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United States - Asia Environmental Partnership

Results Review and Resource Request (R4)

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PREFACE

Following on the 1995 Strategy Review, the Secretariat for the United States - Asia Environmental Partnership (US-AEP) moved to refocus resources in the direction of an Asian Clean Revolution and to structure program activity to achieve results commensurate with the development and environmental challenge in Asia. The following few paragraphs restate the case, and opportunity, for an ambitious regional development agenda in modernizing Asia. The Results Review and Resources Request itself outlines progress in refocusing the program.

What happens in Asia over the next two decades will determine in large part the future for the global environment. The prospects, in fact, are troublesome. The rate of industrial growth in East Asia surpasses all other regions, and industrial pollution will soon equal or surpass the world's most serious situations. Carbon emissions from the region are already major contributors to global climate change, and environmental infrastructure is woefully inadequate. More troubling, East Asia's "economic miracle" is the development model for modernizing countries on almost every continent. Many observers argue that the model is unsustainable because of its pollution intensity. Others argue that very rapid growth among the developing countries threatens the carrying capacity of the planet. This latter argument infuriates political leadership in the developing world, seeing in it, of course, "limits to growth".

Embedded in this remarkable growth phenomenon, however, is a signal opportunity. For all its vaunted performance, Asia's industrial development is as yet infant. Many countries will experience a six fold growth of industrial capacity by the year 2010. Thus, new industrial investment in Asia will dominate total investment over the next 15 years, providing a once-in-a-lifetime opportunity to shift industry to clean production and to leap over the costly, inefficient, and embattled experience of the industrialized countries. Further, new sources of investment for environmental infrastructure (for example, creating municipal bond markets and privatization) suggest opportunities to engage global capital. These trends mean that the environmental future for Asia is still to be determined. One glimpses opportunity in countries like Singapore and Taiwan - glimpses of what might come to be called a clean revolution.

In South Asia, there is a similar environmental profile, although the problem is perhaps somewhat more complicated, and the definition of opportunity perhaps more elusive. Like East Asia, India has also adopted an industrial-led growth strategy, with overall economic growth on the order of 6 percent per annum and industrial growth on the order of 12 percent in many states. In this sense, the situation is similar to East Asia. What complicates the issue is i) the interaction of rapid industrial growth with continuing population increase and urbanization, and ii) the legacy of an inward looking development strategy. The issues-mix in India underscores the serious deficit in environmental infrastructure, and particularly the intractable problem of water shortage. While the need for a clean revolution is equally important in India as East Asia, it will require a more complex set of policy reforms and institutional adjustments. And so, perhaps the more reasonable expectation will be a purposeful and steady "evolution" in the direction of sustainable production and urban regimes.

The convergence of the new-investment phenomenon in Asia, and the issues mix in India, coupled with the hard-earned environmental experience of the United States, defines the premise for advancing the Asian development model and for organizing ever-less-polluting and increasingly efficient industrial and urban regimes. Similarly, the extension of global capital markets to environmental infrastructure defines the premise for a dramatic increase in the stock of infrastructure throughout Asia. These opportunities mirror the Asia-United States partnership that defined the Green Revolution some two generations ago.

The countries of Northeast and Southeast Asia have already captured many of the elements of sustainability. Rapid economic growth, significant reductions in poverty, and dramatic improvements in income distribution already characterize development there. If Asian countries now successfully incorporate clean production within their growth strategies, and rationalize urban growth and management, they will define a new model for sustainable development for the region, for other regions, and perhaps even for industrialized countries themselves.

These transforming opportunities will not present themselves everywhere with equal promise. The United States and most other industrialized countries operate an aging industrial infrastructure that is dependent on pollution control, retrofit, and remediation strategies to deal with pollution. Many of the Least Developed Countries are at a pre-industrial stage. Many countries in Asia, on the other hand, have most of the initial ingredients for a clean revolution: increasing public awareness and concern for the environment; improving environmental regulation and enforcement; very rapid industrial growth (from a limited base); and increasing pressure from the international marketplace to include the environment as a strategic business factor. The aggressive business response to international quality and environmental standards (ISO 9000 and ISO 14000) in the export-oriented economies of Hong Kong, Malaysia, Singapore, South Korea, and Taiwan reflects the growing environmental discipline of the global marketplace. The export orientation of Indonesia, Philippines, and Thailand also bodes well for progress in these countries. Most of these same countries have successfully experimented with privatization of their energy generation, transmission, and distribution systems. As a result, private capital and management are an increasingly important part of the energy investment picture in Asia. That model could play-out again in the areas of water, wastewater, solid and industrial waste, and hazardous waste.

There is an obvious strategy to effect a clean revolution. Make sustainable development a national goal. Mainstream the environment as a strategic factor in industrial policy. Encourage the development of an arsenal of government, business, and community actions to change industrial behavior. Make total quality environmental management the hallmark of national industrial culture. Remove the impediments to the transfer of world-best industrial practice. And, open environmental infrastructure to the global capital markets. These actions echo the transcendent success of the Green Revolution which included national commitment to improve agriculture, the application of science and technology to traditional production, the extension of best practice to the widest range of producers, and the marriage of public and market incentives to promote change.

The U.S. Agency for International Development was the leading partner with Asia to effect the Green Revolution. In that spirit, USAID continues to test new approaches to development, building on earlier success in the region, relying on the application of technology, the power of the international marketplace, and the opportunity for mutual benefit. The U.S.-Asia Environmental Partnership is one example, the U.S. - Thailand Development Partnership another, and new energy and environmental initiatives in India, Indonesia, and Philippines still others.

The US-AEP is a public-private initiative to foster sustainable development and environmental quality in Asia. Building on the strength of the American environmental community, the largest aggregation of environmental experience, technology; and practice in the world, the US-AEP is successfully promoting development and technology cooperation with more than thirty Asian countries.

Opportunities for a clean revolution abound throughout the region. Change will most easily come in the high growth economies of East Asia. It is these countries, and their USAID-founded and supported institutions, that are best prepared to work at the leading-edge of a clean revolution. The US-AEP is partnering with these countries, at low cost and with high leverage, to strengthen and extend the model to countries still receiving development assistance.

The initiative is directed to the industrial and urban sectors because, with the agricultural transformation complete, industry will now have to provide the jobs and the wealth for future development in Asia and elsewhere. The facts on the ground are incontrovertible. Furthermore, a clean revolution, coupled with the resolution of environmental issues in the mega-cities of Asia, will relieve pressure on rural sectors and natural resources, still serious problem areas. Success in the industrial and urban sectors will also determine the prospects for sustainable development and the quality of life for the majority of people in the developing world - lifting the limits to growth.

PART I

PROGRESS IN THE OVERALL PROGRAM

and

FACTORS AFFECTING PROGRAM PERFORMANCE

Part I Results Review and Resource Request (R4)

A. Progress in the Overall Program - Program Development

As an outcome from the 1995 Review of Strategic Plans and Action Plans, the US-AEP Secretariat was directed to reorient its programs, narrowing the range of environmental issues and sharpening the focus of its activities. A good part of this year has been devoted to that reorientation, including, among others, launching two major new contracts, developing an approach to measuring for results, undertaking a set of country assessments, restructuring some existing activities, and developing new activities. The management effort required to effect this work was at a level equal to the start-up for the US-AEP in 1992.

1. Management Changes

In May, 1995, the International Resources Group (IRG) replaced Tropical Research & Development as Technical Support Services Contractor, and the Institute of International Education (IIE) replaced The Asia Foundation, United States Environmental Training Institute, and World Environment Center as the contractor for a consolidated Environmental Exchange Program. The ASEAN Environmental Improvement Project was also incorporated as an element of the US-AEP program, including responsibility for its related implementation contract with Louis Berger International (LBI). Its activities have been subsumed under the new Clean Technologies and Environmental Management (CTEM) component. The Secretariat also organized, staffed, and developed a shared matrix management structure with the US-AEP Field Office in Manila, Philippines (FOM). While the transition was efficient, and the while contractors and the field office are now fully and effectively engaged, the effort was hardly seamless, requiring management attention throughout the period.

2. Intermediate Results

Further, the Secretariat undertook a major analytic and management effort to flesh out the strategy, to restructure existing activities, and to develop new activities. After careful consideration, three intermediate results were identified:

- Increasingly efficient and less polluting industrial regimes;
- An increase in the stock of environmental infrastructure; and
- Sustainable development as a national goal throughout Asia.

Drawing on the 1995 Evaluation, organized by Winrock International, and in consultation with other elements within USAID, Asian partners (through a country assessment process, a broader engagement of technology representatives, and collaborative program efforts with USAID missions), and independent professional panels (e.g., the workshop directed to industrial growth and the environment in Washington, D.C. in November, 1995, similar workshops

directed to environmental infrastructure in Washington, D.C. in September, 1995 and San Diego, California in March, 1996, etc.), the Secretariat and its partners then undertook to develop results packages under each intermediate result. The analytic rationale for the effort is discussed in some detail in Part II of this presentation.

3. Results Packages

a. Industry - Incentives: The first Results Package is directed to strengthening and expanding the incentives for environmental quality in the industrial sector. Engaging professional resources from the Global Bureau's cooperative agreements with the Tata Energy & Resources Institute and Winrock, the analytic work for a proposed environmental policy center and professional network is in place, as are the design of more focused activities directed to promoting ISO 14000, engaging U.S. industry in "greening the supplier chain", and introducing/strengthening environmental due diligence for financial institutions throughout Asia. Some implementation work, of course, is already underway, utilizing resources available under the Louis Berger Contract, the Environmental Exchange Program (EEP), and the Technical Support Services Contract. Progress is discussed in some detail in Part II of this presentation.

b. Industry - Business Capacity: The second Results Package is directed to promoting the use of environmental considerations in business decision making. The analytic work for this package emerged from an internal assessment of the ASEAN Environmental Improvement Project (EIP). After careful review, and discussions with the USAID missions in India, Indonesia, and Philippines, and Global Bureau's Environment Center, the US-AEP Secretariat discontinued factory audits as the centerpiece of the project, arguing they failed both in terms of cost-effectiveness and results. This judgment was not fully shared by all the different USAID units, even though virtually all have adjusted their own programs or premises because of related concerns. Alternative approaches were discussed, requiring continuing management engagement throughout the period, and three different organizing premises have been identified.

First, based on work completed for the Secretariat by the Harvard Institute of International Development (HIID) and Booz-Allen, Hamilton, the sketch of the environmental ladder presented in last year's Strategic Plan was more carefully defined. In its present form, the ladder suggests one basis or premise for promoting environmental capacity at the firm level. In this regard, note also that the National Academy of Engineering is proposing to use the ladder (together with other analytic papers) as the basis for organizing a U.S. - Asian network of environmental and industrial professionals and scholars to further explore the parameters of an Asian Clean Revolution. More directly relevant to the second results package, however, the Secretariat has completed the design of a set of initial "categorical" activities to promote the widespread adoption of different steps on the environmental ladder (e.g., promotion of pollution prevention roundtables throughout the Asia region). The Secretariat is also currently examining a categorical activity directed to clean design.

Second, based on work with USAID Philippines, and on discussions with the Global Bureau's Green-Com project (Academy of Educational Development), the Secretariat has

developed a concept (or prototype) for introducing and promoting environmental considerations to industrial extension and outreach in Asia. The concept is included in the terms of reference for the joint programming exercises ongoing with USAID missions in India, Indonesia, and Philippines. This activity would involve training-of-trainers (i.e., a focus on intermediary organizations) and information/technological back-up from the United States. Actual design and implementation of activities would be in FY 1997.

Finally, and perhaps most comprehensively, the Secretariat is designing a set of activities for separate industrial sectors, each one building on an idea drawn from either the incentives or environmental ladder analyses (e.g., voluntary standards with the chemical industry, greening the supplier chain with the apparel industry, ISO 14000 with paper and pulp, etc.). This approach is likely to be used in India, for example. For the next two year period, the Secretariat proposes to proceed on all three tracks.

c. Industry - Technology Transfer: This package builds on the earlier Technology Cooperation component, but it is intended to reach beyond environmental control and even pollution prevention to clean industrial process and environmental management. In pursuit of this expansion, the Secretariat has worked to launch three information centers: with the Singapore Manufacturers Center in Singapore, with the Philippines Business for the Environment in Manila, and with the Tech Rep office at the American Business Center in Jakarta. There are also ongoing discussions with the U.S. Department of Commerce (DOC) to test-plate industrial process specialists (engineers) in the Tech Rep offices. Based upon current thinking, US-AEP will be placing four industrial process specialists in the fields of chemicals/dye stuffs, paper and pulp, food processing, and apparels/textiles in Asia in 1996-1997. Expansion of the NASDA Technology Fund and the Overseas Program Fund to cover these new technologies is also under development. The Environmental Network for Asia (ETNA), operated jointly with the Global Bureau's CTIS is also being extended to encourage process technologies. In addition, there are ongoing discussions with the DOC regarding future funding for these activities.

d. Incentives - Infrastructure: Earlier, the US-AEP infrastructure program was directed principally to technology transfer. As a result of the Winrock Evaluation, and the independent assessment organized by IRG during the period 1995-1996, however, the Secretariat is exploring the possibility of directing some resources to the issues of financial reform, engaging at the analytic/government policy level through the proposed policy center (see industry/incentives above), and at the applied/investment level through an arrangement with the American Consulting Engineers Council (ACEC). ACEC is considering an expanded program, adding an Asian presence which they expect to be self-sufficient/privatized sometime in FY 1999. The Secretariat will continue to fund incentives/policy work through the Environmental Exchange Program.

e. Technology Transfer - Infrastructure: In keeping with the direction of the 1995 Strategy Review, it is proposed to maintain the focus of the US-AEP infrastructure effort on technology transfer. In addition to the position at the Asian Development Bank, discussions are proceeding with the Office of the U.S. Director to the World Bank and with DOC to consider

adding an officer to cover World Bank infrastructure activity in Asia. As noted above, there is also ongoing discussion with ACEC to take on a coordinating/oversight/support role for the infrastructure representatives in Indonesia and Thailand. Finally, there is discussion with both the India and Philippines missions concerning infrastructure representation in those two countries.

f. Awareness - Framework: An environmental consultant, working under the technical support services contract, is currently examining program opportunities related to environmental policy, public awareness, and public participation. That same consultant is managing the country assessment effort (a major management objective for the period), which should be completed by July, 1996. Field work is completed in India, Indonesia, Singapore, South Korea, and Taiwan. Work is ongoing in Hong Kong, Malaysia, Philippines, Sri Lanka, and Thailand. New framework activities will not be programmed until FY 1997. In the meantime, there will be continuing engagement under the Environmental Exchange Program.

B. Progress in the Overall Program - Component Performance

Before the 1995 Review, the US-AEP Secretariat was organized around four strategic components and measured results by a set of data related to technology transfer and to financial leverage associated with USAID commitments. In 1995, the US-AEP Secretariat also incorporated activities of the ASEAN Environmental Improvement Project. A brief summary of results highlights for the period are described below.

1. Technology Cooperation

a. Technology Representation: Activities under this component have been directed to the transfer of United States environmental experience, practice, and technologies. Most activities were organized around a collaborative effort with the United States Department of Commerce (DOC), Foreign Commercial Service (FCS). That effort (i.e., technology representation) is reflected in the mature operations of ten offices throughout the Asia region. The offices were organized to elicit information concerning environmental issues and opportunities in Asia (most specifically related to pollution control). Over time, the offices have broadened their scope to include information related to pollution prevention, waste minimization, clean technologies, clean design, and environmental management. Over time, the offices also have broadened their activity to include a concern for environmental and industrial policy, industrial technology extension, environmental infrastructure, and even the environmental culture. As a result, the offices have become an indispensable part of US-AEP Secretariat operations.

More significantly, the offices have become an indispensable part of DOC/FCS operations. In FY 1995, the U.S. Department of Commerce (DOC) picked-up 25 percent of the cost of running the nine Tech Rep offices (Sri Lanka is fully funded by the US-AEP). In FY 1996, that amount rose to 50 percent, and in FY 1997, the amount will be 75 percent. The US-

AEP Secretariat has been equally successful in two other interagency situations, with TDA picking-up complete financial and management responsibilities for an "environmental training" activity in FY 1994, and OPIC picking-up complete financial and management responsibilities for an "environmental planning" activity in FY 1995.

