in an 8-12 week technical course that will be designed and assisted gratis by NYNEX and AT&T. The young women will then be offered either technical jobs, or for those that do not pass the technical training course, positions in telephone order taking and clerical work. USAID funds will go for the design of a recruiting program; pre-entry testing for the young women; equipment for the training center; and follow up on trainee performance. If successful, the Telephone Organization of Thailand has expressed an interest in funding the Yonok Training Center.

* Street Children Evaluation \$50,000

Street children, of which there are an estimated 10,000 in Bangkok, are easy prey for purveyors of child prostitution which can easily result in these children becoming infected with HIV. A pioneering program (Better Life For Children) has had some success in bringing these children into a residence, enrolling them in school, and has actually graduated some of the children into jobs. USAID plans to support an evaluation that will document this success; make a presentation to the Bangkok Government to demonstrate the benefits of rescuing children from the streets; and seek Government funds to ensure the sustainability of the program. In addition, an exploratory effort will be made to link the Bangkok program to a similar fledgling program in Northern Thailand where child prostitution and AIDs is rampant.

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Environmental Management and Infrastructure --- Thailand's environment and natural resources have suffered as a result of the country's rapid economic growth. In the mid-1960s 53% of Thailand was covered with forest; by 1988 this had declined to 28%. Thailand's beaches and islands, major tourist assets, have been polluted by rapid development and inadequate environmental infrastructure--water, waste water systems, solid waste collection and disposal. The Gulf of Thailand is increasingly polluted due to deliberate dumping of "oil slop" into the Gulf by ships approaching Bangkok. Urban environment is also a major problem, with major river pollution, no control over the 2.0 million tons of hazardous and toxic wastes that are generated annually, and serious municipal waste and waste water issues throughout Thailand. Most urban refuse is left in the open or dumped into rivers and streams. Recently, the RTG has stepped up its funding for the environment and has begun to institute new environmental regulations, monitoring, and enforcement. The RTG has begun to enforce regulations which will make potential environmental solutions much more attractive to private sector investors. In other cases, the RTG has budgeted funds for problem solving, but lacks the knowhow or technology to address the problem. There is an immediate need for U.S. technical assistance to develop U.S.-Thai Partnerships to address these critical environmental management issues.

* U.S.-Thai City Twinning \$300,000

USAID will fund a pilot program to bring U.S. municipal problem-solving experience and environmental expertise to bear on Thai municipal environmental problems such as water, waste water, solid waste management, and air quality. The idea is to bring the U.S. practitioners' knowhow and exercise to Thailand to resolve specific environmental problems and share with Thai municipal officials the U.S. environmental experience. Preliminary contacts in the U.S. have shown that cities such as Knoxville, Orlando, Savannah, and New Orleans would be willing to enter into such relationships in providing their expertise to Thai cities. U.S. and Thai cities will be expected to cost share with USAID in the test of this technical assistance activity. Thai cities would

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host the U.S. city experts; the U.S. cities would provide their employees on a no-cost basis; USAID would support the initial exchanges as well follow up

technical assistance to the Thai cities. Northwest Airlines has offered to support the effort by providing some free international travel for the initial visits. The RIG is interested in a comprehensive environmental management program for the industrial Eastern Seaboard of Thailand. This would include a

hazardous waste collection and disposal system, an environmental preventive care program; an emergency disaster preparedness program, a watershed program, and a program to address "slop oil" dumping in the Gulf of Thailand. USAID

funds would support U.S. technical assistance from the EPA and the World Environmental Center to strengthen RIG environmental monitoring and enforcement on the Eastern Seaboard. The RIG and private sector would fund "constructed wetlands" to deal with municipal and industrial waste water. Constructed wetlands are a series of engineered lagoons filled with special plants, such as cattail, brushes, and reeds. As waste water flows through the

lagoons, the plants provide a natural filter, digesting some waste, releasing oxygen into the water and allowing solid matter to settle on the bottom. Accelerated Watershed Rehabilitation

