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**EVALUATION OF
RHUDO/Bangkok's
TWINNING PROGRAM**

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EXECUTIVE SUMMARY

In the last year, RHUDO/Bangkok with the World Environment Center initiated a **twinning** project to match Thai and U.S. cities. Five Thai cities and one municipal water authority were matched with comparable size jurisdictions in the United States. Trips were made by officials from both sides aimed at providing technical assistance to solve a particular Thai environmental infrastructure problem. U.S. municipal participants were tasked with assessing problems, suggesting solutions, and assisting in initiating actual projects.

A RHUDO team assessed the needs of the largest Thai cities and appropriateness for the program. One selection criterion was whether actual projects were in the design stage that could use technical assistance from a U.S. city or that could potentially be financed in part by loans under the Urban Environmental Infrastructure Support Project Guaranty Facility. Cities matched with the help of the International City Managers' Association (ICMA) included Samut Prakarn with Corpus Christi, Texas; Chiang Mai with Knoxville, Tennessee; Pattaya with Savannah, Georgia; Nakorn Sawan with Louisville, Kentucky; and Songkhla with Orlando, Florida. The sixth twin was established between the Bangkok Metropolitan Waterworks Authority (MWA) and Oakland's East Bay Municipal Utility Division (EBMUD). Of the six arrangements that have occurred, one can be considered unsuccessful.¹ The other relationships are in different stages of communication. Participant Thai cities should continue to be chosen based on the city's willingness to make decisions and perceived priority placed on environmental problems in their city. Cities chosen should be progressive in their thinking and have some plans in process to address a specific need. Relationships other than city to city, similar to the MWA-EBMUD twinning, should continue to be considered in the future.

A three person team from the Thai city should include one technical level manager, one elected official with the power to make or influence decisions, and the City Manager, responsible for the general day-to-day management of the city. Efforts should be made to choose participants on both sides that can "make a difference," and create and actually "own" a lasting relationship. In all six trips to Thailand, U.S. private sector participants were included among the teams. The private sector's involvement revealed to the Thai participants that the U.S. private sector is frequently called on to interact with the local government to solve a problem to mutual advantage. Their participation could lead to possible avenues for the U.S. private sector to bid on contracts for Thai infrastructure projects.

The expected cost of the entire twinning project amounted to approximately \$150,000. (The bulk of the funding was through a cooperative agreement with WEC. The U.S. Asian Environmental Partnership (USAEP) provided the budget for the final twinning activity between Orlando and Songkhla.) This is actual money spent on tickets, per diem/hotel, insurance, etc. Leveraged actual participant expenses totalled approximately \$56,000, including 14 round-trip airfare and accommodations for non-USAID funded participants. Leveraged imputed costs for

¹It was determined inappropriate to continue the program between Pattaya and Savannah as the activity did not meet the expectations of the project; no return trip occurred.

all U.S. participants, travelling and non-travelling, at comparable USAID day-rates proved quite significant at a total dollar amount well over \$200,000.

Projects currently being assisted or considered through the twinning program are numerous and varied including the design for a sanitary landfill, upgraded water treatment plant, and waste water treatment system, feasibility study assistance for a constructed wetland, internships, creation of a solid waste management consortium, training in GIS applications, and other related areas. Providing technical assistance through the twinning program has proven relatively inexpensive in comparison to consultant fees for similar technical assistance activities. On average, consultant costs for a two-week consultation in a Thai municipality would amount to approximately \$15,000. In contrast, the average USAID cost for a twinning exchange totalled not more than \$26,000 for, on average, 6 participants. Ideally, after assistance has been given in one area, the Thai city will take the initiative to continue the relationship and pursue assistance in other areas, administrative or technical. To this regard, several activities, including information exchange, participation in workshops, and new connections between universities, have occurred.