Since their inception, the Tech Rep offices have provided the following services:

	1992 - 4/95	5/95 - 4/96
Trade Leads Submitted	1,477	947
Trade Lead Matches	202,588	174,315
U.S. Businesses/Associations/States Counseled	2,475	2,134
Asian Businesses/Associations/States Counseled	5,057	3,773
U.S. and local Governments Counseled	1,884	1,701

Examples of effective representation during the period March 1995 - March 1996 include: Hong Kong, representation to the Hong Kong Marine Department leading to the procurement of oil spill recovery equipment from Marco Pollution, New Orleans, LA.; India, partnering of Phoenix Global with a local agent in Mumbai (EpE Systems) with continuing sales of air purification products; Indonesia, partnering of Labat Anderson (a U.S. environmental consulting firm) with IT Freeport (a U.S.-based multinational mining company) for environmental impact assessment work; Korea, procurement of pipeline inspection/monitoring equipment by the municipality of Cawing from the U.S. firm Baurex International through a routine trade lead; Malaysia, representation leading to the sale of \$6.0 million in sewage equipment to MHES, Malaysian multinational; Philippines, marketing of an innovative private air quality monitoring system to be placed in 50 public traffic intersections by the Manila City Council; Singapore, procurement of bio-formulated environmental remediation materials by Rotina Enterprises from Bacteria Concepts in the United States; and Taiwan, in-country representation resulted in the sale of air pollution control equipment by Chinese Petroleum from Reaction Engineering in the United States.

b. Information Systems: Closer to the agency itself, the collaboration with the Global Bureau's Center for Technology Information Systems (CTIS) has blossomed into a mature partnership, giving rise to a Latin America version of the Environmental Network for Asia (ETNA) in FY 1995, and the piloting of environmental information centers in Jakarta, Manila,

and Singapore in FY 1995 (discussed later). A similar elaboration of original premises (from pollution control to clean process technologies) has been grafted onto the state-based Technology Fund managed by the National Association of State Development Agencies (NASDA) as well. The Technology Fund has also given rise to a new state program directed to longer-term institutional relationships with the Council of State Governments (CSG). These few examples of the catalytic role of the US-AEP reflect important institutional results.

c. Environmental Technology Fund: the NASDA Technology Fund has approved and funded 169 grants during the period for total US-AEP expenditures of \$3,618,030 (including the Overseas Program Fund), matched by \$11,642,871 (including the Overseas Program Fund). Included in those grants are the following examples (full summaries of all grants are available through the US-AEP Secretariat):

- Demonstration of the reverse osmosis systems of Pump Engineering, Inc. in three cities in India - systems producing purified water through the use of simple, compact, and low maintenance systems which improve health standards while at the same time allowing more efficient manufacturing processes and recovering high waste energy, thereby reducing energy consumption and the overall cost of water purification.
- Technical seminars and demonstration of innovative industrial wastewater treatment products by the Industrial Waste Treatment Equipment Corporation to companies in Malaysia, Philippines, and Singapore - filtration products which use no chemicals and require little maintenance, improving the energy efficiency of industrial commercial air conditioning, refrigeration, and cooling equipment.
- Introduction of innovative air emission control products for the semiconductor industry in Korea through a demonstration program with Samsung by Thermatrix, Inc. which has developed a uniquely flawless emission control device for hazardous air pollutants - a more cost-effective system than carbon-based systems, and has proposed a demonstration project with Samsung.
- EnerTech Environmental, in cooperation with the Georgia Department of Industry, proposes to introduce its patented process to convert municipal solid waste into a clean-burning homogenous fuel - disposing of the waste in a way that also produces energy at reduced costs. The proposal includes exchanges with previously identified clients in Korea, Philippines, and Taiwan.
- Pollution Prevention International, in cooperation with the California Environmental Protection Agency, will conduct a pollution prevention workshop and technology demonstration in several cities in India -

introducing approaches and techniques for pollution prevention assessments intended to avoid costly end-of-pipe solutions to environmental problems.

c. US-AEP - Council of State Governments State Environmental Initiative: the Council of State Governments has approved and funded eight innovative grants covering 10 states and totalling \$1.157 million during the period, including \$1.5 million in matching monies by state organizations. The following capture examples of their work (full summaries of all grants available through the US-AEP Secretariat):

- **Wastewater Management:** the Washington State Department of Community, Trade, and Economic Development will work with Seattle's sister city in Surabaya, Indonesia to review water supply and sanitation issues, devise ways to engage the Indonesian private sector in pollution prevention, adapt Seattle's GIS applications for water loss management, and develop the appropriate groundwork for water discharge permitting.

- **Clean Industrial Processes:** New York's Department of Environmental Conservation has teamed with a set of public and private sector partners to assist the city of Bombay, India, in developing, adapting, introducing, and promoting clean industrial processes through an elaborate two-way exchange effort. The activity is jointly sponsored by Maharashtra's Pollution Control Board and seven different Indian industry associations.

- **Renewable Energy:** in this case, the District of Columbia and state of Maryland have joined forces to promote the use of renewable energy in Indonesia by engaging a set of important local manufacturers who have agreed to pilot demonstrations of solar electricity, including a detailed program of public education, institutional development for management and revenue collection, technical support, and follow-on technology diffusion.

d. International Partnering: working with the US-AEP technology representative in Kuala Lumpur, the Air & Waste Management Association (AMWA) and Water Environment Foundation (WEF) have been able to establish a joint venture affiliate association in Malaysia (the first joint activity by the two organizations anywhere in the world, and the first professional environmental organization in Malaysia). Further, the AMWA had its initial organizational meeting in Hong Kong, engaging more than 50 professional members, including the director of the Hong Kong Environmental Protection Department; and the WEF launched its efforts by a series of training programs sponsored by independent industry associations in India and Philippines. These workshops are seen as precursors of more formal organizational meetings later in the year. The United States Environmental Protection Agency (EPA) continued its proactive engagement with the US-AEP, including, for example, an Action Team mission to improve water quality and management systems in seven cities in South Korea. EPA Action

Teams have proven to be an effective way to introduce state-of-the-art environmental concepts and American environmental technologies.

During the past year, the US-AEP Secretariat also completed negotiations of the NGO/Business Exchange with The Asia Foundation. The idea behind the exchange is to foster collaboration between nongovernmental organizations and business with a view to improving environmental quality. The exchange is supportive of the Administrator's "New Partnership Initiative". In the Philippines, the Sugar Millers Association will work with sugar mills to implement waste minimization and water conservation. In Bangladesh, the New Broadway Group will work with the Community Environmental Protection Organization on an integrated program for the reduction and utilization of bakery waste through appropriate technologies and behavioral change, linking the waste reduction/energy savings program to increased productivity and profitability. In India, Development Alternatives will work with the Anand Parbat Industry Association to initiate pollution prevention in an electroplating cluster in New Delhi. In Nepal, the Forum for the Protection of Public Interest and the Shree Ram Sugar Factory have partnered to develop a model facility demonstrating pollution prevention and energy efficiency innovations. In Malaysia, the Asia Pacific Institute of Environmental Assessment partnering with the Master Builders Association to increase environmental awareness and modify existing practices in the construction industry. And, finally in the initial round, the Green Consumers Foundation in Taiwan is collaborating with Mavibel Taiwan to reduce redundant packaging in Bailan Conventional Powder. This product packaging modification, orchestrated through a life-cycle assessment, is expected to become a model for other consumer products in Taiwan

e. **Sales, Joint Ventures, and Licenses:** There has been considerable discussion concerning the value of sales, joint venture, license, and investment data to measure technology transfer. Starting in FY 1996, the US-AEP will use data related to total U.S. sales as a measure of technology transfer. Through FY 1995:

Sales, Joint Ventures, and Licenses

1992 - 1994	\$418,684,214
1995	\$388,577,535
TOTAL	\$807,261,749

2. Environmental Infrastructure

Activities under this component were similarly directed to the transfer of United States environmental experience, technologies, and practice (albeit working with a somewhat "lumpier" product). As with Technology Cooperation, Secretariat understanding of the issues has matured as time has passed. Today, the program is more directly focused on the policy and institutional impediments to a rapid build-up in the stock of environmental infrastructure in Asia.

First, it is important to underscore that US-AEP attention is on the stock of environmental infrastructure. It is woefully inadequate in every country in the region, and the situation is getting worse with burgeoning industrialization and urbanization. There is no question about the benefits of environmental infrastructure, the important issue is most simply the need for more. Given the constraints to government budgets (and recognizing that the growth of industry and urban centers is being fueled by private sector resources), investment for environmental infrastructure has to be found somewhere other than in national budgets. Two opportunities are immediately obvious: reform of municipal finance (e.g., municipal bonds, parastatal or private management, etc.) and privatization (e.g., BOO, BOT, etc.). This appreciation has led to a very positive collaboration between the US-AEP and the USAID mission in Indonesia and USAID office in Thailand. And it will be an increasing focus of the program in FY 1996, with collaborative programming proposed in India and the Philippines. Of course, there may be new technologies which could lower the costs (or increase the efficiency) of environmental infrastructure, but we are unable to define or capture relevant indicators and assume, at any rate, that they will be part of any external investment proposals.

Second, it is increasingly obvious that United States industry is not currently structured (or not properly structured, or fully structured) to contribute to the build-up in the stock of environmental infrastructure in the region. There are several reasons. The United States water industry, for example, is largely in the public sector and not yet authorized to seek work outside the United States. The United States engineering industry for too long led the world in public sector engineering design, but it is not structured for private sector equity investment or operational opportunities. The list goes on. In response, the US-AEP has fashioned a cooperative venture with the American Consulting Engineers Council (ACEC) to work with industry to fashion new approaches to international infrastructure finance and management. Note that the cooperative venture will be jointly-financed.

United States engagement in these activities can be important (both for development and commercial outcomes). On the development side, each transaction becomes an opportunity for governments and investors to wrestle through tricky issues associated with infrastructure finance and privatization. As happened in the energy sector, each new independent water supply (or other environmental infrastructure) contract and investment in Asia can break new policy-ground and open the range of opportunity wider than it had been before. In addition, each new independent water supply (or other environmental infrastructure) contract and investment in Asia can break new practice and technology-ground and also open the range of opportunity wider than it has been before. And, finally, the commercial consequences of these investments could be very important to America's bottom line.

3. Professional & Organizational Development

The purpose of this component was to provide a broad range of opportunities for individuals and organizations in Asian public and private sectors to obtain the information that they need

to promote and enforce environmental improvements, assess environmental problems and take action, and to be aware of the full range of relevant U.S. environmental technologies and practices. The secondary purpose of this activity was the development of long-term relationships between U.S. and Asian individuals and organizations as a result of the professional and organizational interaction involved in transferring information and knowledge.

Completed Environmental Exchanges

	5/92 - 5/95	5/95 - 5/96
Fellowships	299	5
Exchanges	427	146
Training	524	354
TOTAL	1,250	505

During the fiscal year, the component (as such) was disestablished, but the various activities were maintained, the most important of which being the fellowship, exchange, and training activity (i.e., Environmental Exchange Program). Also, during the year, the implementing partnership for the activity was transferred to the Institute of International Education (IIE). This activity is composed of three interrelated components:

a. **The Environmental Exchange Program:** The activity sponsors (a) the travel of Asian environmental professionals to the U.S. for (1) a variety of exchange experiences designed to assist them to acquire the information needed to analyze environmental problems, assess options for improvements or problem solving, and/or better understand the relevance of U.S. technology, experience and practice to their national, business or organizational needs for environmental improvement or effective leadership in this area, and (2) participation in fee-based training programs at institutions where short-term courses are offered or in academic degree programs in U.S. colleges and universities; (b) the travel of U.S. environmental professionals to Asia bringing U.S. expertise to bear through the sharing of essential information to achieve environmental improvements in Asia; and (c) network development through participation in conferences, workshops or seminars.

b. **Establishment of an Environmental Network:** The activity seeks to broaden the participation and visibility of the wide array of institutions in both Asia and the United States which can nominate, fund, send, or host environmental exchanges. These organizations include the environmental NGO community, environmental management firms, federal, state and local government entities, and private sector firms with relevant experience in environmental problem solving or provision of appropriate technologies. It is expected by the activity termination date that this network of partners will consist of between 400 and 500 institutions committed to

environmental improvement and which are willing to actively demonstrate their commitment by bringing expertise and relevant environmental resources to the US-AEP program on a pro bono basis, by hosting environmental exchange personnel for on-the-job experience, accepting them into their own corporate training programs, sponsoring events (conferences, workshops, etc.), and/or contributing or receiving expert professional services. It is anticipated that not only will the network of partners provide their facilities and/or expertise but that over time long term relationships between U.S. and Asian organizations will be developed as mutual exchange of personnel and ideas takes place.

c. **Indefinite Quantity Exchange Program:** The activity also provides a limited number of opportunities for fee-based short or long term exchanges in programs offered by public sector agencies, private sector firms or academic institutions. It is anticipated that the majority of placements into short-term training courses will be either on a pro bono basis or under corporate, USAID Mission, or other sponsorship which will cover course fees. US-AEP will not directly pay for such fee-based training unless specific additional funds are provided by ANE. It is estimated that the equivalent of 50 training activities will be supported by US-AEP funds and an additional 100 through Mission buy-ins. To date, twenty one exchanges have taken place under this IQC.

Under the first year of the EEP, IIE logged 174 separate proposals, and organized 65 events, including more than 5 fellowships, 146 business exchanges and 354 technical exchanges. In addition, working with one of its subcontractors, the United States Environmental Training Institute (USETI), IIE has scheduled the following training course schedule for 1996: municipal wastewater treatment in Thailand; cleaner production processes and technologies for the textile industry in the U.S.; environmental management for the cement industry in India; municipal wastewater treatment in the U.S.; environmental technology assessment in Indonesia; cleaner production processes and technologies for paper and pulp in the U.S.; cleaner production processes and technologies for the electroplating and metal finishing industries in Korea; and environmental management for the textile industry in Indonesia.

Illustratively this year, with an eye both to "incentives" and training leverage, IIE organized a regional effort bringing U.S. consulting organizations (e.g., Dames & Moore, Environmental Resources Management, Foster Wheeler Environmental, ICF Kaiser, KBN Engineering, and Weston International) knowledgeable about ISO 14000 to four ASEAN countries with a view to promoting environmental management and joint consulting/training ventures with Asian counterpart organizations. Over 200 Asians attended these sessions. The US-AEP Secretariat and IIE believe that the ISO movement can be a powerful incentive for industrial companies to adopt environmental management and that the related consulting/training can be financed through the marketplace. This initial effort is being followed up and four more target countries will be visited with different companies in 1996.

Evaluations of the overall program and each of the constituent parts (i.e., fellowships by the Asia Foundation, exchanges by the World Environment Center, and training by the U.S. Environmental Training Institute) were completed during the period and are available for review.

4. Biodiversity Conservation

The Biodiversity Conservation Network (BCN) has the twin goals of supporting site-specific conservation and evaluating the effectiveness of community-based, enterprise-oriented approaches to conservation. BCN provides grants to nongovernmental organizations to establish or grow enterprises whose viability is dependent on the conservation of local biological resources. The assumption is that participation by local people in these enterprises will raise their income and encourage them to become stewards of the resource ensuring its sustainable use. Monitoring of resource use, enterprise profitability, and social organization are central to the BCN concept.

During the past year, BCN underwent a rigorous evaluation of its field and headquarters operations. The evaluation team looked at four action elements: (1) monitoring the biological and social impacts of funded interventions; (2) establishing and monitoring profitable enterprises that give local people a stake in the sustainable management of the biological resource base; (3) developing and supporting institutional structures that ensure the participation of local people in all phases of the income earning enterprise, sustenance of the resource base, and effective action to protect the resource base from internal and external threats; and (4) working for policy changes essential to biodiversity conservation and related enterprises.

The evaluation team found BCN to be on-track. Essential administrative structures, while still evolving in response to field feedback, are in place. Financial flows, while nominally behind schedule, are on-track given the realities of project contracting and implementation. Monitoring programs by BCN grantees need to be simplified and finalized, but compared to other environmental projects has substantial attention and is basically headed in the right direction. Enterprise profitability is also on track in understanding and addressing important social organization issues, but now need to give concentrated attention to the local social structures and their development and utilization.

The evaluation team concluded that BCN, even with all the areas requiring concentrated attention, is a far more cost effective approach, with a more fully developed panopoly of resources and approaches, than is typical in this area. It stands out for clarity of conceptualization, breadth of approach, and its holistic philosophy. It represents an increasingly valuable resource to be drawn upon for larger efforts.

Recommendations by the evaluation team include: (1) development of simple monitoring techniques for biodiversity, enterprise profitability, and social structures of participation; (2) ensuring participation of local people in all aspects of activities, especially in regard to access to monitoring information; (3) plan for a larger enterprise impact by involving more existing

private sector firms that can take products to market or publicize tourism services offered; (4) inventory the broader policy needs ranging from rights of indigenous people to land and resource tenure; and (5) develop a classification of projects and additional BCN staff specialization that will allow increased efficiency in supervision of projects.

In addition, the evaluation team concluded that the three-year duration of grants, although sufficient for establishing monitoring systems, would be too short for ascertaining biological resource conservation and, therefore, should be extended. Individual project extension would depend on enterprise profitability, status of the monitoring programs, and the strength and involvement of local social institutions. In order to simplify monitoring systems and work with local groups on the collection and use of the information, the evaluation team recommended that BCN seek additional funds for hiring and training more local staff and using specialized consultants.

BCN has committed \$11.56 million to grants; of which \$1.64 million has been disbursed for 34 planning grants averaging about \$48,000 each; \$94,3178 for six small research grants averaging \$15,000 each; and \$9.80 million has been obligated to 20 implementation grants averaging about \$490,000 each. The smallest implementation grant is \$179,632 for the ORPHIC project in Indonesia, and the largest is the overall grant to Conservation International for \$690,920 covering a number of projects in different countries in the region. The 20 projects selected include 7 eco-tourism projects, 12 utilizing non-timber forest products, and two harvesting timber resources. The projects cover six countries, six in Indonesia, three in the Philippines, three in India, and two in Nepal, with the remaining six in the South Pacific. Each project has an on-site agency to oversee the work.

Implementation of this activity was successfully transferred from US-AEP to the Global Bureau, Office of Environment, in mid-November, 1995. US-AEP retains funding liability for the \$8.9 million unfunded program balance.

5. ASEAN Environmental Improvement Project

The ASEAN Environmental Improvement Project (EIP), has provided a good part of the analytic base and its rich experience used for the reorientation of the US-AEP in the areas of incentives and business capacity (the US-AEP itself providing the analytic and experiential base for EIP's technology transfer work). As a result, a good part of its technical work over the last year is directly relevant to both intermediate results and results packages. Examples of that technical work are outlined below.

a. Industry - Incentives: In Thailand, the US-AEP (represented by LBII) assisted the Ministry of Science, Technology, and Environment to organize a series of workshops throughout the ASEAN countries to evaluate the options for introducing market-based instruments (MBIs) as part of comprehensive regional/national strategies to promote clean technology and environmental management, working towards a clean industrial regime for the future. In December, 1995, for example, the Ministry brought policy analysts from Asia and the United

States together with senior environmental and industrial ASEAN and government officials to explore the opportunities for MBIs in the absence of tradeable permits, in which the total number of permits starts at present discharge levels and shrinks steadily over time. Coming out of the workshop, and working with US-AEP-supported technical assistance, the government of Thailand has drafted a comprehensive program for MBIs (the first model for tradeable permitting in Asia).