USAID proposes to support a major pilot test of wetlands in the four major areas of North, Northeast, Central and Southern Thailand. USAID funds would go for U.S. technical assistance in engineering and design. The RTG and private industry would pay all construction and maintenance costs. This area has lost vast tracts of forests over the past three decades, with serious environmental repercussions. Through the Partnership, USAID has

worked with the RTG (including the Prime Minister's Office) to begin the process of mapping the area and developing a profile of the natural resource base. Using the Partnership approach, USAID has helped the RTG to identify

a U.S.-developed technology for this initial mapping exercise. [Note: We anticipate that additional partnership opportunities will arise as the master plan is developed and restoration begins.]

Thailand is facing a serious air pollution problem due to coal burning power plants in Mae Moh, Northern Thailand, which generates about 15% of Thailand's power. Thailand is interested in a U.S.-Thai initiative to mount a three part program in Mae Moh: a study of health effects; an assessment of air quality control and monitoring requirements, and recommendations for technical fixes as appropriate for the power plants. The RTG has budgeted \$400 million for the capital equipment to remedy the situation. USAID funds would go for U.S. technical assistance in health and air quality; expertise from the U.S. EPA and DOE to share with Thailand the latest in U.S. coal pollution abatement technology; and the potential establishment of a twinning relationship with a U.S. coal-burning electric utility.

* Eastern Seaboard Industrial Environmental Program \$500,000

The RTG is interested in a comprehensive environmental management program for the industrial Eastern Seaboard of Thailand. This would include a hazardous waste collection and disposal system, an environmental preventive care program; an emergency disaster preparedness program, a watershed program, and a program to address "slop oil" dumping in the Gulf of Thailand. USAID funds would support U.S. technical assistance from the EPA and the World Environmental Center to strengthen RTG environmental monitoring and enforcement on the Eastern Seaboard. The RTG and private sector would fund any capital costs, as well as cost-share U.S. environmental training programs.

Accelerated Watershed Rehabilitation

The RTG is planning a comprehensive program and preparing a master plan to restore and revitalize a large watershed area in northern Thailand. This area has lost vast tracts of forests over the past three decades, with serious environmental repercussions. Through the Partnership, USAID has worked with the RTG (including the Prime Minister's Office) to begin the process of mapping the area and developing a profile of the natural resource base. Using the Partnership approach, USAID has helped the RTG to identify a U.S.-developed technology for this initial mapping exercise. [Note: We anticipate that additional partnership opportunities will arise as the master plan is developed and restoration begins.]

host the U.S. city experts; the U.S. cities would provide their employees on a no-cost basis; USAID would support the initial exchanges as well follow up technical assistance to the Thai cities. Northwest Airlines has offered to support the effort by providing some free international travel for the initial visits.

Constructed Wetlands \$1,000,000

There is intense interest in Thailand in the U.S. experience with "constructed wetlands" to deal with municipal and industrial waste water. Constructed wetlands are a series of engineered lagoons filled with special plants, such as cattail, brushes, and reeds. As waste water flows through the lagoons, the plants provide a natural filter, digesting some waste, releasing oxygen into the water and allowing solid matter to settle on the bottom. USAID proposes to support a major pilot test of wetlands in the four major areas of North, Northeast, Central and Southern Thailand. USAID funds would go for U.S. technical assistance in engineering and design. The RTG and private industry would pay all construction and maintenance costs.

Northern Thailand Air Quality Program \$500,000

Northern Thailand is facing a serious air pollution problem due to coal burning power plants in Mae Moh, Northern Thailand, which generates about 15% of Thailand's power. Thailand is interested in a U.S.-Thai initiative to mount a three part program in Mae Moh: a study of health effects; an assessment of air quality control and monitoring requirements, and recommendations for technical fixes as appropriate for the power plants. The RTG has budgeted \$400 million for the capital equipment to remedy the situation. USAID funds would go for U.S. technical assistance in health and air quality; expertise from the U.S. EPA and DOE to share with Thailand the latest in U.S. coal pollution abatement technology; and the potential establishment of a twinning relationship with a U.S. coal-burning electric utility.