The aims of the program and their perceived results are as follows:

- support development of Thai municipal infrastructure projects to promote more effective management of the environment. The twinning program has been successful at raising the profile of environmental infrastructure needs in Thailand. Municipal officials have been introduced to a whole range of available technology and have been given advice on appropriate technologies for their individual situations. The twinning program has identified U.S. cities that can serve as appropriate examples of environmental management in corresponding scales.
- allow practitioners to consult with other practitioners and see first-hand the local decision-making process in the U.S. Several Thai municipal officials expressed appreciation for the twinning style of assistance. Efforts were made to match up cities that are similar in nature, taking into consideration population size, important local industries, demographics, and other factors. Bringing municipal managers together allows them to trade notes, and create a more comfortable relationship. Thai municipal managers were also able to see a more give-and-take management style among staff and managers.
- create an avenue for introducing the U.S. private sector to potential projects in Thailand. Once viable connections have been established between the U.S. private sector and potential projects in Thailand, the USAEP infrastructure representative² will become more involved. To date, two such relationships have been established in Chiang Mai where proposals for an integrated solid waste management system are in the draft stages and in Songkhla for a wetlands proposal.
- familiarize RHUDO with local municipal counterparts. In having a better understanding of the cities and knowing the Thai counterparts, RHUDO is better able to promote the Urban

²The Asian Environmental Partnership (AEP) hired a full-time Urban Environmental Infrastructure Technical Representative through the Kenan Institute who, among other responsibilities, will seek and promote joint venture opportunities in environmental infrastructure for U.S. and Thai firms and develop the groundwork for BOO/BOTs. AEP resources will also support project development and provide enhancement grants for additional training to projects with U.S. private sector participation.

Environmental Infrastructure Support Project and prepare cities with projects to come to the table as the first borrowers under the proposed Guaranty Facility. Similarly, training activities on debt financing, financial management, and project analysis can be targeted more appropriately.

- create a constituency in the U.S. supportive of USAID's efforts. The U.S. municipal officials, after seeing Thailand's environmental needs firsthand, understand the urgency in bringing U.S. practitioner expertise directly to their municipal official counterparts.

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Introduction

During the last year, RHUDO/Bangkok initiated a **twinning** project to match Thai and U.S. cities with comparable characteristics to solve a particular environmental infrastructure problem. Thai civil servants from five municipalities and one municipal water authority travelled to the U.S. to observe operations and management styles and receive information on technologies appropriate to their situations. The U.S. counterpart trip to Thailand sought to assess problems, suggest solutions both management and technology oriented, and assist in initiating actual projects to solve urban infrastructure problems.

After conducting rapid assessments of several cities and considering RTG priorities, RHUDO staff selected Samut Prakarn, Chiang Mai, Pattaya, Nakorn Sawan, and Songkhla as twinning candidates. Potential U.S. twins were then solicited by the Washington-based International City Managers' Association (ICMA). Cities chosen were Corpus Christi, Texas; Knoxville, Tennessee; and Savannah, Georgia; Louisville, Kentucky; and Orlando, Florida respectively. A sixth twin was also established between the Bangkok Metropolitan Waterworks Authority and Oakland's East Bay Municipal Utility Division. For each twinning arrangement, Thai municipal officials were sent to visit their U.S. counterpart for site observation tours averaging in length of 10-14 days. U.S. city officials then visited Thailand for 7 to 14 days to focus on a specific issue with their counterpart city.

The twinning program is a sub-project under the USAID/Thailand-World Environment Center Cooperative Agreement. WEC facilitated the trips stateside and logistics were handled primarily by both their Washington and Bangkok offices. RHUDO staff served as facilitators for the U.S. trips to Thailand.

The following evaluation seeks to determine the effectiveness of the twinning program as a whole in meeting the objectives. The section entitled City Selection and Administration of the Twinning Program has been broken down into sub-sections as Annex 1 with more detailed information and recommendations aimed at creating a more effective program.

Desired Outcomes of the Twinning Program

The twinning program has various desired outcomes each aimed at resolving environmental problems and promoting more efficient, creative and effective management structures in Thai cities. The primary outcome sought through the twinning program is to:

- support development of Thai municipal infrastructure projects to promote more effective management of the environment. The twinning relationship seeks to lay the groundwork for infrastructure systems, initiate the pre-design stage, and create a source of continued consultation for Thai cities.