The EIP project also organized four two-day workshops (in Bangkok, Jakarta, Kuala Lumpur, and Manila) on Trade and the Environment in the ASEAN Region. The sessions were co-sponsored by the Secretariat of the Association of Southeast Asian Nations and the United Nations Development Programme. The major issues discussed during the workshops included: i) the use of trade measures to attain international environmental objectives, ii) effects of trade and trade liberalization on environmental resources, iii) impact of environmental regulations on competitiveness, and iv) environmentally related product standards. Coming out of the workshop, the Philippines government has prepared a presentation for the upcoming APEC meeting on product standards.

The project also took a major step in promoting ISO 14000 as an incentive by bringing a member of the U.S. organizing committee (an attorney with Sidley&Austin in Washington, D.C.) to Bangkok, Jakarta, Kuala Lumpur, and Manila in April, 1995. Over 200 senior industry (e.g., 40 corporate CEOs) and government representatives attended the workshops. This was followed-up with EIP staff speeches and papers delivered before chambers of commerce throughout the region and at the Asian Institute of Management. In response to demand, the project subsequently provided support to the Thailand Industrial Standards Institute, bringing experts from the United States to discuss progress and options for accreditation of certifiers and for setting procedures for certification. Familiarization sessions were organized for some 250 businessmen on what is ISO 14000; other sessions were organized for 60 different consulting organizations around ISO 14001; and a third set of sessions were organized for almost 100 government and industry association officials outlining options for setting parameters and guidelines for accreditation of certifiers.

In March, 1966, the project staff identified five Asians from a cross-section of government, the private sector, and academic community to participate in the National Pollution Prevention Roundtable (NPPR) conference (travel provided through the EEP). The conference is held twice a year and is attended by more than 500 pollution prevention and clean industrial production professionals. Participants share information about pollution prevention in various industries, strategies for motivating industry to adopt pollution prevention in various industries, new technical tools, reports on marketing strategies, and new sources of information. The idea is to promote professional and institutional partnerships and to encourage participation in the U.S. clean production network. This idea has led to the organization of an activity to promote broader engagement and the organization of roundtables in each of the ten US-AEP target countries.

b. Industry - Business Capacity: During the past year, the project conducted five three-day industry-specific workshops on waste reduction opportunities for the pulp and paper, cement, food processing, and metal finishing industries in Indonesia, Philippines, and Singapore (engaging more than 100 participants in each country). The objective of the workshops was to promote the concept of pollution prevention to the specific industry through strategic environmental management and cleaner technology. The first two days of each workshop were devoted to various waste minimization opportunities (e.g., water conservation, energy efficiency, fiber recovery) and management of the available technical options. They also included discussion on the general findings and recommendations of the factory audits conducted in a half dozen sites and selected as representatives of the industry. On the third day, training sessions were organized on practical ways to prevent waste and pollution and to save costs in participants' facilities, as well as to the longer-term management process of continuous improvement that will assure greater productivity and profitability, a more competitive position for the firm, and increase environmental benefits for the community. It also included discussions on ISO 14000 and how to access pollution prevention through the Internet.

Equally strategic, the project organized four small seminars for senior executives and chief executive officers in Jakarta and Manila, directed to competitive issues in environmental management, the major types of corporate strategy for achieving a competitive advantage through environmental action, and the specific action steps that executives and managers can use to stay ahead of their competition. A similar set of seminars is planned for the next period in each of the remaining eight target countries.

The US-AEP was also represented at the fifth Global Environmental Management Initiative (GEMI) conference on "Environment and Sustainable Development" in March, 1995. Following up on the GEMI Asian interaction in 1994, the conference gave the first opportunity for Asians to meet with the American corporate and professional leaders committed to promoting environmental excellence worldwide. At GEMI's invitation, the project selected the Asian delegation and organized a set of individual meetings with American participants. The conference highlighted five major components of environmental leadership: partnership, product design, economics, energy, and health and safety. The project also organized a panel discussion at the conference on "Cultural Challenges for a Western Business to Establish an Environmental Management System in Asia".

EIP also pursued the idea of industrial extension, awarding a grant to the Environment Management and Research Association of Malaysia (ENSEARCH), an association of environmental management firms. ENSEARCH has an extensive training program for its member organizations and the industry in general, and the US-AEP grant completed the development of a six-module curriculum for training in industrial, in-plant, environmental management, including pollution prevention and waste minimization. ENSEARCH has successfully field-tested the management module and will offer the full set as a modular course later in 1996. The curriculum is now available to other organizations throughout Asia for similar use. The University of Malaysia and Asian Institute of Technology have already adapted parts of the curriculum to their own program.

Except for its relations with ASEAN, in which the title "ASEAN-EIP" will be used; the contractual base with Louis Berger, which is so titled, and some of the joint agenda with ASEAN, maintained for project agreement purposes, the ASEAN-EIP ceased to exist as of January 1, 1996. The functions programmed under that project have been subsumed under the new components of the US-AEP with the majority of the work continued in the new CTEM component.

C. Development Cooperation

The idea that international economic development might be something to be purposefully promoted was born in the United States in the aftermath of the Second World War, directed to the reconstruction of Europe and Japan. Later, the United States launched the idea of economic assistance to support development in the new countries of the Southern Hemisphere. And continuing from that day up to today, surviving even the collapse of the Soviet Union and the end of the Cold War, international economic development continues to be an important interest of the United States.

From a purely humanitarian standpoint, the United States knows that economic growth is the only way a society can provide the permanent means of bettering lives. From an economic standpoint, the United States knows that it, and the world, will benefit from the prosperity, trade, and stability that such development can bring. And from the standpoint of strategic interests, the United States knows that in the long-run, peace and prosperity can only exist in a world of secure nations bound together by positive economic relationships and a shared interest in growth and cooperation.

There are today a set of developing countries which have increasingly mature, even advanced economic and technology systems, systems which can take advantage of the globalization of the marketplace to attract investment capital, to develop new trading relationships, to leapfrog to more advanced technologies, to absorb the very best in environmental practice - in other words, to "takeoff" and become self-supporting. These are what are called "emerging markets" targeted for "graduation". There is, nevertheless, a range of difficult issues which threaten continuing development, or sustainable development, and which limit the engagement of even the most advanced systems of many developing countries with world systems - issues rooted in the social, economic, political, and cultural milieu and history of those countries. In this circumstance, a continuing United States role in the international development effort remains pivotal, although development assistance as the basis for development promotion may miss the point, possibly the opportunity.

President Clinton has affirmed the continuing commitment of the United States to international development and defined its fundamental premise in the post-Cold War world: "We need to promote the steady expansion of growth in the developing world... It spurs us to innovate. It connects us with new ... partners. It promotes the global economy without which no ... country can hope to grow... American jobs and prosperity are reasons enough for us to be working at mastering the essential of the global economy, but far more is at stake. For this

new fabric ... will also shape global prosperity or the lack of it, and with it, the prospects of ... people around the globe."

As the world enters the 21st century, however, the Administrator himself has argued that development assistance in the "emerging market" countries can only play a supporting role to the U.S. private sector, to overseas investment and technology transfer, to the contributions of the education system in the United States as a university to the world, to the humanitarian and development efforts of United States private voluntary organizations, and, most of all, to the growth-oriented example and wealth-generating dynamism of the United States economy itself.

In this context, the US-AEP (like the U.S. - Thailand Development Partnership) is a model for continuing development cooperation in Asia in a post-assistance environment. The R-4 presentations from India, Indonesia, and the Philippines suggest other interesting and innovative approaches and models. While development assistance may no longer be appropriate in many countries in the region, and/or while country presence may have to be curtailed even where assistance programs continue, there is clearly a continuing rationale for development promotion in Asia, particularly in relation to sustainability issues, and the US-AEP model is undoubtedly something to be carefully examined and nurtured in this context as part of ANE's forward planning for the region.

D. Leverage

A development strategy premised on dollar for dollar, or bhat for bhat, public finance is obviously a limited strategy. The private sector, including the international capital markets, can be tapped for the development and deployment of new industrial plant and equipment, for environmental technologies, and even for a broad range of urban infrastructure. The institutional resources of American nongovernmental organizations and universities can be used (in partnership and joint venture with Asian organizations) for an equally broad range of environmental initiative. The absolute imperative is to move away from parallel play to coordinated play, to get more from government resources, to recognizing the complementarity between the goals of different institutions and organizations, to making connections between domestic and international agendas, and to widening the reach of United States engagement and responsibility in Asia.

In this context, the US-AEP has worked hard to promote the idea of leverage in the administration of its program (e.g., by requiring significant cost-sharing) and in the implementation of its program (e.g., promoting BOO/BOT approaches to the finance of environmental infrastructure). It also maintains a rigorous cost-sharing requirement among both country and institutional partners. Progress in this regard is reflected below.

Investment

	US-AEP Share	Partner Share	Total
1992 - 1995	\$62,674,010	\$111,439,479	\$174,113,489

E. Factors Affecting Program Performance

1. An Asian Clean Revolution

Asia's development performance is generally considered successful. The emergence of China and India as important players in the world economy, very rapid economic growth throughout East and South East Asia, the reorientation of economic premises and strategies in South Asia, the rebirth of economic activity in Indo-China, and the burgeoning pattern of trade and investment between the region and the industrialized countries all support a positive view of Asia's development experience.

Yet, success has come at a price. Pressure on the region's resources is intense and growing. The driving trends related to public health and the environment are economic and demographic (i.e., very rapid growth, urbanization, and rural transformation), resulting in serious problems in areas of the urban environment, industrial pollution, atmospheric emissions, soil erosion, degradation of water resources, deforestation, and loss of natural habitats. There are also new threats to world systems emanating from the region - global warming, ozone depletion, acid rain, deforestation, mass extinctions, and marine degradation. And the real costs of environmental degradation are mounting, taking the form of increasing health costs and mortality, reduced output in resource-based sectors, and the irreversible loss of biodiversity and overall environmental quality. Faced with these trends, it is not surprising that many thoughtful observers have concluded that nothing short of a major shift in the Asian development paradigm is required, a shift in the direction of sustainability, in the direction of industrial and urban development, of an Asian clean revolution.

Industrial pollution, and its related urban manifestations, is the legacy of technologies developed without regard for environmental consequences. Indeed, in Asia, it could be argued that industrial pollution is imported insofar as production technologies and processes are imported, principally from E 7 countries, including the United States. While in some respects an accurate characterization, it is equally true that technological innovation and industrial change come about in response to market and societal demands. If the demand for environmental quality is clearly articulated, then new technologies can help achieve it. What is needed in Asia, then, is a process whereby the environmental consequences of products, industrial processes, and systems become an important part of the demand system, measuring progress toward minimizing or eliminating adverse industrial environmental impacts through greater materials and fuels efficiency, the increased use of inputs, technologies, and industrial

processes with low environmental costs, waste reduction or avoidance, the recycling of residuals, so that any emissions or effluents are benign, and where necessary, and the deployment of pollution control technologies.

Against this background, and in response to the 1995 Strategy review, the US-AEP Secretariat has organized a series of country assessments (ongoing) to assess the important factors affecting program performance. A preliminary catalog of findings follows.

2. Factors Impeding an Asian Clean Revolution

Drawing from country assessments completed to date (and from similar assessments by, among others, the World Resources Institute), the US-AEP Secretariat has identified seven principal impediments to the realization of a clean industrial revolution in Asia, factors which obviously will affect program performance.

i) Weak Demand.

There is a very limited demand for clean industrial technology in Asia. One of the underlying factors, of course, is a price structure in which the environmental costs of industrial activity are largely ignored. Public regulatory regimes are a way to compensate for such market distortions, and most countries in Asia have adopted environmental regulatory regimes similar to those in the E 7 countries. But enforcement capability is the exception rather than the norm. Industrial firms, faced with legal constraints that appear more theoretical than real, are naturally reluctant to invest in clean industrial practice or technology. And, throughout Asia, both government and industry subordinate environmental quality to the rewards of the marketplace. In this circumstance, forward-looking government policy makers and industrial leaders (in some countries) are looking at ways to enhance and refocus demand for environmental quality might (e.g., making environmental quality a strategic factor in industrial policy and business management, enforcing information disclosure, and promoting standards for environmental management).

ii) Pollution Control Mindset.

The idea of pollution as a "by-product", as something to be collected or treated at the end of the industrial process, is the premise for environmental law in the E 7 countries and, in consequence, by countries throughout Asia. Although it is obvious in principle that pollution prevention offers a superior solution, most regulatory standards are based on the limits of known "end-of-pipe" technologies. As a result, firms have little incentive to seek out new "cleaner" technology to satisfy environmental standards. There may be an opportunity, however, in Asia, to by-pass reliance on pollution-control and treatment technologies. The key to "leap frogging" will be making environmental quality a strategic factor in business management, focusing on clean technologies, clean design,

clean processes, and clean systems. The modernizing countries in Asia may have the unique opportunity to build their industrial economies from the start on technologies that are cleaner and inherently more environmentally sustainable.

iii) *Deficient Technical Capacity.*

The problems of building technical infrastructure, and training industrial managers and technicians, are endemic throughout the Asia region. Even where aggregate technical capabilities are significant, often certain sectors of the economy and many firms (particularly small and medium-sized firms) lack the knowledge, resources, and linkages to assess clean technologies, design, industrial processes, or systems. Although the lack of certain types of uniquely environmental capabilities may frustrate environmental improvement, the primary need is to foster the capacity to stimulate technological change in general and to embed environmental concerns in this process. Efforts to enhance technical capability are already the focus of publicly supported programs in Asia, but there has been no systematic effort to see the problem whole (e.g., engaging private sector intermediaries, etc.) or to conceptualize, develop, and support comprehensive industrial extension systems.

iv) *Information Gaps.*

Documentation and dissemination of information about environmental technologies is a major focus of programs for upgrading environmental conditions among the E 7 countries. In the United States, for example, the United States Environmental Protection Agency maintains a large number of technology data bases; industry organizations like the Electric Power Research Institute maintain elaborate technology information centers and systems; industry associations like the Air and Waste Management Association conduct broadly-based continuing education programs; and organizations like McGraw-Hill publish industrial and technology books and professional magazines and journals for a large industrial audience. Information about technological alternatives is obviously an essential precursor to implementation. Yet, these systems are nonexistent or only nascent among the modernizing countries in Asia. The common need across the region is acquiring practical information suited to individual users' needs.

v) *Isolation*

For the immediate future, the industrial sectors of Asia will depend on the experience, practice, and technologies of the E 7 countries. In other words, Asian firms will continue to import the main part of their industrial infrastructure. Barriers of distance and culture, of course, must be scaled in all international transactions. These difficulties are multiplied if markets, information sources, and the means of matching potential partners are poorly developed. Although a number of intermediary institutions exist to facilitate international trade and investment, few focus explicitly on environmental technology. Fewer still foster long-term cooperative relationships. Many firms in the

United states, particularly those of small and medium size, are frustrated because they do not have the information about markets and potential partners in Asia that they need to embark on international ventures with significant environmental benefits. Many such firms are not in the pollution-control industry, but focus on other technologies (industrial process technologies) with potential environmental benefits. Similarly, many firms in Asia cannot connect with external sources of capital and technology, even though market opportunities are significant. Indeed, the problem of inadequate connections across countries, sectors, and firms is a fundamental factor across the board affecting the prospects for program success.

vi) *Lagging Infrastructure.*

The solution to the environmental issues associated with the industrial sector are not entirely within the province of industrial policy or even industry itself. The question of environmental infrastructure is fundamentally important, and it is clear that it is woefully deficient throughout the Asia region. There is no way that public investment will be able to keep pace with the burgeoning demand for infrastructure generated from the private sector investment fueling industrial growth and urbanization. More is needed, and the only serious option for the required increase in the stock of environmental infrastructure appears to be in the apparent interest in municipal finance reform and privatization (both of which are related back also to management). If, as is true in Taiwan, only three percent of a country is accommodated with environmental infrastructure, regulations, even with the widespread use of clean technologies, will not lead to a clean industrial revolution. The infrastructure issue, then, is integral to an Asian Clean Revolution.

vii) *Lack of Commitment.*

With the sole exception of Singapore, there is as yet no single government in Asia explicitly committed to sustainable development as a national goal. Until the countries in the Asian region incorporate sustainability concepts in their development plans and policies, the prospects for improvement in environmental quality will remain limited. Economic decision makers must increasingly recognize the links between economic and environmental policies and goals. As policies are fashioned, diverse objectives must be made explicit. Part of the approach is intellectual (i.e., introducing new concepts, analytic tools, methodologies, etc.), the other part political. The important lesson from the American experience is that until the public becomes broadly informed and actively engaged, and until environmental management policies are broadly applied, there will be little prospect for change in the development regime.