Eastern Seaboard Industrial Environmental Program \$500,000

The RTG is interested in a comprehensive environmental management program for the industrial Eastern Seaboard of Thailand. This would include a hazardous waste collection and disposal system, an environmental preventive care program; an emergency disaster preparedness program, a watershed program, and a program to address "slop oil" dumping in the Gulf of Thailand. USAID funds would support U.S. technical assistance from the EPA and the World Environmental Center to strengthen RTG environmental monitoring and enforcement on the Eastern Seaboard. The RTG and private sector would fund any capital costs, as well as cost-share U.S. environmental training programs.

Accelerated Watershed Rehabilitation

The RTG is planning a comprehensive program and preparing a master plan to restore and revitalize a large watershed area in northern Thailand. This area has lost vast tracts of forests over the past three decades, with serious environmental repercussions. Through the Partnership, USAID has worked with the RTG (including the Prime Minister's Office) to begin the process of mapping the area and developing a profile of the natural resource base. Using the Partnership approach, USAID has helped the RTG to identify a U.S.-developed technology for this initial mapping exercise. [Note: We anticipate that additional partnership opportunities will arise as the master plan is developed and restoration begins.]

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Impact on Jobs in the U.S.: Considerations
(See 599, P.L. 102-391)

1. The Statute:

FY 93 Foreign Appropriations Act Section 599. Impact on Jobs in the United States.

AID funds may not be used as an incentive for any relocation of a U.S. enterprise outside the U.S. that is likely to reduce its number of employees in the U.S. Nor may funds be used for foreign country export zones that are exempt in any way from that country's tax, tariff, labor, environment or safety laws, unless the President certifies that such assistance is not likely to cause a loss of jobs within the U.S. No activity may be assisted which contributes to the violation of internationally recognized workers rights of workers in the recipient country.

... "internationally recognized worker rights" includes--

- (A) the right of association;
- (B) the right to organize and bargain collectively;
- (C) a prohibition on the use of any form of forced or compulsory labor;
- (D) a minimum age for the employment of children; and
- (E) acceptable conditions of work with respect to minimum wages, hours of work, and occupational safety and health.^{1/}

2. Implications for the U.S.-Thai Development Project

Any implementing organization, funded under the Project must assure its activities do not violate this statute. To assist such entities in this matter the following guidance from the AID Policy Directive on this statute (State 403974, December 16, 1992) is set forth below:

GENERAL PRINCIPLES

3. While it is clear that most private sector, trade promotion, and investment promotion activities traditionally funded under the Foreign Assistance Act are not prohibited by Section 599, many such activities may become significantly more difficult to administer or to justify in the face of the new legislative language. Where prohibited and unprohibited activities cannot be disentangled, or where monitoring and control costs rise excessively, programs must be closed, simplified or otherwise redesigned to eliminate the possibility of contravening the new legislative language.

AMENDMENT:

Where necessary and possible, and where this can be negotiated, program, project, and contract amendments will be undertaken to bring existing activities into full compliance.

PHASE OUT:

Subject to Paragraph 19 below, where amendment is not possible or desirable, an orderly phaseout of existing activities will be undertaken, consistent with the local rights of parties contained in grant or contract documents.

LOCAL CURRENCY FUNDS:

As an additional matter of policy, the new legislative prohibitions will also be applied by this agency to review and revise existing activities funded by U.S. owned local currency, and by hostcountry owned local currency that is projectized. No

^{1/} 19 U.S.C. Section 2462(a)(4)

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new local currency may be provided for activities for which new dollar funding would be prohibited.

FINANCIAL INCENTIVES TO A BUSINESS ENTERPRISE 599(A)

4. Paragraph (a) of the new legislation prohibits funding for "any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States..." As a practical matter, the test of agency compliance with the prohibition will be the result of the financial benefit rather than the purpose in conferring it. If an enterprise in the U.S. were to receive a financial benefit from the Agency, and were also to reduce employment in the U.S., the Agency would be in the difficult position of trying to demonstrate that the result was not intended - a virtually impossible burden.