Other desired outcomes of the program are to:

- allow practitioners to consult with other practitioners to see first-hand the local decision-making process in the U.S. Albeit gradual, Thailand is in the process of decentralizing power to local authorities. However, in doing so, the central government has created few opportunities to promote decision-making among cities. Though the approach used in the U.S. twin city can doubtfully be replicated directly, it does, however, provide options for dialogue and a greater understanding of how decisions can be made on the local level using promotion/education, debate and compromise. Municipalities in Thailand are inundated with both information and directives from numerous ministries, government officials, and surrounding jurisdictions. As the ultimate managers of infrastructure and services for their constituencies, Thai municipal officials should understand their options and be able to support their decisions. Possessing greater knowledge of their options increases the autonomy of cities. Engaging the assistance of municipal managers with previous experience in resolving similar problems allows for more practical consultation.
- create an avenue for introducing the U.S. private sector to potential projects in Thailand. USAID/Thailand's Development Partnership Project seeks to create U.S.-Thai linkages on critical Thai environmental and public health issues. In doing so, USAID hopes to enlist the U.S. private sector for technical assistance, training and technology transfer.
- familiarize RHUDO with local municipal counterparts that will participate in the USAID-supported Thai lending program. The \$100 million Housing Guaranty program for Thailand - the Urban Environmental Infrastructure Support Project - seeks to assist Thailand in developing a sustainable system for financing urban environmental infrastructure. In promoting the guaranty project, it serves RHUDO interests to become more familiar with the officials that manage Thai cities and the actual needs of those target cities.
- create a constituency in the U.S. supportive of USAID's efforts to help the Thais help themselves.

Differences from Sister-City Type Arrangements

The program promoted by the USAID/Thailand-WEC staff is quite different from twinning relationships established elsewhere. The sister-city relationships tend to have more of an educational-cultural approach rather than the more technical Thai twinning program. Though limiting the initial relationship to solving one specific environmental problem, RHUDO encourages the expansion of the relationship into other areas of collaboration (i.e., technical assistance for divisions of finance, administration, city planning/mapping, etc.)

RHUDO/Near East North Africa and USAID/Morocco established a twinning relationship between the cities of Tetouan, Morocco and Raleigh, North Carolina. This program combines technical assistance with commodity procurement for sewer and wastewater treatment equipment.

Numerous agreements have been drawn up by all three parties (USAID and the two cities) with ICMA as the facilitator. Although specific problems are addressed much like the Thai program, the Morocco case also includes funds for procurement of equipment. The amount of project funds involved are substantially higher than the Thai program. Costs to the City of Raleigh are assumed under a sub-contract through ICMA.

The Canadian International Development Agency (CIDA) has a program somewhat similar to that of USAID matching Canadian and Thai municipal officials. The focus is somewhat different, however, being more related to public participation and democracy initiatives as well as human resource development.

City Selection and Administration of the Twinning Program

To select those cities most likely to benefit from the twinning program, a RHUDO team was sent to assess the needs of the largest Thai cities. The RHUDO assessment team used a guided interview to determine the main environmental priorities of the city, the progressiveness of the city officials in solving problems, the activities of other donors or NGOs in the area, training activities taken up by the city, and general background information. [See Annex 2 for Interview format] It was also noted whether actual projects were in the design stage that could use technical assistance from a U.S. city (or that could potentially be financed in part by the urban infrastructure guaranty facility). Future participant cities should continue to be chosen based on the city's willingness to make decisions and perceived priority the municipal officials place on environmental problems in their city. Those cities that are targets of numerous donors and researchers should perhaps be selected with caution.

In most cases, language ability determined the actual participants from the Thai cities. In each of the cases, the team was comprised of senior and mid-level managers. Efforts should be made to choose participants that can "make a difference" and create and "own" a lasting relationship. A three person team should include one technical level manager, one political delegate, and the City Manager, responsible for the general day-to-day managing of the city. Including a political delegate provides a neutral setting for the elected official to become more familiar with the options and more intimately involved in the decision-making process while also contributing a knowledge of the level of political will required for each initiative.

One reviewer noted that as the central government provides a significant oversight function for the implementation of environmental infrastructure projects, it could be useful for central government officials to participate in the twinning and thus gain a greater understanding of the relationship between U.S. cities and federal/state bodies. Though an interesting suggestion, two problems arise. Choosing the most influential single central government participant would prove difficult at best. Secondly, incorporating the central government is, to some extent, contrary to one of the objectives of the program - to promote greater capacity for decision-making on the part of municipalities.

To choose the U.S. participant city, RHUDO/Bangkok contracted the International City Managers' Association to identify possible participant U.S. cities. ICMA was given a general background paper and information on specific environmental problems the twinning program sought to address for each Thai candidate city. ICMA made recommendations of two-three potential matches from which RHUDO could choose.