3. Building-Blocks for An Asian Clean Revolution

Again, drawing from those country assessments completed to date (and from similar assessments by, among others, the World Resources Institute), the US-AEP Secretariat has

identified eleven strategic building-blocks for the realization of a clean industrial revolution in Asia, factors which obviously will affect program performance.

i) Sustainable Development as a National Goal

The first, and perhaps most fundamental, building-block for an industrial clean revolution is to reinforce the idea of sustainable development as a national goal throughout Asia. Indeed, this should be the bedrock of the US-AEP program, underlying other more targeted objectives. It draws from the United States environmental experience, although it is intended to strengthen movement towards sustainability in each eligible and participating country in a way that is consistent with its own national direction.

ii) Environmental Quality as a Strategic Factor in Industrial Policy

For all its vaunted performance, Asia's industrial development is as yet infant. Indonesia, for example, has still to install 80 percent of the industrial capacity that it will have by the year 2010. New industrial investment in Asia, then, will dominate total investment over the next 15 years, providing a once-in-a-lifetime opportunity to shift industry to clean production and to "leap-frog" the costly, inefficient, and embattled experience of the industrialized countries. This suggests that the environmental future for Asia is still to be determined. One already glimpses the opportunity for an Asian Clean Revolution in countries like Singapore, south Korea, and Taiwan.

iii) Environmental Information Disclosure

Adequate and accurate information about environmental hazards must underpin all environmental strategies, public and private. Without it, regulatory agencies have no scientific basis for standard-setting and enforcement, firms cannot gauge the extent and nature of pollution, and the public is ignorant of the risks it faces. Public disclosure of information on the types, amounts, and consequences of pollution has significantly enhanced the demand for environmental quality in the United States and Europe by assuring public awareness and stimulating both government and public action. Since broader and more systematic environmental information disclosure in Asia could greatly enhance the demand for cleaner technology and production processes, national governments there, multinational firms and business associations, NGOs, and international organizations like USAID all have a stake in institutionalizing it.

iv) International Standards for Environmental Management

In a rapidly globalizing world economy, the impact of international standards will be enormous. Standards can provide concrete measures of environmental performance, standardize approaches across countries and industries, and, through certification,

establish some accountability - all of which should, in turn, increase demand for environmental know-how and technology within firms. International Standard 14000 is one such standard, promoting environmental management systems. Related international standards are appearing under the guise of "greening the supplier chain" (e.g., the garment industry) and "environmental due diligence" (e.g., the banking and insurance industries). Each of these international standards has the potential of affecting industrial behavior in Asia in the direction of environmental quality (at least, and initially, among export industries in the export-oriented economies of East Asia).

v) *Environmental Quality as a Strategic Factor for Business Management*

There are a number of reasons why it may make good sense for firms in Asia to make environmental quality a strategic factor in management. First, it will send a message to society that it intends to be a participant in positive societal change. In a more immediate context, the commitment to upgrading environmental conditions within the firm (i.e., environmental management) can cement relationships with suppliers and customers (particularly international customers). Product quality can be increased at the same time; potential environmental liabilities lessened. Given the inevitable importance environmental quality will have in the rapidly modernizing countries of the Asia region (i.e., as the environmental ethos continues to grow, and as the pressures from international standards tighten), far-sighted managers (e.g., San Miguel in Philippines) are seeing commitments made today as both proactive and prudent. Of course, translating statements of principle will be difficult, suggesting that USAID would do well to build on the training/consulting opportunities related to ISO 14000 and "greening the supply chain" initiatives.

vi) *Industrial Extension*

As an international development organization, there is no way USAID itself can directly affect change at the firm level. It will be necessary to work with intermediary organizations, organizations with mission/vision to change industrial behavior and working at the firm level. Development experience points in the direction of extension (e.g., agriculture, family planning, etc.). According to a recent study by the General Accounting Office (GAO), industrial extension has played a major role promoting profitability, productivity, and even environmental quality in the United States, particularly with small and medium-size firms. Expanded to include the private sector (e.g., design engineers, architects, management consultants, etc.), there may be low-cost approaches to upgrading industrial extension in the Asian region. It is certainly an arena which might engage private sector partners (particularly industry associations and larger-scale and multinational firms) in lending their experience, authority, staff, facilities, and financial resources to a systematic upgrading of all potential organizations in a virtual industrial extension system (including the DSM units of electric utilities, pollution prevention agencies of government, industry and professional associations, university-based continuing education programs, the design engineering/architecture/construction

industry, the management consulting industry, and even the engineering departments of larger-scale firms and multinational corporations).

vii) *Voluntary Industrial Standards*

Private "codes of conduct" are widely used by industrial associations to guide the behavior of members and to publicly express commitment to certain principles in the conduct of business. The most widely recognized environmental code is probably the ICC Business Charter for Sustainable Development, a comprehensive set of guiding principles endorsed by over 1,200 firms world-wide. There are a range of similar codes and standards in the United States (e.g., GEMI) and among specific industries (e.g., the "responsible care" standards of the U.S. Chemical Manufacturers Association). In Asia, there are also a few places where industry associations have embarked on campaigns to increase grassroots support for environmental standards and to train firms (particularly small and medium-size firms) in environmental management systems (e.g., Philippines). While by no means a "magic bullet", voluntary standards do draw attention inside and outside the association to environmental issues, prompting increased commitment. Moreover, trade association codes can be enforced to some degree since good standing in the organizations can be tied to compliance.

viii) *Technological Information on CTEM*

As noted in the preceding section, information about technological alternatives is obviously an essential precursor to implementation. Still, little is written (or known) about the extent or nature of environmental information deficiencies in the Asia region (despite the focus in our country assessments). As a result, the US-AEP has launched three pilot field activities (in Jakarta, Manila, and Singapore) to develop a better understanding of information deficiencies and requirements. Further, US-AEP has initiated a "central" information facility in Washington (with G/EG/CTIS) to back-up the three field sites and provide information and services to other US-AEP countries. Anecdotal evidence suggests that what many industrial firms in Asia now need is "real-time" information and consultation on how to employ environmental technology so as to reduce pollution while increasing productivity and making a profit. Again, the common thread in the country assessments to date is the emphasis on acquiring practical information suited to individual users' needs.

ix) *Professional and Institutional Linkages*

In intermediation, third parties create linkages, transmit knowledge, and expedite other transactions for principals. The greater the barriers that separate parties who could create relationships of mutual benefit, the greater the need for intermediation. In technology areas, the value of intermediation is well-recognized. Venture capital firms frequently play this role in the United States, and trading companies have developed intermediation to high-art in Japan. Although the contexts may vary by country and

sector, all of the many institutions that play an intermediary role in technology cooperation share a focus on creating connections between the sources of technical expertise - in universities, government, industry and professional associations, between firms, etc. - and the contexts in which experience, practice, and technologies can be profitably be exploited. Mutually beneficial, cooperative, long-term technology-based relationships between professionals and organizations in the developed countries and Asia are particularly difficult to build. The US-AEP itself, and collaborations with organizations like the Air and Waste Management Association, Water & Environment Federation, Council of State Governments, National Association of State Development Agencies, and including the DOC, point in the right direction.

x) *Financial Reform and Privatization for Environmental Infrastructure*

As demonstrated in the case of electric power generation, private capital is a *sine qua non* to any dramatic increase in the stock of environmental infrastructure. Attracting that capital has implications for both developed countries and Asian countries. In Asia, it will be important to reform national finance to give a more prominent role to municipal finance (e.g., municipal bonds), autonomous self-financing utility management, and privatization. And, in the United States (as a source of both capital and technology), it may be important to work with different parts of a fragmented industry to structure "teams" willing and able to develop, invest, build, and operate environmental infrastructure projects (particularly on the municipal water and wastewater side).

xi) *Globalization*

There are a set of things happening on the global stage which are creating a powerful driver for environmental quality. First, environmental quality is being subsumed within the larger quality movement worldwide. Second, the worldwide movement to contract manufacturing is extending the concern for environmental quality all along the supply chain. New metrics for measuring quality performance are also being developed in the corporate sector to monitor adherence to environmental quality. Third, contract manufacturing is taking place on a global scale.. Fourth, globalization brings with it higher environmental due diligence in project financing. And, fifth, the movement to a worldwide environmental standard is taking place outside of government. As countries liberalize their economies (and/or expand international trade), these forces will become stronger and could well become a very powerful force for mainstreaming a concern for environmental quality in industrial practice. In East Asia, these forces have also proved to be a powerful driver for main streaming the environment in public policy. Associated with this phenomenon is the dramatic change in the behavior of multinational corporations (in the direction of environmental quality), and the powerful impact that multinationals are having on environmental behavior with their joint venture partners all over the world.

Part II

Progress Toward Achievement of the Strategic Objective

Part II Results Review and Resource Request (R4)

A. Approved Strategy (June, 1995)

In the 1995 Strategy Review, it was agreed that the US-AEP program would focus on a single strategic objective: fostering an Asian Clean Revolution. In approving that objective, it was agreed that the US-AEP program would address issues related to a "regional framework" for environmental quality, introducing environmental quality as a strategic factor to both industrial policy and business management, and reforming municipal finance, including privatization, necessary for increasing the stock of environmental infrastructure. A summary outline of the US-AEP strategy follows.

Strategic Objective:

An Asian Clean Revolution

I. Intermediate Result:

Increasingly Efficient and Less Polluting Industrial Regimes

A. Results Package:

Environmental Quality as a Strategic Factor In industrial Policy

1. **Activities Set:**

Public Policy

2. **Activities Set:**

Private Incentives

B. Results Package:

Environmental Quality as a Strategic Factor in Business Management

1. **Activities Set:**

Environmental Management as an Industry Standard

2. **Activities Set:**

Industrial Extension Capabilities

3. **Activities Set:**

Voluntary Standards by Industrial Sector

C. Results Package:

Transfer of U.S. Environmental Experience, Technologies, and Practice

1. **Activities Set:**

Information Systems

2. **Activities Set:**

Financial Systems

**3. Activities Set:
International Partnering**

**II. Intermediate Result:
Increase in the Stock of Environmental Infrastructure**

**A. Results Package:
Municipal Finance Reform and Privatization**

**B. Results Package:
Transfer of U.S. Environmental Experience, Technologies, and Practice**

**IV. Intermediate Result:
Sustainable Development as a National Goal**

**A. Results Package: (see also Results Package at I. A.1.)
Increased Awareness of Sustainability and Environmental Issues**

**B. Results Package: (see also Results Package I. A. 1.)
Increased Public Participation in Environmental Activities**

1. Increasingly Efficient and Less Polluting Industrial Regimes

The urgency and potential environmental benefit of changing the pattern of industrial development in Asia can hardly be overstated. Rapid industrial development is predicted throughout the region. Indonesia, for example, has yet to install 80 percent of the industrial capacity that it will have by the year 2010. If this capacity is built up with environmentally sound technologies, optimism about the region's (and world's) environmental future is in order. If the technological patterns of the past persist, pessimism is in order. Note that this issue (particularly the issue and opportunity associated with new investment) is not yet prominently on the agenda of most governments in Asia, nor on the agenda of major development organizations (e.g., Asian Development Bank, World Bank, etc.), nor major economic organizations (e.g., APEC, ASEAN, etc.).

It was agreed that the US-AEP will work to promote increasingly efficient and less polluting industrial regimes throughout the Asia region. Working in ten target countries, activities seek to strengthen and expand incentives for environmental quality within the industrial regime, increase the use of environmental considerations in business decision-making, and reduce market imperfections to facilitate an increase in environmental technology transfer from the United States to Asia.

2. Increase in the Stock of Environmental Infrastructure

Most countries in the Asia region are falling behind in the provision of environmental systems and services to poor households (e.g., clean water, waste water, and solid waste management) and to industrial units (e.g., waste water, hazardous waste management, etc.). This is because urbanization and economic growth are way out ahead of government systems and services, and economic reform agendas are putting pressure on government budgets. This is particularly so among the developing countries in the region.

It was agreed that the US-AEP will work to increase the stock of environmental systems and services available to poor households in urban areas and industrial units throughout the Asia region. With emphasis on the four USAID-assisted countries in Asia (including Thailand which was a presence country initially), activities seek to strengthen and expand the incentives for private and community investment in environmental infrastructure and reduce market imperfections to facilitate an increase in environmental infrastructure investment from the United States in Asia.

3. Sustainable Development as a National Goal

Very rapid economic and population growth, radical structural change, the craving for steady increases in per capita income, the determination to eliminate poverty, and other development pressures put enormous strain on environmental systems. Even where the initial development experience has been successful, as in East Asia, there is concern that it cannot be sustained. As suggested earlier, pollution, resource degradation, resource inefficiency, deficits in environmental infrastructure, global warming, and the loss of biological diversity lead to questions about the sustainability of economic development trends in the Asia region and give a sense of urgency to rethinking the economic development concept.

It was agreed that the US-AEP will work to strengthen a growing consensus about sustainable development and environmental quality throughout the region. Specifically, activities will seek to strengthen the environmental regime and levels of public awareness and participation in ten target countries.

B. Indicators

There is continuing discussion within USAID concerning strategy for the US-AEP program. Much of the intellectual work related to environmental indicators was developed in response to national efforts to measure environmental quality and policy performance (see the World Resource Institute's Environmental Indicators: A Systematic Approach to Measuring and Reporting on Environmental Policy Performance in the Context of Sustainable Development, 1995). There also is ongoing work at the World Bank (see, for example, The Environmental Data Book, 1994, and Monitoring Environmental Progress, 1995) and at the Asian Development Bank (see, for example, Harvard University's Critical Review of Environmental Indicators, 1995). Much of this work is complex, and most of it divorced from the strategic objective for

the US-AEP. The World Bank's recent publication, for example, gives short shrift to the industrial sector (compared with either agriculture or natural resources), and the Asian Development Bank's work does not take account of the new-investment phenomenon in Asia.

The US-AEP Secretariat is developing information, and indicators, for ANE's performance review and budgetary process (i.e., its R4), for USAID's public affairs and outreach requirements (i.e., its PPIS), and for the US-AEP's Secretariat's own portfolio management review and vulnerability assessment responsibilities (i.e., SOIR). The following presentation is specifically geared to USAID's Results Review and Resources Request (R4) and is open to further discussion, refinement, and/or revision. Indicators for the R4 do not track each activity (e.g., NASDA grants), nor each element of the strategy (e.g., incentives, business management, and technology transfer for the clean technologies and environmental management component). That information will be available through the PPIS (output indicators) and SOIR (process indicators). Rather, the indicators for the R4 will capture development outcomes.

C. Progress Toward Achievement of the Strategic Objective

1. Strategic Objective

The US-AEP proposes four indicators to measure progress toward achievement of the strategic objective.

First: *The pollution intensity of industrial value-added decreasing throughout Asia.* To measure progress towards an industrial clean revolution, it is necessary to distinguish between what is clean and cleaner (i.e., a measure of the industrial process, not of the environment as such). Ambient measures are insufficient (and unreliable in any event). Why? Because ambient conditions may improve without any change in pollution intensity (e.g., because of a shift in industrial composition). Conversely, of course, ambient conditions may decline while pollution intensity improves (e.g., because of very rapid growth in the industrial sector). Further, such indices will be a *sine qua non* to making pollution intensity a strategic factor in industrial policy. Without it, after all, regulatory agencies concerned with new investment have no scientific basis for standard-setting and enforcement, legislative bodies and policy agencies have no basis for policy formulation, and firms cannot gauge the extent and nature of pollution emanating from any particular technology or industrial process. At the moment, standards for pollution indices are being studied and developed (e.g., in Taiwan and South Korea, at the World Bank, etc.). The US-AEP Secretariat is supporting this development (e.g., by establishing an environmental policy center and supporting related work of the National Academy of Engineering to accelerate these developments and to build collaboration and consensus among relevant professionals and organizations in Asia, among Asian countries, and with the United States. Recently, in the US-AEP/India joint assessment and programming exercise, the Confederation of Indian Industries (CII) indicated that they were about to embark on collecting such data. US-AEP will furnish CII with a small grant to accomplish this task for selected Indian industries.

Second: Increased investment in clean production technologies. While ambient standards arguably are the best measure of environmental quality, and pollution intensity indices the best measure of the industrial process, there is woefully little reliable information available to support either. This indicator is suggested as an intermediate measure. The idea of an Asian Clean Revolution is organized around the opportunity inherent to *new* investment. Positive environmental impact, then, will be in evidence only out beyond the life of the program and undoubtedly will lag behind industrial growth. The objective, of course, is to get in front of the investment curve. Three measurements are offered, then, in substitute: i) the import of environmental goods and services increasing as a percentage of total industrial imports; ii) the import of new industrial process equipment increasing as a percentage of total industrial imports; and iii) the import of used industrial process equipment decreasing in total dollar value. These three measures (or indicators) are probably the most relevant and most readily available. The indicator assumes, of course, that Asian countries will continue to rely on imports for industrial plant and equipment, and that import figures for environmental goods and services and new process equipment will reflect Asian tendencies towards clean production and clean production practices.

Third: Investment in environmental infrastructure derived from municipalities and private sources. The simple argument is that more environmental infrastructure is required (given existing deficits and rapid rates of industrialization and urbanization). Statistics on persons served is not useful given the mix of social and industrial infrastructure captured under the rubric of environmental infrastructure. The only way to assure a dramatic and sustained increase in the stock of environmental infrastructure is through reform of municipal finance (including reorganization of the management of infrastructure activity) and through privatization. What is important to measure, then, is whether there is sufficient change in the investment mix to suggest that the stock of environmental infrastructure is likely to increase.

Fourth: Sustainable development as a national goal. While it can be argued that even official commitments of governments are oftentimes empty, it is equally certain that an Asian Clean Revolution will remain illusory without the reorientation of the development paradigm around sustainability concepts. In this regard, it is important to define the Strategic Objective in development as well as environmental terms. US-AEP seeks the following elements: rapid economic growth, reductions in the absolute numbers of poor, improvements in income distribution, concern for environmental quality, and evidence of pluralism and democratic institutions.

2. First Intermediate Result

The first intermediate result is defined in terms of: **INCREASINGLY EFFICIENT AND LESS POLLUTING INDUSTRIAL REGIMES THROUGHOUT ASIA.** The US-AEP proposes three Results Packages in furtherance of the result.

First Results Package: Strengthen and expand incentives for environmental quality. The objective here is to re-enforce public policy and private incentives that might affect or condition

industrial behavior in the direction of environmental quality. The US-AEP Secretariat proposes **two indicators** for measuring strengthened and expanded public policy, and **three indicators** for measuring strengthened and expanded private incentives:

- **Environmental Indicators for Industrial Growth**: The idea is to measure government progress toward main streaming environmental quality as a strategic factor in industrial policy. As noted earlier, government first needs to establish a basis for standard-setting and enforcement, a basis firms can then use to make informed technology choice and to gauge their own performance and compliance. They, then, need to make that basis or standard a public policy goal and organize regulations and incentives around those bases or standards. After careful analysis and discussion (with the National Academy of Engineering), the US-AEP Secretariat proposes "pollution prevention of industrial value-added" as a measure of industrial performance and a country index as the indicator of program performance.