DIRECT OBLIGATIONS. Direct obligations to U.S. enterprises have been rare in the past. Any such obligations which are likely to result in relocations and job loss are now clearly prohibited.

INDIRECT SUPPORT. Indirect support through intermediary institutions, where relocation and job loss are likely results, is as a matter of Agency policy also prohibited. In addition, general budget support to an investment promotion agency that can provide financial benefits such as training, direct financing, credit guaranties, insurance, research services, and technical and management assistance, which could be seen as incentives to relocation and U.S. job loss, is prohibited. Agency policy is to avoid such assistance in the future and, as stated in Paragraph 3, to begin an orderly phaseout of existing programs funded with prior year money.

GOVERNMENT TO GOVERNMENT ASSISTANCE. Project documents authorizing government to government activities will contain an appropriate checklist to ensure that the activity will not provide any financial incentive to a business enterprise located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such inducement is likely to reduce the number of employers of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States.

NONGOVERNMENT AND PRIVATE SECTOR ASSISTANCE. Project documents authorizing activities with non-government organizations and private enterprises will include the project checklist to ensure that the activity will not provide any financial incentive to relocate, with similar disclaimers to be provided as required by subcontractors, participants and travelers in Agency funded activities.

5. Unlike Paragraphs (b) and (c) of Section 599, Paragraph (a) is filled with caveats. The activity prohibited is defined as (1) any financial incentive to a business enterprise located in the U.S., (2) for the purpose of inducing it, (3) to relocate outside the U.S. Moreover, such activity is prohibited only if the incentive or inducement is (1) likely to reduce the number of employees of the enterprise in the U.S., (2) because U.S. production is being replaced by the move offshore. Clearly, "financial incentive" should be read broadly to include direct or indirect provision of training, direct financing, credit, guaranties, insurance, research services,

management and technical assistance, etc. which could increase the revenue or reduce the cost of a firm considering relocation. Similarly, "for the purpose of" should not be read narrowly to mean the express purpose of the funding activity, since that could render the provision meaningless. Rather the "purpose" test may fairly be read to require a judgment, considering the overall purpose of the project and its expected results, as to whether the effect of the project will be financial inducements that could result in the relocation of an enterprise overseas.

6. The new statute does not appear to apply to circumstances in which there is offshore investment but no "relocation" of the enterprise offshore. Indeed, the judgment on the likelihood of a reduction in employees in the U.S. must be due to U.S. production being "replaced" by the move offshore. Thus it does not appear that foreign investment unrelated to a decrease in U.S. production is covered, regardless of whether U.S. employment is affected by the investment. Investment that expands the pie and increases LDC production without reducing U.S. production would not be covered.

7. Given the circumstances surrounding the enactment of the legislation, questions could be raised if A.I.D. financing results in a foreign investment that results in any, repeat, any decrease in U.S. employment, even though no production moved offshore. Thus, for example, an investment by a small or medium size U.S. business that simply increases or starts offshore production and does not decrease U.S. production, nevertheless could result in at least short term decreases in U.S. staff, because of efficiencies, decreased need to monitor overseas production from the U.S., etc. This is a difficult issue for a development agency, precisely because our objective must be to expand LDC economies and help the U.S. economy in the process. In an investment of this kind, where no production is moved offshore, in all likelihood the result would be greater U.S. employment in the medium term. In such circumstances, that is, where no U.S. production is relocated abroad, missions may go forward with projects that encourage investments despite the possibility of a short term (and minimal) reduction in U.S. employment. Conversely, however, it is A.I.D. policy that if the investment is likely to result in the relocation of production abroad and a resulting decrease of any magnitude in U.S. employment (regardless of intention or purpose), then the activity is prohibited.