In three of the cases, the match between the two cities was quite appropriate. The U.S. and Thai cities had similar characteristics (size, demographics, etc.) and the willingness to become involved on the part of the U.S. twin was quite apparent. In terms of the actual team sent from the U.S. twin, all of the participants were certainly qualified to meet the expectations of the Thai partner and appropriate for the task. City officials in both a professional and private capacity provided significant hospitality. The amount of personal time invested on both sides was quite noteworthy. USAID should continue to be active in the selection of U.S. cities and individual participants. Efforts should be made to choose participants that can "make a difference" and create a lasting relationship.

The appropriate length of time cities can be expected to host their twinning partner should not exceed 10 days. Momentum cannot be sustained for longer periods. The lag time between visits, this evaluator suggests, should be relatively minimal - not more than 2-3 months - to keep the momentum going and allow for actual projects to get off the ground. Regardless, much of the timing issue is dependent on the participants' ability to leave their city and somewhat out of USAID's control. Originally the U.S. counterparts were brought to Thailand after the Thai trip to the U.S. It was determined more beneficial to reverse the order to allow the U.S. participants to see the actual situation in their Thai counterpart city thereby allowing for the U.S.-based activity to be focused on more appropriate technologies. This will also allow the U.S. twin to formulate their technical assistance write-up with the facilitator's assistance.

In all cases, a representative from WEC (in the U.S.-based activities) or RHUDO (in the Thai-based activities) worked with the hosting city to prepare for the upcoming trip. Schedules were determined and discussions of expectations were held. The Scope of Work was reviewed and refined. Note that the Scope of Work should cover a specific area; trying to tackle two unrelated project areas in one week does not maximize the use of the U.S. participants' time. Similarly, USAID should stress that the cities should be the "owner" of the relationship, making requests and using USAID/WEC more as a facilitator/advisor than host.

To make the U.S.-based activities more meaningful, efforts have been made to choose Thai participants whose English is adequate enough to converse in the technical topics at hand. At times, however, language was a barrier to more successful communication. Similarly, a Thai speaker for U.S.-based activities would allow the facilitator to have a better sense of the issues and concerns that unofficial Thai conversations may reveal. For Thai-based activities, the facilitator must be a Thai speaker to initiate communications between and seek inputs from the various municipality staff.

Perhaps it is unrealistic to expect city officials busy with the day-to-day management of their cities to draft recommendations or design suggestions for their Thai counterparts. In an attempt to alleviate this problem, the schedule for the U.S.-based activity must allow for a day of consultation with the facilitator to begin drafting the report, i.e., conclusions, recommendations and future expectations stemming from the U.S.-based activity.

USAID/RHUDO's Role

Early on in the planning stages for the twinning program, RHUDO determined it would be advantageous to become directly involved in the workings of the twinings for the Thai-based activities. While also accommodating a constricted budget, this allowed for RHUDO to become better acquainted with the cities. RHUDO is then in a key position to assess needs and suggest appropriate avenues for assistance related to both infrastructure and administration. Given the Thai language ability of the RHUDO staff, the RHUDO is ideally suited to continue running the Thai-based activities should the twinning project be continued. Each of the Thai participant cities has expressed gratitude for USAID's direct attention. Whereas consultants are viewed as never in one place for too long and can generally not be reached for further support without a new contracting mechanism, USAID staff are now known quantities in these cities. The credibility this adds to USAID's programs is immeasurable.

Private Sector Participation

In all five Thai-based activities³, U.S. private sector participants were included among the teams. The private sector's involvement in the twinning program showed that the U.S. private sector is frequently called upon to interact with the local government to solve a problem to mutual advantage. For Corpus Christi, a representative from Govind and Associates, a private sector engineering firm specializing in environmental infrastructure, accompanied the team at own expense for two days. Though Govind and Associates does not have an Asia office and thereby continued relations would require significant maneuvering on their part, the contacts were at least created. The EBMUD team included a representative from Montgomery Watson and was influential in explaining the various GIS/GPS applications available and estimating costs for their implementation. As part of the Knoxville team, the private sector team member not only represented a solid waste engineering firm but also is a professor at the University of Tennessee teaching solid waste management to engineering students. His participation has led to a joint proposal for an integrated waste management system. The Louisville delegation included a representative from the Louisville Water Company, a corporation-like facility which services the Louisville area. This proved curious for Nakorn Sawan officials in that the provision of water is unquestionably a for-profit outfit. The Orlando team included two

³One activity failed to meet the expectations of the program and thereby a return trip was not scheduled.

representatives from Ecotech Consultants, environmental scientists specializing in environmental management. Ecotech introduced Songkhla to the notion of constructed wetlands with a result of a planned feasibility study and design activity for an annexed part of the city.