- **Environmental Information Disclosure**: The idea again is to measure government progress toward main streaming environmental quality as a strategic factor in industrial policy. As noted earlier, adequate and accurate information about environmental hazards must underpin all environmental strategies, public and private. Without it, regulatory agencies have no scientific basis for standard-setting and enforcement, firms cannot gauge environmental progress. After careful review of the environmental policy literature and experience (including the comprehensive survey work of the Office Technology Assessment), the US-AEP Secretariat proposes "environmental information disclosure" as a measure of public performance and a country index as the indicator of program performance.

- **Voluntary Standards**: Perhaps the most important impetus towards environmental quality in the industrial regime will be the pressure from the ISO 14000 international environmental standard (particularly as it affects export industries). A national base to promote ISO 14000 and related environmental management systems is probably necessary to make ISO 14000 an effective incentive. Without a national base, the ISO movement will continue rooted among the developed countries and seen in Asia as an outside force, not internalized. Given the sensitivity of Asian business to the requirements of the international marketplace (as revealed in country assessments), the US-AEP Secretariat proposes the "national presence of an ISO organization" in each of ten target countries as a measure of private incentives and an indicator of program performance. Other measures might include, for example, chemical industries adopting "responsible care".

- **Greening the Supply Chain:** As noted immediately above, a major impetus towards environmental quality will be reflected in the international trade regime (e.g., ISO 14000). A second growing pressure point in international standards is reflected by the movement to "green the supply chain". The movement was born in Europe and is growing in the United States. After almost a year-long study of the movement (with particular attention to activity in California and the Pacific Northwest), the US-AEP Secretariat proposes that the number of supplying firms in Asia (or, if measurable, perhaps the value-added product of Asian firms) affected/covered by "green screens" from ordering/buying firms in the United States as a measure of private incentives and an indicator of program performance.

- **Environmental Due Diligence:** Another lever in the direction of environmental quality for industrial investment may be developing from among those financial institutions (e.g., banks, insurance companies, pension funds, etc.) practicing "environmental due diligence" in examining new credit and investment proposals. Movement in this area will be principally conditioned by "liability standards"; but the World Bank has also been pressing government financial institutions, and there is some movement within the financial community itself to treat the issue as a voluntary standard. There also may be some pressure from ASEAN. After almost a year-long study (including pilot exchanges in collaboration with the ASEAN Secretariat), the US-AEP Secretariat proposes that the number of credit and investment institutions in Asia practicing "environmental due diligence" as a measure of private incentives and an indicator of program performance.

Second Results Package: *Increased use of environmental considerations in business decision-making.* The objective here is to re-enforce business behavior, specifically promoting environmental quality as a strategic factor in business management and the increased practice of environmental management at the firm level. The US-AEP Secretariat proposes **three indicators** for measuring the pick-up of environmental management as an industry standard, the up-grading of industrial extension, and the adoption of voluntary environmental standards by industry.

- **Environmental Management Systems:** The idea here is to try to establish environmental management concepts, practices, and systems in each of ten target countries. For purposes of the Results Package, the Secretariat includes pollution control, waste minimization, pollution prevention, clean production, total quality environmental management, and total quality management. After careful analysis (including a commissioned study by HIID and Booz,Allen) and discussion, the US-AEP Secretariat proposes an "environmental ladder" as a measure for the rootedness of

environmental management systems in each of ten target countries and a country index as the indicator of program performance.

- **Industrial Extension:** USAID experience with capacity-building puts a premium on "training of the trainers" (e.g., experience with agriculture and family planning). The idea here is to focus attention and resources on intermediary organizations which can develop and deliver management training and support for promoting environmental management systems, and then to link that system to good (and sustaining) sources of environmental/industrial experience, practice, and technologies (see technology transfer under the Third Results Package). In consultation and collaboration with USAID missions in Indonesia and Philippines, and with the Global Bureaus EP3 Project, the US-AEP Secretariat proposes to measure the capacity of industrial extension as a measure of the rootedness of environmental management systems in each of ten target countries and to use a country index as the indicator of program performance.

- **Voluntary Environmental Standards by Sector:** There is something of a consensus that industrial association (reflected in industrial associations) can be a useful starting point for promoting environmental quality as a strategic factor in business management (e.g., voluntary standards, training, international partnership, etc.). There is less consensus on what the "touchstone" might be. For the next year or so, the US-AEP Secretariat (based on the regional experience and recommendation of its EIP contractor, Louis Berger Intl.) proposes to measure the number of industrial sectors covered by voluntary standards as a measure of both the "greenness" of industrial sectors and the rootedness of environmental management systems in each of ten target countries and to use that measure as an indicator of program performance.

Third Results Package: *The transfer of U.S. environmental experience, technologies, and practice.* The objective here is reduce the impediments to the environmental and industrial technology transfer. The US-AEP Secretariat proposes a single indicator for measuring the results of technology transfer, although there are three activity sets - information, finance, and international partnering - in support of the intermediate objective. Each of those activities has independent output indicators which are available from the US-AEP Secretariat.

- **Sales, Joint Ventures, Licenses, and Investments in U.S. environmental Goods and Services:** The best proxy for technology transfer (U.S./Asia) is the value of international sales, licenses, joint ventures, and investments. This is easily measured, and the Secretariat believes that the value of environmental transactions will capture forward movement vis a vis clean process technology as well (or will serve as a proxy for measuring the direction of clean technology purchases). Sales are the

measure most commonly used by the United States Department of Commerce (DOC) and Council on Environmental Quality (CEQ) for technology transfer pick-up in the United States. The US-AEP Secretariat, therefore, proposes environmental sales from the United States in ten target countries in Asia as a measure of technology transfer and an indicator of program performance. See Annex II.

3. Second Intermediate Result

The second intermediate result is defined in terms of: INCREASE IN THE STOCK OF ENVIRONMENTAL INFRASTRUCTURE THROUGHOUT ASIA. The US-AEP Secretariat proposes two Results Packages in furtherance of the result.

First Results Package: *Municipal finance reform and privatization.* The objective here is to re-enforce municipal finance (and management) reform and privatization. The US-AEP Secretariat proposes a single indicator for measuring reform.

- Increased Investment in Environmental Infrastructure: The simple argument is that more environmental infrastructure is required (given existing deficits and rapid rates of industrialization and urbanization). The only way to assure a dramatic increase in the stock of environmental infrastructure is through reform of municipal finance (and management) and privatization. The US-AEP Secretariat (based on a careful six-month assessment undertaken by the American Consulting Engineers Council, International Resources Group, and K&M Engineering) proposes two data sets to measure whether there is a marked up-take in the stock of environmental infrastructure (i.e., funding from municipalities and privatization) in three/five target countries in Asia and as an indicator of program performance.

Second Results Package: *The transfer of U.S. environmental experience, practice, and technologies.* The objective here is reduce the impediments to the environmental and industrial technology transfer. The US-AEP Secretariat proposes a single indicator for measuring the results of technology transfer.

- Value of Sales, Joint Ventures, Licenses, and Investments in U.S. environmental Goods and Services: The best proxy for technology transfer (U.S./Asia) is the value of international sales, licenses, joint ventures, and investments. This is easily measured, and the Secretariat believes that the value of environmental transactions will capture forward movement vis a vis clean process technology as well (or will serve as a proxy for measuring the direction of clean technology purchases). Sales are the measure most commonly used by the United States Department of Commerce (DOC), and Council on Environmental Quality (CEQ) for

technology pick-up in the United States. The US-AEP Secretariat, therefore, proposes environmental sales from the United States in ten target countries in Asia as a measure of technology transfer and an indicator of program performance.

4. Third Intermediate Result

The third intermediate result is defined in terms of: SUSTAINABLE DEVELOPMENT AS A NATIONAL GOAL THROUGHOUT ASIA. The US-AEP Secretariat proposes two Results Packages in furtherance of the result.

First Results Package: *Increased public awareness of sustainability and environmental issues.* The initial objective here is to promote increased public awareness through environmental information disclosure. The US-AEP Secretariat proposes a single indicator for measuring reform. Over time, the US-AEP Secretariat proposes to expand its activity set directed to this intermediate objective and result.

- Environmental Information Disclosure: As noted earlier, adequate and accurate information about environmental hazards must underpin all environmental strategies, public and private. Without it, the public has no way of tracking public policy or progress towards environmental quality. After careful review of the environmental policy literature and experience (including the comprehensive survey work of the Office Technology Assessment), the US-AEP Secretariat proposes "environmental information disclosure" as a measure of public performance and a country index as the indicator of program performance.

Second Results Package: *Increased public participation in environmental activities.* The initial objective here is to promote increased public participation through environmental information disclosure. The US-AEP Secretariat proposes a single indicator for measuring reform. Over time, the US-AEP Secretariat proposes to expand its activity set directed to this intermediate objective and result.

- Environmental Information Disclosure: As noted earlier, adequate and accurate information about environmental hazards must underpin all environmental strategies, public and private. Without it, the public has no way of tracking public policy or progress towards environmental quality, and no basis on which to engage in promoting compliance. After careful review of the environmental policy literature and experience (including the comprehensive survey work of the Office Technology Assessment), the US-AEP Secretariat proposes "environmental information disclosure" as a measure of public performance and a country index as the indicator of program performance.

Part III

STATUS OF THE MANAGEMENT CONTRACT

Part III Management Contract

A. Summary

As part of the 1995 Review of Strategic Plans and Action Plans (June, 1995), agreement was reached on the direction of the US-AEP program. Several USAID offices in Washington, as well as several missions (i.e., India, Indonesia, Philippines, Sri Lanka, and the Regional Support Mission) submitted issues for consideration at the Strategic Review. The strategy for the US-AEP program was approved, subject to certain comments and actions to be completed.

1. An Asian Clean Revolution. It was agreed that the strategy will focus on promoting an Asian clean technology revolution. To achieve the objective, it was agreed that the US-AEP program will continue to mobilize U.S. experience, technology, and practice in support of environmental improvement in the industrial sector, particularly in new plant and equipment in Asia. In addition, it was agreed that the US-AEP will continue to work on water, waste water and solid waste management for the poor in urban areas, in collaboration with bilateral missions and the Global Bureau as appropriate.

2. Management Contract. The US-AEP Secretariat was authorized to proceed with implementing the revised strategy and reporting on results. Formal delegations of authority to manage and implement the strategy under a re-engineered USAID system were deferred until USAID itself finalizes remaining operational considerations (e.g., content and detail of the USAID-US-AEP management contract, the extent of the delegations of authorities, etc.). At that later time, it was agreed that ANE would work with the US-AEP Secretariat to convert the approved strategy agreement into a formal management contract. This R 4 document outlines the proposed new formal management contract between ANE and the US-AEP Secretariat..

3. The US-AEP as a Model. The ANE Bureau confirmed its judgment that the US-AEP program is one of the Agency's key assets to respond to important environment issues in Asia. Comments, recommendations, and action items from the Strategic Review were intended to enable the Bureau and Secretariat to make the changes to assure that it remains so. It was agreed that what is needed is a major perceptual change in the way development is defined and pursued, taking into account the environmental consequences of high industrial growth in Asia, in essence the pursuit of a "clean technology revolution". The ANE Bureau reiterated its belief that the US-AEP model, even with limited resources, can mobilize U.S. experience, technology, and practice in support of environmental improvement in the industrial sectors in Asia. The key word is "mobilize", seeking to engage professionals and organizations from the United States in Asia in response to mutual objectives and advantage. It was also agreed that, over time, the US-AEP may also be a useful model for development promotion in other situations and regions.

B. Specific Findings

1. Choice of Strategic Approach. In discussion, it was recognized that there are a number of approaches that US-AEP could have taken in developing its strategy (e.g., a mission-support approach, a focus on technology transfer/choice, a constraints-resolution approach, an export-promotion approach, etc.). Given the type of investments US-AEP has already made, the results of the Winrock Analysis, the broad base of technology available, and the fact that the Bureau as a whole tends to program around development problems, it was agreed that the constraints approach was the one best reflecting the US-AEP program.

2. Strategic Framework. It was agreed that although the Strategy Document reflected a concerted effort to provide focus for a large and complex program, industrial pollution treatment and prevention processes should be the major focus of US-AEP. The strategic structure was reframed into a single Strategic Objective: "Promote an Asian Clean Technology Revolution." This approach retains the industrial pollution aspects of the earlier proposed SO-2 as the centerpiece, incorporates the appropriate regional policy/incentive aspects of SO-1, and leverages the value-added aspects that US-AEP brings to mission and Global Bureau urban water supply activities as proposed SO-3 program outcomes. It was agreed that the US-AEP Secretariat, in coordination with ANE and Global Bureaus, would further refine Intermediate Results under this Strategic Objective, to better reflect the new program focus as well as G/ENV and US-AEP collaboration.

3. Management Objectives. It was agreed that the Management Objectives proposed by the US-AEP Secretariat be folded into one objective for the Bureau, emphasizing that US-AEP is one of several ANE Bureau models for testing alternative ways of delivering U.S. development assistance in presence and nonpresence countries.

4. Decision Rules. It was agreed that the Decision Rules as proposed, when taken together with the screening effects of the Strategic Framework, Mission Strategies, and planned Country Assessments, are adequate for proceeding with the strategy, as approved.

5. Program Focus. It was agreed that the US-AEP would focus its program on industrial efficiency, and urban water, waste-water, and solid waste infrastructure. Given the revised framework, US-AEP will phase out of "blue and green" areas in a gradual and orderly manner. It was further agreed that the US-AEP Secretariat and Global Bureau would continue to work together to assure complementarity of their programs. Attachment II constitutes a list of the types of activities the US-AEP is no longer working in or will be phasing out of during the Action Plan period.

6. Biodiversity. Given the industrial pollution emphasis of the US-AEP under the new Strategic Framework, it was agreed that activities in biodiversity no longer tightly fit.

Specifically:

a. It was agreed that management of the Biodiversity Conservation Network would be phased over to the Global Bureau in a gradual, orderly manner. This has been completed. A Working Group, consisting of representatives from US-AEP, other offices in ANE, and Global Bureau was formed to determine the best way this phasing could take place. The Working Group took into account the upcoming evaluation of the Biodiversity Conservation Network, PPC Bureau's Biodiversity Strategy, the guidelines of USAID's Research Council, an continuation of the waiver to work in nonpresence countries for this activity. Thus BCN remains a part of US-AEP for public purposes and funding. Management has been transferred to Global and both Global and US-AEP review its performance.

b. It was further agreed that the Working Group would also consider the disposition of non-BCN biodiversity activities (Convention on International Trade in Endangered Species--CITES, and Training with the United States Fish and Wildlife Service--USFWS). This has also been done, and each of these activities has been brought to an orderly completion.

7. **Relationship with Global Bureau.** It was agreed that a Working Group would be formed, consisting of representatives of ANE and Global Bureau, to look at issues concerning the US-AEP and Global Bureau relationship. The Group was to formulate a vision of how joint planning and programming will proceed in both presence and nonpresence countries. There have been continuing discussions with the Global Bureau, and there appears to be a smooth working arrangement at this stage.

8. **Customer Focus.** US-AEP was charged with more clearly articulating an expanded relationship with Asian partners and customer focus in its upcoming Customer Service Plan. Country assessments are underway and should be completed by June, 1996.

9. **Other Regions.** The US-AEP model may in time be used in other parts of the world. If there is a generalized demand, it was agreed that Global may want to test out the US-AEP approach to see how it works. In fact, there has been significant progress in this area (e.g., ETNA, urban infrastructure, etc.) in the Latin America and Caribbean region. This is an important development particularly as one looks at the prospects for development assistance and the Administrator's commitment to "partnership" approaches.

C. Action Plan

1. **Budget Reduction Scenarios.** It was recognized that because US-AEP does not have fixed multiyear commitments of a bilateral USAID program, it does have flexibility to cope with sizable budget reductions by realigning or adjusting program components. If the budget dips

below \$10 million, however, it was agreed that the US-AEP will need to consider dropping its urban infrastructure activities.

2. Country Presence. While US-AEP maintains the flexibility to work in any of 34 countries in Asia, it will continue to concentrate its efforts in ten focus countries: Korea, Taiwan, Hong Kong, Singapore, Philippines, India, Indonesia, Thailand, Sri Lanka, and Malaysia. It was agreed that designation of specific funding levels for each country, however, is not practical as it would diminish US-AEP's flexibility to respond to demand.

3. Resource Mix/ Program Cost-Benefit. To facilitate comparison with other models of development assistance delivery, a need was recognized to be able to determine the "cost of running the US-AEP program". It was agreed that the Bureau would work with US-AEP to determine how the costs and benefits of the program can be calculated, in a manner that allows comparability with other ANE investments. Progress in this regard is reflected in the Resources section following.

4. Pipeline. It was recognized that US-AEP's pipeline was not too large --if anything, on the low side. This does not present the same kind of problem faced by bilateral missions, however, as US-AEP does not have the mortgage problem found in multiyear bilateral agreements. It was recognized that if the funding gets tight, US-AEP would pare back on its response to demands for services.

5. Category C Projects. It was recognized that the US-AEP was designed in a manner similar to that being used under re-engineering principles. As a result, there are no "projects" per se. When there are poor performing activities, US-AEP simply does not put more money into them.

6. Refinement of Program Indicators. It was pointed out that the proposed indicators at many points, at the SO and PO levels, need refinement of definition. This was considered to be especially true since the Strategic Framework was being substantially changed. This document reflects a fundamental reworking of indicators, and a significant reworking of activities.