8. QUESTIONS AND ANSWERS ON FINANCIAL INCENTIVES TO A BUSINESS ENTERPRISE.

A. **QUESTION:** Business enterprises are helped or harmed by the prevailing economic and business climates in developing countries. Will the Agency be able to continue its policy dialogue efforts in these areas?

ANSWER: Yes. Benefits flowing to host country or U.S. Business Enterprises from the policy dialogue, and from improved economic and business climates, are not considered to be financial incentives in the meaning of the new legislation. Trade policy dialogue which might include discussions relating to the design or implementation of export processing zones must include our concerns with internationally recognized worker rights.

B. **QUESTION:** Business enterprises may be helped by a wide range of discrete

development assistance activities, including training, direct financing, credit, guaranties, insurance, research services, and technical and management assistance. Will the Agency be able to continue with its general development efforts in these areas?

ANSWER: In general, yes. However, if U.S. business enterprises benefit directly from activities of this type, these benefits would fall broadly into the category of financial incentives in the meaning of the new legislation, and appropriate safeguards would have to be in place regarding relocation and loss of U.S. jobs, as well as regarding workers rights. Project assistance directly benefitting U.S. enterprises located in export processing zones would be prohibited, unless a presidential determination and certification had been made, which is likely to be rare.

C. QUESTION: Is the dissemination of information regarding the general economic and business climate in host countries considered to be a form of financial incentive, and could such provision be considered to be prohibited under the new legislation?

ANSWER: Dissemination of information regarding the general economic and business climate is not considered to be a financial incentive, and is not considered to be prohibited under the new statute. Dissemination of information regarding agency activities in the host country would have to be accompanied by all relevant information regarding the Agency's clear position on relocation and job loss in the U.S., and on workers rights.

D. QUESTION: The new legislation prohibits financial incentives for the purpose of inducing a U.S. business enterprise to relocate outside the United States in certain circumstances. Does the new legislation extend to the formation of new U.S. enterprises abroad or to new joint ventures between U.S. firms and those in developing countries?

ANSWER: The formation of completely new U.S. enterprises abroad and the formation of new enterprises in the form of joint ventures between U.S. firms and those in developing countries are not considered to be "relocations," and are not considered to be covered by the new legislation. This interpretation shall not be utilized, however, to circumvent the relocation and job loss prohibitions of the new legislation.

E. QUESTION: Do the prohibitions of the new legislation apply to separate, congressionally mandated programs like the enterprise funds?

ANSWER: It is the policy of this Agency to apply the new legislative prohibitions contained in section 599 uniformly across all of its programs. However, enterprise funds that have "notwithstanding" provisions would not be covered by the restrictions.

F. QUESTION: The guidelines indicate that missions should begin phasing out programs involving general budget support to certain types of investment promotion agencies. Shall missions also phase out specific Agency programs which happen to be implemented by such entities?

ANSWER: In principle, no. If it is possible to delineate clearly the A.I.D. supported program, to obtain certifications, and to conduct monitoring as described above, such entities could be used as the implementing agency for A.I.D. programs. The additional administrative burden incurred by the mission would have to be carefully considered, however.

G. **QUESTION:** Do the guidelines for Paragraph (a) of Section 599 apply to the informal sector, microenterprises, and small scale agriculture?

ANSWER: It is highly unlikely that assistance to the informal sector, microenterprises, and small scale agriculture will involve U.S. enterprises in any way, much less induce the latter to relocate abroad.

ASSISTANCE TO EXPORT PROCESSING ZONES 599(B).

9. Paragraph (b) of the new legislation essentially prohibits funding for any export processing zone "in which the tax, tariff, labor, environment, and safety laws of that country do not apply." Since some simplifications or reforms in local laws are generally in the very nature of an export processing zone, the prohibition is nearly absolute, unless "the President determines and certifies that such assistance is not likely to cause a loss of jobs within the United States."