As the order of the twinning trips was reversed, the U.S. private sector was more effectively integrated into the U.S.-based activities. The focus became more specific allowing for more targeted and intensive participation by select engineering and equipment firms in the area. The emphasis continues to be placed on technologies that are appropriate for Thailand and that can be replicated throughout the country; reversing the order of the activities allowed a more realistic view for the U.S. private sector in tailoring their presentations to the Thai cities.

To assist RHUDO in integrating the private sector and facilitate the larger U.S.-Thai Development Partnership Project, the Asian Environmental Partnership (AEP) hired a full time Urban Environmental Infrastructure Technical Representative through the Kenan Institute who, among other responsibilities, will seek and promote joint venture opportunities in environmental infrastructure for U.S. and Thai firms and develop the groundwork for BOO/BOTs. AEP resources will also support project development and provide enhancement grants for additional training to projects with U.S. private sector participation.

RECOMMENDATIONS for Private Sector Participation

- *Continue to encourage own-expense private sector participation.*
- *Include the infrastructure representative in Thai-based activities to ensure that the private sector part of the program is firmly on the agenda.*
- *Stress the need for private sector presentations on technology that is not "gold-plated" but affordable for Thai municipalities, both in procurement costs and operations and maintenance costs.*

Costs

Actual Expenses

The approximate budget cost of the entire twinning project amounted to approximately \$150,000. Of this amount, \$120,000 was funded through a Cooperative Agreement with WEC and \$30,000 was through the USAEP. This is actual moneys spent on tickets, per diem/hotel, insurance, etc. Average cost per back and forth exchange was \$27,000.¹ Restrictions on Business Class travel reduced costs somewhat. [See Annex 3 for more specific budget information]

¹Again, the relationship between Savannah, Georgia and Pattaya did not include a return visit by Savannah officials.

In the initial contract, ICMA was allocated \$5,000 to locate willing and appropriate U.S. participant cities. In measuring time allocations made by ICMA to this project, perhaps half of this amount was actually spent.

Imputed Expenses - Administrative/USAID Staff Time

Estimated cost for USAID staff time, not including miscellaneous meetings with the Mission Director, Deputy Director, or RHUDO director, are estimated at \$15,500 at current actual hourly salary rates. This does not include initial assessment trips to the various cities, but does include preparation time spent with the twinning participants, general management time, and facilitation travel and per diem costs.

Actual Expenses - Leveraged

Leveraged actual participant expenses totalled approximately US\$56,000 including eight round-trip airfare and accommodations calculated at \$4000 each for three private sector participants (one each from Corpus Christi, EBMUD and Orlando), two MWA participants visiting EBMUD, four Nakorn Sawan officials visiting Louisville, and five Songkhla officials visiting Orlando.

Imputed Expenses - Technical Assistance/Staff Time

In computing the estimated cost in salary time for municipal officials, private sector and university professionals, at rates comparable to USAID consultant fees, the total dollar amount, including consultant rates for U.S. participants travelling to Thailand, amounts to more than US\$200,000.

Though not formally participating as part of the delegation, the Mayor of Knoxville timed a vacation to Southeast Asia to include a stopover in Chiang Mai during the actual Knoxville exchange. The Mayor was accompanied at own expense by the Knoxville Chief of Police, and the Director of Public Relations. The three Knoxville officials participated in the first two days' activities.

Expected Outcomes

Support for Specific Infrastructure Projects/Opportunities for U.S. Private Sector

Projects currently being assisted or considered through the twinning program are listed below. Some of these activities could lead to projects being financed, at least in part, by the loan facility being established by the Ministry of Finance with support from USAID.

Samut Prakarn-Corpus Christi

- The Assistant Director for Solid Waste Services of the City of Corpus Christi is drafting a preliminary design for a sanitary landfill for the Municipality of Samut Prakarn.
- Small wastewater filtration and oxidation projects are being designed by the Wastewater Treatment Superintendent of Corpus Christi for Samut Prakarn.
- A recent WEC proposal to USIA requested grant money to expand the twinning relationship by providing two month-long internships (for a solid waste manager and civil engineer) and a study tour by elected officials.
- The City of Corpus Christi offered to host the solid waste manager to visit and conduct an internship with the Solid Waste Division.
- The City of Samut Prakarn requested that the City of Corpus Christi host a group of council members. Funding for travel would be paid by the Thai municipality or the municipality could request from any number of sources.