Part IV

RESOURCE REQUIREMENTS

Part IV Resource Requirements

A. Program Funding Request

1. Overview

Annex I summarizes the results of a program planning exercise organized over the period November, 1995 - March, 1996. The exercise included professional panels of outside experts (private and public sector), existing implementing organizations, and other USAID offices and bureaus. This exercise includes the ongoing country assessments designed to better incorporate an Asian perspective. The transformation from the older strategy to that approved in June, 1995, is reflected in the Annex. Note that the activity list reflects the thinking emerging from the program planning exercise, independent of actual budget. Tables 1 and 2 summarize the resource levels required to make progress toward achieving the US-AEP strategic objective (i.e., "fostering a clean technology revolution in Asia"). These request levels are built on the following assumptions:

FY 96	-	\$18.3 million
FY 97	-	\$20.0 million base \$16 million (base minus 20 percent)
FY 98	-	\$18.0 million base (base minus 10 percent) \$14.0 million base (base minus 30 percent)

At the \$18.3 million level for FY 96, US-AEP would be able to continue existing activities that are consistent with the revised strategy (e.g., EEP and EIP), initiate the most important activities identified during the program planning exercise, and maintain all its strategic objective targets. A continuing issue, of course, is the amount of budgetary transfer to Global needed to support BCN. Cash flow analysis shows that no more than \$1.5 million was needed by BCN in FY 1996 to maintain operations. However, Biodiversity earmark requirements have raised that to a possible maximum of \$3.545 million. US-AEP is in the process of transferring the base \$1.5 million to Global and will convey the balance, as required, before the end of FY 1996.

At the \$20.0 million "base" level for FY 97, US-AEP's current results framework would remain viable, and it would be able to initiate virtually all of the activities identified during the program planning exercise. A continuing caveat, of course, is the remaining ANE commitment to the Global Bureau for BCN.

At the \$16 million "base minus 20 percent" level for FY 97, US-AEP's current results framework would remain viable, although certain indicators related to the "technology transfer" under Intermediate Result 1/Results Package No. 3 would be eliminated, and certain projected new activities under Intermediate Result 1/Results Package 3 would not be initiated. Under this

scenario, it would also be important to scrutinize the BCN requirement which may have to be reduced proportionately.

At the \$18.0 million "base minus 10 percent" level for FY 98, US-AEP's current results framework would remain viable by reducing slightly the numbers of exchanges and grants and by some adjustment in the allocations/criteria for nonpresence countries.

At the \$14.0 million "base minus 30 percent" level for FY 98, the current results framework would have to be revised by reducing Results Packages 2 and 3 from Intermediate Result 1 (i.e., "increased use of environmental considerations in business decision-making" and "technology transfer") and by stretching out some portion of the remaining BCN requirement into FY 99.

Earmarking Issues: The entire US-AEP program is allocated from environment funds, and most activities relate directly to greenhouse gas reduction. Given the emphasis on the quality of industrial investment, and the direction of the growth paradigm in Asia, it may also be possible (desirable) to allocate some portion of US-AEP requirements from economic growth funds. The agency's commitment to biodiversity (and ANE's continuing commitment to BCN) obviously continues to affect resource availabilities for the US-AEP.

2. Programmatic Priorities

At the Review of Strategic Plans and Action Plans (June, 1995), it was determined to limit the US-AEP program to a single strategic objective. While that would appear to eliminate the necessity of further discussion, the US-AEP Secretariat has, nevertheless, undertaken to subdivide the single objective into three distinct intermediate results which are discussed in the following priority order.

Intermediate Result No. 1 - Increasingly Efficient and Less Polluting Industrial Regimes: This intermediate result constitutes the first priority. It is sub-divided into three results packages, directed to i) strengthened and expanded incentives for environmental quality, ii) increased use of environmental considerations in business decision making, and iii) transfer of U.S. environmental technologies, practice, and experience.

As noted above, the US-AEP Secretariat organized a major program planning exercise over the period November, 1995 - March, 1996 to organize and refocus intermediate objective No. 1. A set of new activities were identified which would make-up the first two results packages, and existing activities were reexamined for the third results package (which is brought forward from the earlier Technology Cooperation component).

In FY 1996, major new activity is planned for results package No. 1 (incentives), including the organization of a policy center, organization of an international policy network, a new collaboration with California EPA, and new initiatives directed to voluntary business standards (i.e., ISO 14000) and environmental screening by financial institutions. The total new

investment is estimated at \$465,000. Investments will also be made in continuing activities with USEPA (\$225,000) and the Asia Foundation for NGO/Business cooperation. In addition, almost \$900,000 of EIP and EEP resources are dedicated to results package No. 1. Total resources \$1,490,000.

In FY 1996, major new activity is also planned for results package No. 2 (business decision making), including a set of activities directed to environmental management systems (\$535,000) and sector-specific initiatives (\$599,000). In addition, almost \$1.220 million of EIP, EEP, and EPA resources are dedicated to results package No. 2. Total resources \$2,354,000.

In FY 1996, there are no new major activities proposed for results package No. 3 (save the addition of pollution prevention engineers in two pilot locations (\$300,000) and seed funding for a "clean technologies" fund, \$150,000). In addition, there is almost \$2,940 million for EIP, EEP, NASDA, and ETNA. Total resources \$6,632,000.

Intermediate Result - An increasing Stock of Environmental Infrastructure: This intermediate result represents second priority. Total resources projected for FY 1996 are \$2,125 million, divided between \$625,000 for financial reform and \$1,500,000 for technology transfer. The major new activity for FY 1996 is the proposed cooperative agreement with the American Consulting Engineers Council (\$525,000).

Intermediate Result - Sustainable Development: This intermediate result is coincident with the first and does not constitute a separate priority. The budgetary allocation of \$150,000 is for the proposed policy center.

Biodiversity: A total of \$3.6 million is proposed for FY 1996.

3. Threshold Level

If the program level available to the US-AEP (excluding biodiversity) for any fiscal year falls below \$10 million, such a level would force the Secretariat to restructure its strategic framework, eliminating the second intermediate result (environmental infrastructure) in its entirety. It would also result in a 40 percent reduction in the allocation to technology transfer under the first intermediate result (preserving more consistent levels for incentives and business capacity).

4. Mission Collaboration

During the year, the mission has launched intensive collaborative programming efforts with the missions in India, Indonesia, and Philippines. Certain assumptions of associated funding from those three missions are built into US-AEP resource projections. In this regard, it is important for ANE to determine the relationship between mission priorities to areas covered by the US-AEP and any assumptions it may have about US-AEP activity in those countries. Under

current policy guidance, the Secretariat would be precluded from allocating resources to areas not identified as mission priority. This is a critical issue to be addressed during the review.

B. Program Management Requirements: Operating Expenses and Staffing

During the past year, the US-AEP Secretariat has significantly expanded its programmatic reach to include a new set of program activities directed to industrial development and environmental management, engaging national governments, the international financial institutions, nongovernmental organizations, the private sector, and political associations such as APEC and ASEAN. Most of these new activities have engaged Secretariat staff and its partners in direct dialog and engagement with an increasing number of relationships in the United States and throughout Asia. Coincident with this evolution, the Secretariat has consolidated its activity portfolio and project management staff into an operations unit.

For FY 1996, the Secretariat requests six U.S. direct hire positions, five in Washington and one in Manila. The operating budget for the Manila Office is \$186,700. For travel of Washington staff, the request level is \$24,700.

For FY 1997, the US-AEP Secretariat requests five U.S. direct hire positions, four in Washington and one in Manila. The operating budget for Manila is \$195,000. For travel of Washington staff, the request level is \$40,000.

Annexes

A. Strategic Objective Tree

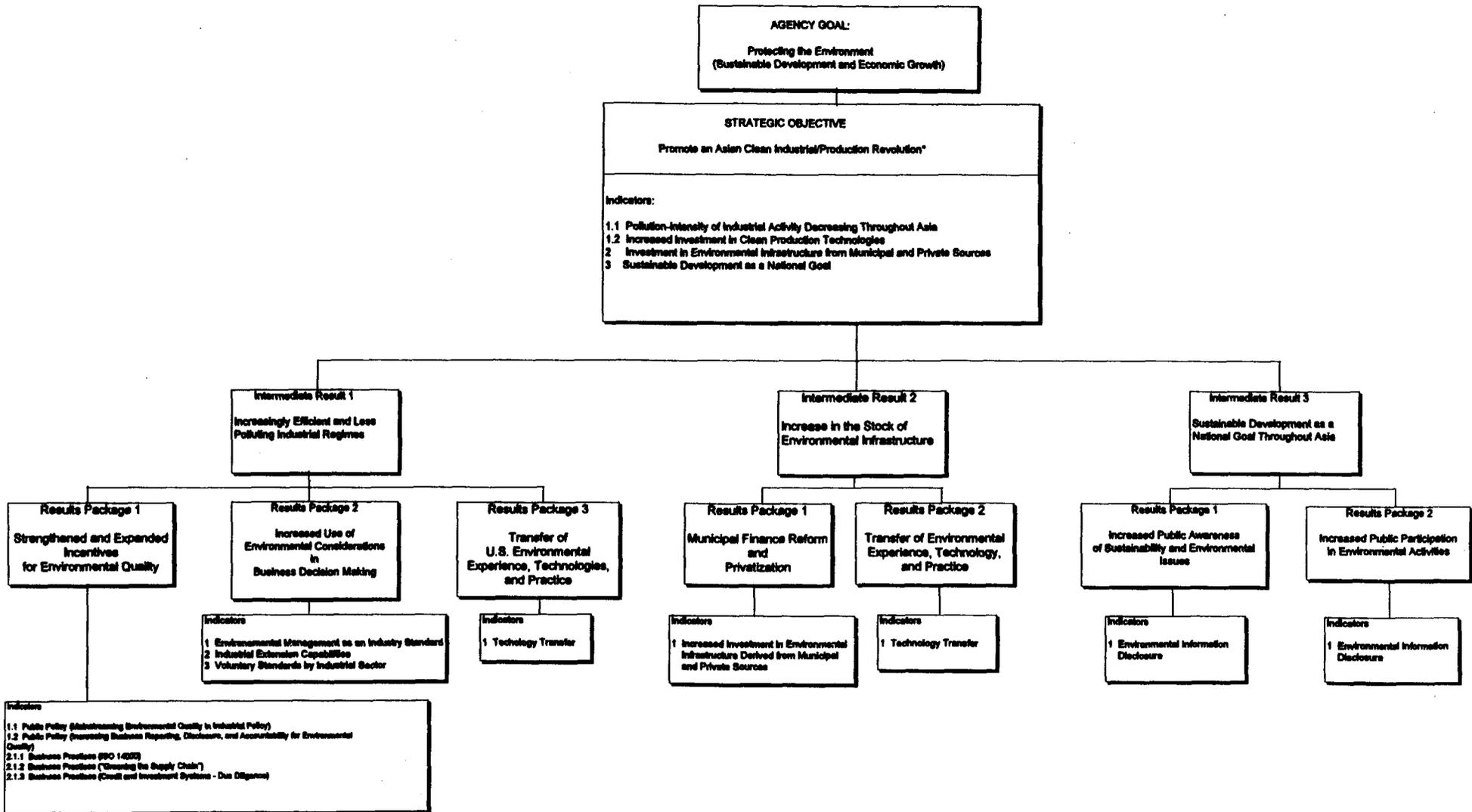
B. Performance Data Tables

SO Asian Clean Revolution
IR Industrial Regime
IR Environmental Infrastructure
IR Sustainable Development

C. Budget Tables

All Resources Table
Funding Scenarios by IR
Staff Requirements by IR
Operating Expense Requirements

United States - Asia Environmental Partnership Strategic Objective Tree



* The extensive continuing development and adoption of ever less polluting and more resource efficient products, processes, and services in the Asia Region

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STRATEGIC OBJECTIVE: An Asian Clean Revolution

SO Indicator 1.1: Pollution Intensity of Industrial Activity Decreasing Throughout Asia

Unit of Measure: Pollution-Intensity of Industrial Activity indices (by industry, by country)		Year	Planned	Actual
Sources: Research organizations by country, industry associations by country, ministries of industry/environment by country, World Bank, ADB, UNEP, DECD, and UNIDO.	Baseline	1994	TBD	
<p>Comments: To measure progress towards an industrial clean revolution, it is necessary to distinguish between what is clean and cleaner (i.e., a measure of the industrial process, not of the environment as such). Ambient measures are insufficient. Why? Because ambient measures may improve without any change in pollution intensity (e.g., because of a shift in industrial composition). Conversely, of course, ambient measures may decline while pollution intensity improves (e.g., because of very rapid growth in the industrial sector). Further, pollution intensity indices are a <i>sine qua non</i> to industrial/environmental policy development.</p> <p>Definition: At the moment, standards for pollution indices are being developed; the US-AEP program is supporting this development and seeking to build consensus among relevant professionals and organizations.</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumptions: That there is sufficient work in this area to give a reliable sense of direction vis a vis pollution intensity and progress vis a vis an industrial clean revolution. While US-AEP country assessments are still underway, we do know of work in Philippines, Singapore, South Korea, and Taiwan. There is also some work in Indonesia, sponsored by the World Bank.</p> <p>Data are annual, not cumulative. Data from target countries will be aggregated. Break-out by country will be available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
	Target	2000	TBD	

STRATEGIC OBJECTIVE: An Asian Clean Revolution

SO Indicator 1.2: Increased Investment in Clean Production Technologies

Unit of Measure: Three Data Sets: i) the import of environmental goods and services increasing as a percentage of total industrial imports; ii) the import of new industrial process equipment increasing as a percentage of total industrial imports; iii) the import of used industrial process equipment decreasing in total dollar value; and iv) energy efficiency of industrial output.

Sources: The international trade statistics of ten target countries (i.e., Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan, South Korea, and Sri Lanka).

Comments: While ambient standards arguably are the best measure of environmental quality, and pollution intensity indices the best measure of the industrial process, there is woefully little reliable information available to support either measure. This indicator is suggested as an intermediate measure. The idea of an Asian Clean Revolution is organized around new investment. Positive environmental impact, then, will be out beyond the life of the program and undoubtedly will lag behind industrial growth. The objective, of course, is to get ahead of the investment curve. The three measurements cited above are the most relevant and most readily available. Note again that an index of "pollution intensity of industrial value-added" is proposed as a US-AEP program output.

Definition: Industrial investment as per U.S. SIT codes

Frequency of Data Collection -- Annually.

Assumptions: This indicator assumes Asian countries will continue to rely on imports for industrial plant and equipment, and that import figures for environmental goods and services and new process equipment will reflect Asian tendencies towards clean production and and clean production practices. There is no current good (or available) measure of clean technology.

Data are annual, not cumulative. Data from the ten target countries are aggregated. Break-out by country are availbale from the US-AEP Secretariat.

	Year	Planned	Actual
Baseline	1994	TBD	
	1995	TBD	
	1996	TBD	
	1997	TBD	
	1998	TBD	
	1999	TBD	
Target	2000	TBD	

STRATEGIC OBJECTIVE: An Asian Clean Revolution

SO Indicator 2: Investment in Environmental Infrastructure from Municipal and Private Sources

Unit of Measure: Two Data Sets: i) an increasing percentage of total investment in environmental infrastructure sourced from municipalities; and ii) an increasing percentage of total investment in environmental infrastructure from private sources.		Year	Planned	Actual
Source: Statistics from government (i.e., ten target countries), Asian Development Bank, World Bank, IFC, UNEP, and WHO.	Baseline	1994	TBD	
<p>Comments: The simple argument is that more environmental infrastructure is required (given existing deficits and rapid rates of industrialization and urbanization). Statistics on persons served is not useful given the mix of social and industrial infrastructure. The only way to assure a dramatic increase in the stock of environmental infrastructure is through reform of municipal finance and privatization. What is important to measure, then, is whether there is sufficient change in the investment mix to suggest that the stock of infrastructure is likely to increase.</p> <p>Definition: The amount of money raised outside of national budget through municipal bond schemes (and autonomous infrastructure agencies) and through privatization (e.g., BOO/BOT).</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumption: This indicator assumes that more infrastructure is a sufficient goal.</p> <p>Data are annual, not cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
	Target	2000	TBD	

STRATEGIC OBJECTIVE: An Asian Clean Revolution

SO Indicator 3: Sustainable Development as a National Goal

<p>Unit of Measure: Two data sets are contemplated: i) Documentation of a government's commitment to sustainable development as a national development goal; ii) environmental budget as percentage of total government budget.</p>		<p>Year</p>	<p>Planned</p>	<p>Actual</p>
<p>Source: Governmental commitment to sustainable development reflected in planning or other official documents of ten target countries.</p>	<p>Baseline</p>	<p>1994</p>	<p>TBD</p>	
<p>Comments: While it can be argued that even official commitments of governments are oftentimes empty, it is equally certain that an Asian Clean Revolution will remain illusory without the reorientation of the development paradigm around sustainability concepts. In this regard, it is important to define the Strategic Objective in development as well as environmental terms.</p> <p>Definition: The US-AEP seeks the following elements: economic growth, reductions in the absolute numbers of poor, improvements in income distribution, concern for environmental quality, and evidence of pluralism and democratic institutions.</p>		<p>1995</p>	<p>TBD</p>	
<p>Frequency of Data Collection -- Annually.</p>		<p>1996</p>	<p>TBD</p>	
<p>Assumptions: That stated policy will have consequences.</p>		<p>1997</p>	<p>TBD</p>	
		<p>1998</p>	<p>TBD</p>	
<p>Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		<p>1999</p>	<p>TBD</p>	
	<p>Target</p>	<p>2000</p>	<p>TBD</p>	

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 1: Strengthened and Expanded Incentives for Environmental Quality

IR 1, RP 1, Indicator 1.1: Public Policy (Mainstreaming Environmental Quality in Industrial Policy)

Unit of Measure: Country Index (1-6): i) ongoing research directed to the pollution intensity (p/i) of industrial value-added (1 point); ii) p/i indices included in official publications and reports (2 points); and iii) public policy directed to promoting industrial clean production (up to 3 points).		Year	Planned	Actual
Source: Annual field assessment (iii qualitative)	Baseline	1994	TBD	
<p>Comments: The focus here is on the industrial policy and the industrial regime, and specifically mainstreaming a concern for environmental quality in industrial policy. The goal is move government concern for environmental quality beyond specialized environmental agencies to the core of national policy (i.e., sustainable development) and industrial policy. Note that a major output will be the development and use of new p/i indicators.</p> <p>Definition: Pollution intensity of "industrial activity" is the preferred proxy by most professionals in the region and by both the Asian and World Banks.</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumptions: First that there is sufficient work in this area to give a reliable sense of direction and progress vis a vis an industrial clean revolution. Second, that p/i measures will be the basis for policy development and implementation.</p> <p>Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
Target	2000	TBD		

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 1: Strengthened and Expanded Incentives for Environmental Quality

IR 1, RP 1, Indicator 1.2: Public Policy (Increasing Business Reporting, Disclosure, and Accountability for Environmental Quality))

Unit of Measure: Country Index (1-6): i) industrial/environmental reporting systems in place and working (1 point); ii) public disclosure laws for industrial practice in place and working (2 points); and iii) intensity of compliance regime (up to 3 points).