10. As opposed to the language in Paragraph (a) of the legislation, the unit of analysis for effects of export processing zones is the United States, rather than the individual enterprise. The concern is with any loss of jobs, not with the impact on the overall employment level within the United States. The Agency must, therefore, adopt a cautious policy in this regard, recommending a presidential determination and certification only where job loss in the U.S. is truly unlikely. It is Agency policy to avoid direct and indirect support for export processing zones with FY 1993 funding, and to proceed with an orderly phaseout of support for such zones financed with prior year funds, unless certification is deemed fully feasible, which is likely to be rare.

11. QUESTIONS AND ANSWERS ON EXPORT PROCESSING ZONES.

A. **QUESTION:** Considerations of geographic location, host country comparative advantage, traditional markets, and so forth may make it unlikely in certain cases that relocation of U.S. firms or loss of U.S. jobs would occur. Will blanket waivers be issued for consideration of these types?

ANSWER: Blanket waivers cannot be issued in the sensitive matter of export processing zones. Individual projects requiring a presidential determination and certification will be referred to the policy directorate on a case by case basis, and will be resolved in cooperation with OPS and the Bureaus. See also Paragraphs 8 A and B above.

INTERNATIONALLY RECOGNIZED WORKERS RIGHTS 599(C)

12. **IMPLICATIONS FOR FOREIGN ASSISTANCE.** Paragraph (c) of the new legislation prohibits funding to provide "assistance for any project or activity that contributes to the violation of internationally recognized workers rights as defined in Section 502(a)(4) of the Trade Act of 1974." Section 502(a)(4) is the Section providing for the U.S. Generalized System of Preferences (GSP). It defines "internationally recognized worker rights" as follows: "(A) the right of association; (B) the right to organize and bargain collectively; (C) a prohibition on the

use of any form of forced or compulsory labor; (D) a minimum age for the employment of children; and (E) acceptable conditions of work with respect to minimum wages, hours of work, and occupational safety and health."

13. According to Labor Department materials, the legislative history of workers rights legislation, including Section 502(a)(4), indicates a clear congressional intent to promote the internationally recognized recognized rights of workers as a means of ensuring that the broadest sectors of the population benefit from trade and development. There is a clear congressional understanding that the capacity to form unions and to bargain collectively to achieve higher wages and better working conditions is essential for workers in developing countries to attain decent living standards and to overcome hunger. At the same time there is a clear congressional intent that the definition of internationally recognized workers rights be interpreted to be commensurate with the development level of the particular country. This is consistent with the text of Section 502(a)(4) which, for example, requires a minimum age for employment of children but does not set a particular age and requires "acceptable" conditions of work regarding wages, hours, health and safety but doesn't further define them. It has not been the expectation of congress that developing countries necessarily come up to the prevailing labor standards in the United States and other highly industrialized developed countries, and Paragraphs (d) and (e) of Section 502(a)(4) permit some flexibility in that regard.

14. **PROJECT LEVEL IMPACT.** Workers rights criteria contained in previous foreign affairs financing legislation have been applied at the country level, and performance has been measured in terms of "taking steps" toward implementing internationally recognized workers rights. The new legislative requirements in Section 599(c) are to be applied by this Agency at the level of the individual activity.

GOVERNMENT TO GOVERNMENT ASSISTANCE. Project documents authorizing government to government activities funded by this Agency will contain an appropriate workers rights checklist to ensure that the activity does not contribute to the violation of internationally recognized workers rights.

NON-GOVERNMENT AND PRIVATE SECTOR ASSISTANCE. Agreements with nongovernment organizations and private enterprises will as appropriate contain in substance the following language, recommended by the AFL-CIO, and not to take actions to prevent its local employees from lawfully exercising their right of association and their right to bargain collectively. "The (beneficiary) further agrees to observes applicable laws relating to a minimum age for employment of children, acceptable conditions of work with respect to minimum wages, hours of work, and occupational health and safety, and not to utilize forced or compulsory labor. The (beneficiary) is not responsible under this Paragraph for the actions of a government."

15. **TRAINING AND TECHNICAL ASSISTANCE.** It is Agency policy to support technical assistance and training activities to strengthen the capabilities of government and nongovernment agencies in the promotion of workers rights, including the capabilities of Ministries of Labor and those of local labor organizations.