Chiang Mai-Knoxville

- Private sector team member from Knoxville is investigating the possibility of sharing technology and investing as a partner in the G.B.C. Group (a 5-year, B70 million contractor for garbage collection for CM municipality) forming an integrated waste management system consortium.
- The Director of Public Services for Knoxville participated in a recent seminar celebrating the 700th anniversary of the City of Chiang Mai. The Director was chosen as a speaker on the topic of "Environmental Management - the U.S. Municipal Experience".
- Knoxville team member from the private sector has offered to assist CM officials in reviewing the pros and cons of various incinerator designs.
- The Director of Finance for Knoxville has offered to host a mid-level finance department manager from Chiang Mai for 1-2 months to review the entire financing system including Knoxville's tax base information system to allow for improved fee collections.
- The Director of Public Services for Knoxville offered to host a solid waste manager once the municipal solid waste system is operating in Chiang Mai.
- Connections were made between the Knoxville team members in their capacity as community organization members and the CM Chamber of Commerce.
- The Mayor of Knoxville offered to be a liaison between the University of Tennessee and the University of Chiang Mai for any joint projects they sought to pursue. To which end a connection has been made between the University of Chiang Mai and the universities in Knoxville to host a Thai delegation.
- The City of Knoxville requested copies of the blueprints for Chiang Mai's night soil digester program to be promoted on the periphery areas of Knoxville.

MWA-EBMUD

- MWA proposed to use EBMUD legal experts to help draft a water rights bill to be submitted to the Cabinet.
- Once a base map is completed of Bangkok, EBMUD computer systems experts will be invited to train the computer department of MWA in the various GIS applications.

- EBMUD offered to host small groups of MWA mid-level supervisors who receive on-the-job training through MWA's training center.
- EBMUD offered technical assistance to design ways to tap the 3,200 million m³ of dead storage at Bhumibol Dam.

Nakorn Sawan-Louisville

- Louisville provided Nakorn Sawan with a comparison report of oxidation ditch vs. lagoon system for treating waste water. Similarly, Louisville will provide information on anaerobic filters, box culverts, and other technical areas.
- Louisville has provided substantial information on building and zoning codes.
- Once results from effluent tests have been received, Louisville will make suggestions on system improvements for the hospital waste water system and the slaughterhouse.

Songkhla-Orlando (as of the first phase of the activity)

- A design and feasibility study are proposed for the City of Songkhla on the possible use of a constructed wetland for an already designated plot of land.
- Orlando is considering donating some used solid waste collection equipment to Songkhla.
- Orlando will help in the design of upgrading the Songkhla landfill.
- Information will be shared on groundwater monitoring, lining information for landfills, and the use of GIS systems for environmental management.
- Orlando will provide substantial information on their public outreach programs.
- Substantial materials will be provided in terms of creating enterprise fund accounting systems for city services.

Broader Horizons and Continued Training Opportunities (Non-USAID Funded)

As is widely recognized, the best training and technical assistance activities are hands-on and highly participatory. The twinning program is perhaps the most hands-on that a short term technical assistance package could offer. U.S. municipalities have been quite responsive and willing to share their expertise and their assistance has been eagerly received by Thai municipal managers. The Thai government supports any number of overseas study tours but few offer the same degree of tailoring to meet the needs of a particular city.

Several Thai municipal officials expressed appreciation for the twinning style of assistance. Efforts were made to match up cities that are similar in nature, taking into consideration population size, important local industries, demographics, and other factors. In general, Thai counterparts are exposed to consultants who tend to do rapid assessments without spending significant time with the "clients". Voluminous documents are produced by such consultants which may never be translated and usually remain unread by the project managers. On the other hand, private sector representatives are trying to "make the sale" and are thereby held somewhat at a distance. Bringing municipal managers together allows them to trade notes, and create a more comfortable relationship. Bringing the private sector along has helped to show that the public and private sectors can work together to solve environmental problems in a mutually

beneficial relationship; it has also shown that there is a very definite separation between the public and private sectors in that cases of conflict of interest and/or collusion are unacceptable for public officials.