Source: Annual field assessment (i/ii/iii qualitative)

Comments: The focus here is on increasing business reporting, disclosure, and accountability vis a vis environmental quality. The elements include official reporting, public disclosure, and improving industrial/environmental compliance. Public policy specifically directed to promoting clean technologies and production in the industrial sector is measured in Indicators 1.1, 1/2 above.

Definition:

Frequency of Data Collection -- Annually.

Assumptions: That most countries have basic environmental laws in place. Without industrial reporting, public disclosure (i.e., public awareness), compliance and enforcement, and public pressure (i.e., public participation), environmental laws will not be effective.

Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are availbale from the US-AEP Secretariat.

	Year	Planned	Actual
Baseline	1994	TBD	
	1995	TBD	
	1996	TBD	
	1997	TBD	
	1998	TBD	
	1999	TBD	
Target	2000	TBD	

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 1: Strengthened and Expanded Incentives for Environmental Quality

IR 1, RP 1, Indicator 2.1.1: Business Practices (ISO 14000)

Unit of Measure: Presence of an ISO 14000 organization (or other institutional infrastructure) in each target country.		Year	Planned	Actual
Source: Annual field assessment	Baseline	1994	TBD	
<p>Comments: Perhaps the most important impetus towards environmental quality in the industrial regime will be the pressure from the ISO 14000 movement (particularly as it affects export industries). Institutional infrastructure/presence in-country is probably necessary to make ISO 14000 an effective incentive. Without that presence, ISO will continue to be rooted among the E7 and seen as an outside force, not internalized.</p> <p>Definition: ISO 14000 is an official international standard; its institutional manifestation is easily identifiable.</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumption: That ISO 14000 will be a competitive (if not decisive) factor in the international marketplace.</p> <p>Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
	Target	2000	TBD	

UNITED STATES - ASIA ENVIRONMENTAL PARTNERSHIP

June 1995

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 1: Strengthened and Expanded Incentives for Environmental Quality

IR 1, RP 1, Indicator 2.1.2: Business Practices ("Greening the Supply Chain")

Unit of Measure: Number of companies (perhap the value-added product of companies) in Asia supplying other companies (e.g., from the E 7, U.S., ASEAN) using a "green screen" for qualifying Asian suppliers.

Source: Annual field assessment

Comments: As noted above, a major impetus towards environmental quality in industry will be reflected in the international trade regime (e.g., ISO 14000). A second growing pressure point in the standards area is reflected by movement to "green the supply chain". This movement exists in Europe and is growing in the United States. Note: in Asia, one might also explore the possibility of government procurement rules (i.e., government "greening" its supply chain)

Definition: The elements of "greening the supply chain" are easily identifiable.

Frequency of Data collection -- Annually.

Assumptions: That the information can be gathered, and that (at least) U.S. companies will enforce "green standards".

Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are availbale from the US-AEP Secretariat.

	Year	Planned	Actual
Baseline	1994	TBD	
	1995	TBD	
	1996	TBD	
	1997	TBD	
	1998	TBD	
	1999	TBD	
Target	2000	TBD	

UNITED STATES - ASIA ENVIRONMENTAL PARTNERSHIP

June 1995

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 1: Strengthened and Expanded Incentives for Environmental Quality

IR 1, RP 1, Indicator 2.1.3: Business Practices (Credit and Investment Systems - Due Diligence)

<p>Unit of Measure: Number of credit and investment institutions (e.g., banks, insurance companies, pension funds, etc.) practicing "environmental due diligence" (and/or value of industrial credit and investment having to pass environmental due diligence".</p>		<p>Year</p>	<p>Planned</p>	<p>Actual</p>
<p>Source: Annual field assessment</p>	<p>Baseline</p>	<p>1994</p>	<p>TBD</p>	
<p>Comments: Another lever in the direction of environmental quality for industrial investment may be developing from among those financial institutions practicing "environmental due diligence" in examining new credit and investment proposals. Movement in this area will be principally conditioned by "liability standards", but the World Bank has also been pressing government financial institutions, and there is some movement within the financial community to treat the issue as a voluntary standard. There may also be some pressure from ASEAN.</p> <p>Definition: "Environmental due diligence" is an official and internationally recognized concept. Practicing institutions, easily monitored. Financial flows, less easily monitored</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumptions: That "environmental due diligence" may develop in Asia even in advance of liability.</p> <p>Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		<p>1995</p>	<p>TBD</p>	
		<p>1996</p>	<p>TBD</p>	
		<p>1997</p>	<p>TBD</p>	
		<p>1998</p>	<p>TBD</p>	
		<p>1999</p>	<p>TBD</p>	
	<p>Target</p>	<p>2000</p>	<p>TBD</p>	

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 2: Increased Use of Environmental Considerations in Business Decision Making

IR 1, RP 2, Indicator 1: Environmental Management as an Industry Standard

Unit of Measure: Country Index (1-6): i) pollution control as reflected by increase in imports (.5 point); ii) pollution prevention as reflected in institutional infrastructure (1 points); iii) environmental management as reflected by ISO 14000 certification (2 points); and iv) clean design/investment as reflected by p/i indices (2.5 points).		Year	Planned	Actual
Source: Annual field assessment	Baseline	1994	TBD	
<p>Comments: The index will assess the rootedness of environmental management (EMS) concepts/practices in each of ten target countries, as assessed by different measures for different placements along the "environmental ladder".</p> <p>Definition: The overall index is based on US-AEP "environmental ladder" concept; the measurement is qualitative but does require evidence of institutional infrastructure. This intermediate measure will be supplemented by firm-level statistics related to ISO 14000 certification.</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumptions: This indicator reflects one of three different approaches to business capacity, in this instance a "theoretical approach" based on the elements in the "environmental ladder". The assumption is that the index can accurately characterize the degree to which environmental management is an industry standard.</p> <p>Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
Target	2000	TBD		

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 2: Increased Use of Environmental Considerations in Business Decision-Making

IR 1, RP 2, Indicator 2: Industrial Extension Capabilities

<p>Unit of Measure: Country Index (1-6 points): i) government schematic of organizations carrying out industrial extension (1 point); ii) established upgrading program in place for industrial extension (3 points); and iii) a sustainable link to United States experience, practice, and technology (2 points).</p>		<p>Year</p>	<p>Planned</p>	<p>Actual</p>
<p>Source: Annual field assessment</p>	<p>Baseline</p>	<p>1994</p>	<p>TBD</p>	
<p>Comments: USAID experience with capacity-building puts a premium on "training of the trainers" (see, for example, USAID experience with agriculture and family planning). The notion here is to focus attention and resources on intermediary organizations which can develop and deliver management training and support for promoting environmental management systems, and to then link that system to a sustaining good sources of information, practice, and technology.</p> <p>Definition: Organizations involved in environmental management outreach (organizations with an existing mandate to affect industrial behavior and with firm-level relationships).</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumptions: The index assumes that there is a "virtual industrial extension system" in each country which could be upgraded to support environmental management and which could also be linked to U.S. institutions and organizations to refresh its message. In fact, institutions/organizations engaged under the two other indicator groupings would be subsumed within this grouping. This is the second of three different approaches to business capacity.</p> <p>Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		<p>1995</p>	<p>TBD</p>	
		<p>1996</p>	<p>TBD</p>	
		<p>1997</p>	<p>TBD</p>	
		<p>1998</p>	<p>TBD</p>	
		<p>1999</p>	<p>TBD</p>	
	<p>Target</p>	<p>2000</p>	<p>TBD</p>	

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes

RESULTS PACKAGE 2: Increased Use of Environmental Considerations in Environmental Decision-Making

IR 1, RP 2, Indicator 3: Voluntary Standards by Industrial Sector

Unit of Measure: Number of industrial sectors covered by a voluntary standard in each of ten target countries.		Year	Planned	Actual
Source: Annual field assessment	Baseline	1994	TBD	
<p>Comments: There is something of a consensus that industrial associations can be a useful starting point for building capacity to promote environmental considerations in business decision-making (e.g., voluntary standards, training, international partnership, etc.). There is less consensus on what the "touchstone" might be. For the time being, it is proposed to measure the number of industrial sectors covered by voluntary standards as a measure both of the "greenness" of industrial sectors and the commitment of firms to environmental management as represented by the industrial/sectoral establishment in each country .</p> <p>Definition: Organizations and standards easily identifiable.</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumptions: This indicator assumes that industry associations are voluntary associations and reflect, to some degree, the prevailing industrial culture. This is the third of three different approaches to business capacity.</p> <p>Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
	Target	2000	TBD	

INTERMEDIATE RESULT 1: Increasingly Efficient and Less Polluting Industrial Regimes
RESULTS PACKAGE 3: Transfer of U.S. Environmental Experience, Practice, and Technologies

IR 1, RP 3, Indicator 1: Technology Transfer

Unit of Measure: Value of sales, licenses, joint ventures, and investments of/in U.S. environmental goods and services.		Year	Planned	Actual
Source: U.S. international/environmental trade statistics	Baseline	1994	TBD	
<p>Comments: The best proxy for technology transfer (U.S./Asia) is the value of international sales, licenses, joint ventures, and investments. This is easily measured, and environmental sales probably also will capture forward movement vis a vis clean process technology as well (by proxy). It is also the measure most commonly used by U.S. EPA and CEQ.</p> <p>Definition: Environmental Trade Data.</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumptions: See comments.</p> <p>Data are annual. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
	Target	2000	TBD	

**INTERMEDIATE RESULT 2: Increase in the Stock of Environmental Infrastructure
RESULTS PACKAGE 1: Municipal Finance Reform and Privatization**

IR 2, RP 1, Indicator 1: Increased Investment in Environmental Infrastructure Derived from Municipal and Private Sources

Unit of Measure: Two Data Sets: i) an increasing percentage of total investment in environmental infrastructure sourced from municipalities; and ii) an increasing percentage of total investment in environmental infrastructure from private sources.		Year	Planned	Actual
Source: Statistics from government (i.e., five target countries: India, Indonesia, Philippines, Sri Lanka, and Thailand), Asian Development Bank, World Bank, IFC, UNEP, and WHO.	Baseline	1994	TBD	
<p>Comments: The simple argument is that more environmental infrastructure is required (given existing deficits, and rapid rates of industrialization and urbanization). Statistics on persons served is not useful given the mix of social and industrial infrastructure. The only way to assure an dramatic increase in the stock of environmental infrastructure is through reform of municipal finance and privatization. What is important to measure, then, is whether there is sufficient change in the investment mix to suggest that the stock of infrastructure is likely to increase.</p> <p>Definition: The amount of money raised outside of national budget through municipal bond schemes (and autonomous infrastructure agencies) and through privatization (e.g., BOO/BOT).</p> <p>Frequency of Data Collection -- Annually.</p> <p>Assumption: This indicator assumes that more infrastructure is a sufficient goal.</p> <p>Data are annual, not cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.</p>		1995	TBD	
		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
	Target	2000	TBD	

INTERMEDIATE RESULT 2: Increase in the Stock of Environmental Infrastructure
RESULTS PACKAGE 2: Transfer of Environmental Experience, Practice, and Technology

IR 2, RP 2, Indicator 1: Technology Transfer

Unit of Measure: Value of sales, joint ventures, licenses and investment of U.S. organizations in reformed/privatized environmental infrastructure projects in five target countries..

Source: U.S. international/environmental trade statistics

Comments: The best proxy for technology transfer (U.S./Asia) is the value of international sales, licenses, joint ventures, and investments. This is easily measured, and environmental sales probably also will capture forward movement vis a vis clean process technology as well (by proxy).

Definition: environmental trade as per U.S. SIT codes.

Frequency of Data Collection -- Annually.

Assumptions: See comments.

Data are annual, not cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.

	Year	Planned	Actual
Baseline	1994	TBD	
	1995	TBD	
	1996	TBD	
	1997	TBD	
	1998	TBD	
	1999	TBD	
Target	2000	TBD	

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**INTERMEDIATE RESULT 3: Sustainable Development as a National Goal Throughout Asia
RESULTS PACKAGE 1: Increased Public Awareness of Sustainability and Environmental Issues**

IR 3, RP 1, Indicator 1: Environmental Information Disclosure

Unit of Measure:		Year	Planned	Actual
Source:	Baseline	1994	TBD	
Comments:		1995	TBD	
Definition:				
Frequency of Data Collection:				
Assumptions:		1996	TBD	
		1997	TBD	
		1998	TBD	
		1999	TBD	
Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.	Target	2000	TBD	

INTERMEDIATE RESULT 3: Sustainable Development as a National Goal Throughout Asia
RESULTS PACKAGE 2: Increased Public Participation in Environmental Activities

IR 3, RP 2, Indicator 1: Environmental Information Disclosure

Unit of Measure:		Year	Planned	Actual
Source:	Baseline	1994	TBD	
Comments:		1995	TBD	
Definition:				
Frequency of Data Collection:				
Assumptions:		1996	TBD	
		1997	TBD	
		1998	TBD	
Data are cumulative. Data from the ten target countries are aggregated. Break-out by country are available from the US-AEP Secretariat.		1999	TBD	
	Target	2000	TBD	

**Table 1
All Resources Table
USAEP**

(\$000)

Funding Category	FY 1996	FY 1997		FY 1998	
		Base	Base - 20%	Base - 10%	Base - 30%
Sustainable Development					
Economic Growth					
Child Survival/Disease					
Basic Education					
Population					
Environment	18,300	20,000	16,000	18,000	14,000
Democracy					
Total:					
Economic Support Funds					
PL480					
Other					
GRAND TOTAL	18,300	20,000	16,000	18,000	14,000

Table 2
Funding Scenarios by Intermediate Objectives
USAEP
FY 97 - 98
(\$000)

Objective	FY 1996*	FY 1997		FY 1998	
		Base **	Base - 20%	Base - 10%	Base - 30%
Intermediate Objective 1: Increasingly Efficient and Less Polluting Industrial Regimes					
Total IO 1:	10,951,000	12,870,000	10,557,000	11,688,000	9,157,000
Intermediate Objective 2: Increase in the Stock of Environmental Infrastructure					
Total IO 2:	2,125,000	2,125,000	2,125,000	2,125,000	1,825,000
Intermediate Objective 3: Sustainable Development as a National Goal					
Total IO 3:	200,000	200,000	0	200,000	200,000
Program Management	1,875,000	1,845,000	1,845,000	1,750,000	1,750,000
Biodiversity Commitment/Global Bur	3,100,000	2,900,000	1,400,000	2,100,000	1,000,000
GRAND TOTAL	18,251,000	19,940,000	15,927,000	17,863,000	13,932,000

Table 3 Staff Requirements By Intermediate Result (FY 1996) USAEP							
Staff	Intermediate Result 1: CTEM	Intermediate Result 2: Infrastructure	Intermediate Result 3: Framework	Biodiversity Global Bureau	Program Management	Other	Total Staff by Class
USDH	0	0	0	0	6	0	6
FSN* (OE)	0	0	0	0	0	0	0
FSN* (TF)	0	0	0	0	0	0	0
FSN* (Prog.)	0	0	0	0	0	0	0
US/TCN PSC (OE)	0	0	0	0	0	0	0
US/TCN PSC (TF)	0	0	0	0	0	0	0
US/TCN PSC (Prog.)	0	0	0	0	0	0	0
Total Staff by Objective	0	0	0	0	6	0	6

Table 4 USAEP Operating Expense Requirements (\$000)	
OE/Trust Funded Levels by Major Function Code	FY 1996
U100 USDH	
U200 FN Direct Hire	
U300 Contract Personnel	
U400 Housing	
U500 Office Operations	
U600 NXP	
Total Mission-Funded OE	
...Of which Trust Funded	

Information to be provided by ANE/EMS



dated 8/10/95

U.S. AGENCY FOR
INTERNATIONAL
DEVELOPMENT

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR

FROM: USAEP, Lewis Reade
ANE/SEA, Dirk Dijkerman

Lewis Reade

SUBJECT: Agency Agreements Reached in the Review of the USAEP Program Strategy Document.

Purpose: Your signature is requested, indicating your approval of agreements reached in the review of the USAEP Strategy Document during Program Week of June 5-12, as described herein.

Summary.