16. Most Agency funded development projects already contribute directly or indirectly to supporting, rather than to violating, workers rights, particularly with regard to forward movement toward acceptable conditions of work. It is Agency policy to maximize the net positive effect of its development activities toward implementation of internationally recognized workers rights.

17. QUESTIONS AND ANSWERS ON INTERNATIONALLY RECOGNIZED WORKERS RIGHTS.

A. **QUESTION:** If the host country's labor laws are not fully in agreement with Section 502(a)(4) of the 1974 Trade Act, does the USAID have to withhold assistance?

ANSWER: Workers rights criteria contained in previous foreign affairs financing legislation have been applied at the country level. Section 599 applies them at the project or activity level. This means that even if the country's overall labor laws are in accord with the 1974 Trade Act, the mission must ensure that the specific activity will not undermine those laws. If a country's labor laws do not meet international standards, the mission must consider whether compliance at the project level is nevertheless possible and weigh before deciding to provide assistance whether it can do so without contributing to the violation of the internationally recognized workers rights which it would do for example if the project funded an activity that utilized forced labor or prohibited collective bargaining. The mission should proceed only if determines that it can proceed without contributing to such violation. The project checklist for government to government assistance must include a workers rights provision as discussed in Paragraph 14 above.

B. **QUESTION:** Is the USAID required to investigate labor conditions in each and every beneficiary enterprise or organization, even where assistance is channeled through an intermediary?

ANSWER: A full-scale investigation by the USAID of every possible end-user will not always be feasible. However, the USAID must make a credible effort to ensure that the Assistance is not being used in ways which contribute to the violation of workers rights, (1) requiring each of its NGO grantees or contractors to provide the certification discussed in Paragraph 14 above and (2) where the USAID is working with an intermediary, by requiring it to institute similar procedures that safeguard against providing assistance to enterprises with unacceptable working conditions.

C. **QUESTION:** The legislative history suggests that some flexibility in applying the standards may be needed to take account of differing levels of development. What guidelines should the USAID use in applying the standards?

ANSWER: Some of the standards assure basic human rights, such as freedom of association, the right to organize and bargain collectively, protection against forced labor, and protection against discrimination. These permit no flexibility in their application. However, ILO standards concerning working conditions and minimum wage permit some flexibility in their scope and coverage.

D. **QUESTION:** Many of A.I.D.'s activities assist the informal sector, microenterprises, and small scale agriculture. How do these standards apply to such activities?

ANSWER: Unfortunately, while there is no indication that Congress had the informal sector, microenterprises, or small scale agriculture in mind, Paragraph (c) of the statute is an absolute ban if the project or activity contributes to the violation of internationally recognized workers rights. It offers no possibility of exemption based upon the size or informality of the enterprise. We would hope to work with U.S. labor and the Congress to Obtain a more flexible rule and urge particular attention during the portfolio review (see following paragraphs) to the implications and difficulties in phasing out small micro and informal businesses.

FORMAL PORTFOLIO REVIEW

18. Initial guidelines contained in paragraphs above will serve as the basis for a formal, agency-wide portfolio review to be conducted by the end of January 1993. A suggested format for reporting on the results of the portfolio review will be provided septel. Results of the portfolio review will be utilized in the process of formulating definitive Agency guidance on these matters, in close collaboration with other concerned foreign affairs agencies, and with the Congress.

19. The initial guidelines contained in this cable cannot address all of the project specific questions raised in responses received from missions to date. However, all such responses were considered in drafting the broad general guidelines indicated above. Definitive Agency guidelines emerging from the formal portfolio review will contain additional detailed guidance as necessary. Special cases not covered in the initial guidance or in the subsequent definitive guidance shall be submitted through the Policy Directorate, and will be resolved in cooperation with OPS and the Bureaus. Cable inquiries should be channeled through A.I.D./POL/PAR, Richard Greene (Rm. 3673 NS, 6479746), with copies channeled to the relevant bureau program offices.

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