Thai municipal managers were also able to see a more give and take management style among staff and managers. In one case, a brainstorming exercise brought together the different Thai managers and staff tasked with designing a landfill. The standard Thai procedure is for upper level management to make decisions without necessarily consulting with the staff that will actually run the project on a day-to-day basis. This brainstorming exercise, initiated by the U.S. participant proved quite innovative as a management technique for the Thais and quite beneficial in determining more realistic inputs and requirements of the project. Again, one expected outcome is an increased confidence on the part of public administrators to make decisions.

A key to success of the twinning relationships established to date will depend on their continuation. Though it is premature at this point to predict the future of these relationships, the contacts are established. The major problem seen thus far is the rather slow turnaround in requests for assistance and responses on both sides. Both sides have been somewhat slow in sending information, design ideas, or comments on projects. The Thais must begin to take ownership of the relationship. To date, USAID has served as a communications facilitator, yet suggested that in the future the twin cities should communicate directly.

Future of the Twinning Program

Evaluating the twinning program should be an on-going process as long-term expected outcomes still can not be measured. Of the arrangements that have occurred, one can be considered as unsuccessful. The other relationships are in different stages of communication. Annexed sections of this report have identified problem areas and recommendations. Most of these recommendations are more of a logistical and/or programmatic nature. Notes have been made as to suggested changes for continuing the program, i.e., city and participant selection, timing, etc.

The twinning form of technical assistance proves relatively inexpensive in comparison to consultant fees for similar technical assistance activities. On average, consultant costs for a trip to Thailand for two weeks of consultation with a municipality would amount to approximately \$15,000. In contrast, the average cost for a twinning exchange totalled not more than \$30,000 for, on average, 6 participants. In terms of outcomes, USAID can generally have more control over the consultant's end product, yet city officials generally felt quite comfortable with the officials from their counterpart city. Consultants remain distanced from the activity, tend to create a volume of recommendations that are often not translated into Thai, and they are not necessarily available for clarification or follow-up after the reports are written and submitted. In this case, though USAID has acted as an intermediary, the U.S. and Thai cities, having developed personal relationships, are interested in continuing the contacts. One of the biggest

stumbling blocks for further communications could be language ability and/or logistics of communicating.

Numerous sources exist for the Thai cities to procure funds to continue the relationship. The Department of Technical and Economic Cooperation could be solicited for funding for such internships mentioned above. The Municipal League of Thailand also has scholarship money available for qualified applicants. Individual city budgets even allow for study tours that could include the U.S. twin. The Asia Foundation provides fellowships twice a year for qualified candidates whose responsibilities include environmental issues. Such fellowships are 1-4 months in length and, providing an appropriate fluency in English, could accommodate several managers from those cities already participating in the twinning program. Similarly, WEC has submitted a proposal to the United States Information Agency to strengthen the twinning relationships in technical areas already established between Chiang Mai and Knoxville, Samut Prakarn and Corpus Christi. Should WEC be awarded grant money for this project, activities would begin in the fall of 1994.

In terms of meeting the objectives listed in the opening pages of this report, each can be addressed individually as follows:

- support development of Thai municipal infrastructure projects to promote more effective management of the environment. In general, the twinning program has been successful at raising the profile of environmental infrastructure needs in Thailand. However, coming to terms with these problems would naturally involve more than a back and forth trip using U.S. municipal officials as information resources. Making decisions on such important and expensive investments will require time and expectations on the impact of such a twinning exercise should be realistic. Municipal officials have been introduced to a range of available technology and been given advice on appropriate technologies for their individual situations. This covers the range of actual infrastructure, such as landfills and water/wastewater systems, as well as service provision. The exchange of information has proven useful for the Thais given the tailoring the program has included for each city. Again, municipal officials travel on numerous technology study tours, yet for the most part the site selection for these trips are not appropriate for adaptation to the relatively small Thai municipality. The twinning program, on the other hand, has identified those cities that can serve as appropriate examples in corresponding scales and could create long-lasting relationships between the two cities.
- allow practitioners to consult with other practitioners to see first-hand the local decision-making process in the U.S. Discussions held by participants in both countries would make this aspect fairly transparent. This has also been a by-product of the facilitator's interactions with the Thais to draw the differences in the decision-making process into the conversation.
- create an avenue for introducing the U.S. private sector to potential projects in Thailand. Once viable connections have been established between the U.S. private sector and potential projects in Thailand, RHUDO will request that the USAEP infrastructure representative become involved to further the relationship. Similarly, should projects having proposal potential be

identified, the USAEP representative will be brought into the picture. To date, two such relationships have been established in Chiang Mai where proposals for an integrated solid waste management system are in the draft stages, and in Songkhla where proposals are currently being drafted for the U.S. private sector participant will design a constructed wetland for an annexed area of the city.