1. During Program Week June 5-12, USAID reached agreement on the Strategy and Action Plan for USAEP. Along with USAID/W, several Missions including India, Indonesia, Philippines, Sri Lanka, and the Regional Support Mission submitted issues to the review process. The strategy is approved, subject to the comments and actions to be completed, as delineated below.
2. The strategy focuses on promoting an Asian "clean revolution," i.e., the continuing development and adoption of less polluting and more resource efficient products, processes, environmental management practices and services in the Asia region. More specifically, the strategy will promote three program outcomes: increasingly efficient and less polluting industrial regimes; the mobilization of U.S. experience, technology, and practice to increase urban environment infrastructure for poor households; and a regional framework that sustains a "clean revolution" in dealing with the transnational environmental problems of Asia.
3. USAEP should now proceed with implementing the revised strategy and reporting on results. Formal delegation of authorities to manage and implement the strategy under a re-engineered USAID system is deferred until the USAID finalizes remaining operational considerations (e.g., content and detail of USAID/W-USAEP management contract, extent of the delegations of authorities). At that time, ANE will work with USAEP to convert the approved strategy agreement into a formal management contract, with the ANE Bureau.
4. USAEP is one of the Bureau's and the Agency's key assets to respond to important environment issues in Asia. Results from

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this strategy review process will enable us to make the necessary changes to assure it remains so. The Asia region, with its past and projected high growth in the future (85% turnover in capital stock in next 10-12 years), suffers from acute environmental problems that accompany this growth. The rate of air and water pollution is twelve times that of Western industrialized countries. What is needed is a major perceptual change in the way development is defined and pursued, taking into account the environmental consequences of the high industrial growth in Asia, in essence the pursuit of a "clean technology revolution". The USAEP model, even with limited resources, can mobilize U.S. experience, technology, and practice in support of environmental improvement in the industrial sectors in Asia. The key word is "mobilize", seeking to engage professionals and organizations from the United States in Asia in response to mutual objectives and advantage. Over time, the USAEP may be a useful model for development promotion in other situations and regions.

Strategy.

5. Choice of Strategic Approach. There are a number of approaches that USAEP could have taken in developing its strategy, including a mission-support approach, a focus on technology transfer/choice, a constraints-resolution approach, and an export-promotion approach. Given the type of investments USAEP already made, the results of the EPAT/WINROCK Analysis, the broad base of technology available, and the fact that the Bureau as a whole tends to program around development problems, the constraints approach is the one that best reflects the USAEP program.

6. Strategic Framework. Although the Strategy Program Document reflected a concerted effort to provide focus on a large and very complex program, there was general consensus that industrial pollution treatment and prevention processes should be the major focus of USAEP. The Strategic structure was reframed into one Strategic Objective: "Promote an Asian Clean Technology Revolution." This approach retains the industrial pollution aspects of SO-2 as the centerpiece, and incorporates the appropriate regional policy/incentive aspects of SO-1 and value-added aspects that USAEP brings to mission and Global urban water supply activities of SO-3 as program outcomes. USAEP, in coordination with ANE and Global, will further refine the Program Outcomes under this Strategic Objective, to better reflect the new program focus as well as G/ENV and USAEP collaboration. (See Attachment A)

7. Management Objectives. The proposed Management Objectives will be folded into one objective for the Bureau, emphasizing that USAEP is one of several ANE Bureau models for testing alternative ways of delivering U.S. development assistance in

presence and nonpresence countries.

8. **Decision Rules.** The Decision Rules, when taken together with the screening effects of the Strategic Framework, Mission Strategies, and planned Country Assessments, are adequate for proceeding with the strategy, as approved.

9. **Program Focus.** As outlined in paragraph 2 above and in attachment A, the USAEP will focus its program on industrial efficiency, and urban environmental infrastructure. Given the revised framework, USAEP will phase out of "blue and green" areas in a gradual and orderly manner and transfer these activities to G/ENV as appropriate. USAEP and Global will continue to work together to assure complementarity of their programs. Attachment B constitutes a list of the types of activities it is no longer working in or will be phasing out of during the Action Plan period.

10. **Biodiversity.** Given the industrial pollution emphasis of the USAEP under the new Strategic Framework, activities in biodiversity no longer tightly fit.

A. The Biodiversity Conservation Network should be phased over to the Global Bureau in a gradual, orderly manner. A Working Group, consisting of representatives from USAEP, other offices in ANE, and Global Bureau will be formed to determine the best way this phasing can take place. The Working Group will take into account the upcoming evaluation of the Biodiversity Conservation Network, PPC Bureau's emerging Biodiversity Strategy, USAID's Research Council guidelines, and continuation of the waiver to work in nonpresence countries for this activity.

B. The Working Group will also consider the disposition of non-BCN biodiversity activities (Convention on International Trade in Endangered Species--CITES, and Training with the United States Fish and Wildlife Service--USFWS).

In the meantime, Biodiversity/BCN will remain a Special Objective within the USAEP Strategic Framework.

11. **Relationship with Global Bureau.** Attachments B and D illustrate how the USAEP-Global relationship will work when there is a confluence of common interest (i.e. energy and urban environmental infrastructure). In addition, as noted above, a Working Group will be formed consisting of representatives of ANE and Global Bureau to look at issues concerning the USAEP and Global Bureau relationship. The Group will formulate a vision and outline the details of how joint planning and programming will proceed in both presence and nonpresence countries.

12. Customer Focus on Gender. USAEP will more clearly articulate an expanded relationship with Asian partners and its customer focus in its upcoming Customer Service Plan. Global Bureau would like to participate in the discussion of this Plan. Although not explicitly described in the strategy document, USAEP has taken gender concerns into consideration throughout its program. For example, nearly a third of all participants in USAEP fellowships, exchanges, and training activities are women. In addition, a significant proportion of USAEP overseas staff members are professional women and efforts are underway to focus on the development of a female cadre environmental leadership cadre.

13. Other Regions. The USAEP model may in time be used in other parts of the world. If there is a generalized demand, Global may want to test out the USAEP approach to see how it works. Although the USAEP cannot participate actively in other regions, it will share its experience with the Global Bureau.

Action Plan

14. Budget Reduction Scenarios. Because USAEP does not have the fixed multiyear commitments of a bilateral USAID program, it does have flexibility to cope with sizeable budget reductions by realigning or adjusting program components. If the budget dips below \$10 million, however, USAEP will need to consider dropping its urban infrastructure activities.

15. Country Presence. While USAEP has the authority to work in any of thirty-four countries in Asia, it will continue to concentrate its efforts in ten focus countries: Philippines, India, Indonesia, Sri Lanka, Korea, Taiwan, Hong Kong, Singapore, Thailand, and Malaysia. Designation of specific funding levels for each country, however, is not practical as it would diminish USAEP flexibility to respond to demand.

16. Resource Mix/Program Cost-Benefit. In order to facilitate comparison with other models of development assistance delivery, there is a need to be able to determine the cost of running the USAEP program. In the context of the upcoming budget review, the Bureau will work with USAEP to determine how the costs and benefits of the program can be calculated, in a manner that is comparable with other ANE investments.

17. Pipeline. USAEP's pipeline is not too large--if anything it is on the low side. But this does not present the same kind of problem faced by bilateral missions, as USAEP does not have the mortgage problem found in multiyear bilateral agreements. If the funding gets tight, USAEP would pare back on its response to demands for its services.

18. **Category C Projects.** Since USAEP was designed in a manner similar to that being used under re-engineering principles, there are no "projects" per se. When there are poor performing activities, USAEP simply does not put more money into them.

19. **Refinement of Program Indicators.** Indicators at many points, at the SO and PO levels, need refinement of definition. This is especially true now that the Strategic Framework is being substantially changed. To further the program objectives of USAEP, the Secretariat should propose to ANE a plan for refining indicators and including a full performance monitoring plan by next year's R-4.

Recommendation: That you sign below indicating your agreement and approval of decisions made in the USAEP Program Strategy Document Review, as described herein.

Approve: Margaret Carpenter

Disapprove: _____

Date: 8/12/95

Clearances:

ANE/DAA: Linda Morse	<u>W</u>	Date	<u>8/2/95</u>
PPC/AA: Colin Bradford	<u>AB</u>	Date	<u>8/2/95</u>
G/PDSP: Timothy Mahoney	info	Date	<u>8/2/95</u>
G/ENV: David Hales	<u>DH</u>	Date	<u>8/1/95</u>
PPC/POL: Julio Schlotthauer	draft	Date	<u>7/27/95</u>
ANE/ORR: Frank Young	<u>FR</u>	draft	Date <u>7/18/95</u>
PPC/POL: Mike Rugh	<u>MR</u>	draft	Date <u>7/27/95</u>
G/ENV: George Taylor	<u>GT</u>	draft	Date <u>8/1/95</u>
PPC/POL: Glenn Prickett	<u>GP</u>	draft	Date <u>7/26/95</u>

Attachments:

- A. Revised Strategy Tree (USAEP and ANE/SEA)
- B. List of the things that USAEP is getting out of as a result of this strategy. (USAEP)
- C. How missions and USAEP relate. (ANE/SEA and USAEP).
- D. How Global Bureau and USAEP relate. (Global and USAEP)

R Sheppard rev: 8/1/95; D. Soules:DRS:7/11/95:663-2631:B:\wrapup-4

Attachment A

USAEP

Agency Goal:
Protecting the Environment

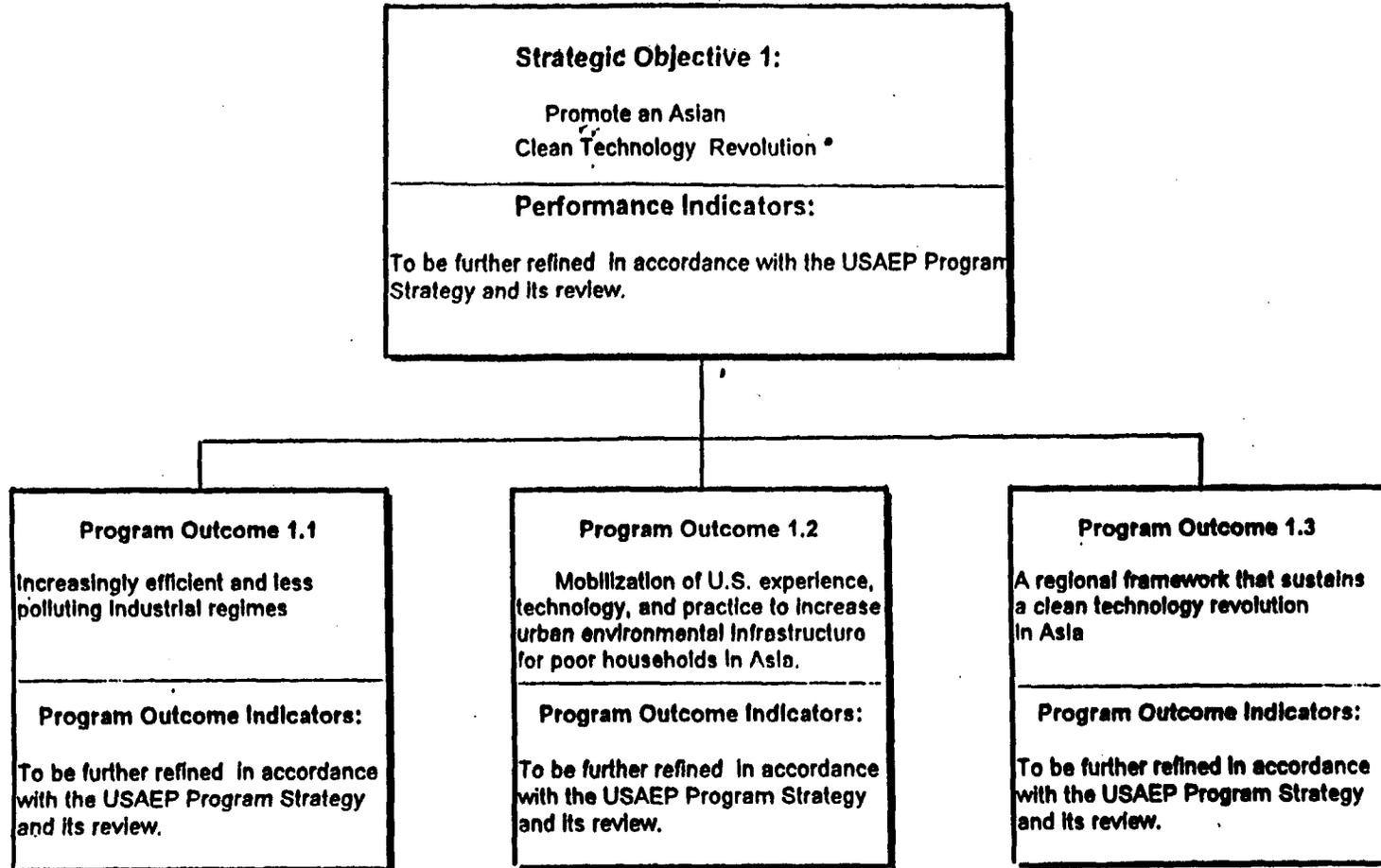
Strategic Objective 1:
Promote an Asian Clean Technology Revolution *

Performance Indicators:
To be further refined in accordance the USAEP Program Strategy and its review.

* The extensive, continuing development and adoption of ever less polluting and more resource efficient products, processes, and services in the Asia Region.

Attachment A

USAEP



* The extensive continuing development and adoption of ever less polluting and more resource efficient products, processes, and services in the Asia Region.

ATTACHMENT B

USAEP Strategic Focus

1. During the last year, in an effort to limit the scope of the USAEP, the Secretariat agreed to four strategic foci: biodiversity, energy, industrial efficiency, and urban infrastructure.

2. It is agreed to drop two of those foci: biodiversity and energy.

3. The USAEP will no longer engage in the following areas:

- household recycling
- strengthening green NGOs
- environmental education (k-12 and higher), unless related to industrial pollution
- nuclear
- power generation
- power transmission and distribution
- renewable energy
- coral-reefs
- coastal zone management
- deep water ecology
- fisheries
- seagoing vessel contamination
- conservation exchange
- ecotourism
- Earthshare
- agricultural production

4. Activities to be closed:

- Infrastructure Finance Advisory Service (IFAS)
- new energy activities on the "supply" side

5. Activities which will be phased-over to Global

- Biodiversity Conservation Network (BCN)
- Convention in International Trade in Endangered Species (CITES)
- Coal Washing/India
- Ben Franklin Fellowships

ATTACHMENT C

USAEP-Mission Relationship and Cooperation.

BACKGROUND

The Agency has completed its review of country and regional strategies. As a result of the review, it was agreed that USAEP will focus its resources on efficiency and pollution issues in the industrial and urban sectors, in both presence and nonpresence countries in Asia. India, Indonesia, and Philippines are priority countries. This focus is reflected in the strategic objectives approved for each of the three countries and for the U.S.-Asia Environmental Partnership. The following is an outline for USAEP/Mission coordination and cooperation.

COOPERATION AND COORDINATION

1. The first priority is to share ideas with regard to the understanding of environmental problems, approaches or strategies, and program operations. The USAEP Secretariat will develop and seek approval of a format for country assessments or plans to facilitate cooperative programming. In presence countries plans will be based on the analytic work already developed by field missions and the Global Bureau and should not require a significant independent effort. In nonpresence countries, while the work will usually be completed by Secretariat staff and contractors, it may also be desirable to engage field mission staff.
2. Consistent with agency policy, both field missions and the USAEP Secretariat will take account of each others' and Global Bureau instruments before authorizing new contractual arrangements. This is important for efficiency, but also to take account of different ideas and approaches to development promotion. In some instances, it may also be desirable for field missions, the Secretariat, and Global Bureau to modify existing instruments to take account of these different ideas and approaches.
3. Field missions, the USAEP Secretariat, and Global Bureau will take their program guidance from their approved strategic objectives. This will require growing cooperation and collaboration among the parties, resting on improved information flow and common ownership of each others strategic objectives. It is recognized, however, that the mutuality of interest with other agencies and organizations, implicit in USAEP programming, will sometimes suggest ideas and activities from outside the agency (albeit necessarily consistent with the strategic objectives of any specific field mission).

4. Two exceptional situations related to USAEP programming were identified for situations outside approved objectives or decision rules:

a) an environmental activity with regional significance but outside Mission Strategic Objectives: in this situation, the field mission and USAEP Secretariat may agree to it. Where there is no agreement it will be directed to the DAA/Asia for decision.

b) an environmental activity from a country falling outside objectives for the USAEP, but within a mission's interest: again, the field mission and USAEP Secretariat may agree to it. Where there is no agreement it will be directed to the DAA/Asia for decision.

c) in either case above, the USAEP shall provide timely advise to the G/ENV regional Coordinator for Asia of such requests.

ATTACHMENT D

USAEP-Global Bureau Relationship and Cooperation.

BACKGROUND

The Agency has completed its review of the USAEP strategy. As a result of this review, USAEP will focus its environmental resources on efficiency and pollution issues in the industrial and urban sectors as outlined in attachment A, in both presence and nonpresence countries in Asia. Energy is not a strategic focus for USAEP, although end-use efficiency issues may be considered as a part of the USAEP's industrial focus. The USAEP will also work in the area of urban environmental infrastructure, with a focus on the mobilization of U.S. experience, technology, and practice to increase technology transfer between the U.S. and Asia. India, Indonesia, and Philippines are priority countries. This focus is reflected in the strategic objectives approved for each of the three countries and for the U.S.-Asia Environmental Partnership. The following outlines USAEP/Global Bureau coordination and cooperation.

COOPERATION AND COORDINATION

1. Consistent with agency policy, the USAEP Secretariat will continue to work closely with Global Bureau offices in Washington and RHUDOs in the field, and with Global Bureau projects, contractors, cooperators, and grantees. Specifically, the USAEP Secretariat will seek first to use existing Global Bureau instruments which are appropriate before authorizing new contractual arrangements. This is important for efficiency, but also to take account of different ideas and approaches to development promotion. In some instances, it may also be desirable for the Secretariat and Global Bureau to modify existing instruments to take account of these different ideas and approaches.

2. It is understood that the Global Bureau has the responsibility within USAID for technical leadership and field support for the environment. The ANE Bureau has responsibility for regional leadership and field operations in Asia. Field missions, the USAEP Secretariat, and Global Bureau will take their program guidance from their approved strategic objectives. This will require growing cooperation and collaboration, resting on improved information flow. It is recognized, however, that the mutuality of interest with other agencies and organizations, implicit in USAEP programming, will sometimes suggest ideas and activities from outside the agency (albeit necessarily consistent with the strategic objectives of any specific field mission).