- familiarize RHUDO with local municipal counterparts. From RHUDO's standpoint, the twinning exercise has proven extremely useful in getting to know the Thai counterparts. RHUDO staff now have close professional relationships with those cities where twinning exercises have occurred. A few municipal officials revealed that they have never witnessed such complete attentiveness by a foreign donor and appreciated the time and effort taken to make a contribution. In having a better understanding of the cities, RHUDO is better able to promote the Urban Environmental Infrastructure Support Project and better able to prepare those cities with projects to come to the table as the first borrowers under the Guaranty Facility. Similarly, with RHUDO's increased understanding of the inner workings of different municipalities, training activities on debt financing, financial management, and project analysis can be targeted more appropriately.

- create a constituency in the U.S. supportive of USAID's efforts. The U.S. participant response to this program has been more than supportive. Municipal officials from the U.S., after seeing Thailand's environmental needs firsthand, understand the urgency in bringing U.S. practitioner expertise directly to their municipal official counterparts.

Selection of the Thai Participant City

To select those cities most likely to benefit from such a program, a RHUDO team was sent out to assess the needs of the largest Thai cities and willingness to participate in such a program. The RHUDO assessment team used a guided interview to determine the main environmental priorities of the city, the progressiveness of the city officials in solving problems, the activities of other donors or NGOs in the area, training activities taken up by the city, and general background information. [See Annex 2 for Interview format] It was also noted whether actual projects were in the design stage that could use technical assistance from a U.S. city (or that could potentially be financed in part by the urban infrastructure guaranty facility).²

For the initial program, Chiang Mai, Pattaya, Samut Prakarn, Nakorn Sawan, Songkhla, and Bangkok's Metropolitan Waterworks Authority (MWA) were selected. Perhaps because Pattaya receives inordinate amounts of attention from donors and the foreign community in general, its participation in the program was somewhat half-hearted. The others, however, remain interested in a productive outcome. Future participant cities should continue to be chosen based on the city's willingness to act and make decisions and perceived priority they place on environmental problems in their city. In fact, every jurisdiction in Thailand requires assistance toward meeting their environmental infrastructure needs. For future twinnings, cities chosen should be progressive in their thinking and have some plans in process to address a specific need.

In most cases, language ability determined the actual participants from the Thai cities. In each of the cases, the team was comprised of senior and mid-level managers. This allowed for closer relationships to be established between the City Manager and his/her staff. This was most evident in the relations formed between the two engineers and the City Manager of Chiang Mai. Having the City Manager's ear for two weeks created greater understanding between the different levels of decision-making.

A three person team should include one technical level manager, one political delegate, and the City Manager, responsible for the general day-to-day managing of the city. Including a political delegate provides a neutral setting for the elected official to become more familiar with the options and more intimately involved in the decision-making process while also contributing a

²In total 15 cities were visited to determine their appropriateness for such a program. Some cities were determined inappropriate given their small size, lack of focus on environmental issues, strong top-down management styles or obvious conflicts between the city manager and mayor, timing issues (in that a city perceived it was not yet ready to benefit from such a relationship), or given a lack of enthusiasm to participate in the program.

Cities interviewed included: Chiang Mai, Hat Yai, Khon Kaen, Nakorn Ratchasima (Korat), Laem Chabang, Mataphut, Nakorn Sawan, Nonthaburi, Pattaya, Phitsanulok, Samut Prakarn, Songkhla, Ubon Ratchatani, and Udorn Thani. Given its enormous size and complexity, the City of Bangkok could not be treated in the same way as the smaller cities. The sub-division of the Metropolitan Waterworks Authority was thereby chosen as a twin.

knowledge of the level of political will required for each initiative. This grouping allows for the Scope of Work to encompass the technical and political aspects of projects while also fitting the project into the general management scheme of the city.

One reviewer noted that as the central government provides a significant oversight function for the implementation of environmental infrastructure projects, it could be quite useful for central government officials to participate in the twinning and thus gain a greater understanding of the relationship between U.S. cities and federal/state bodies. Though an interesting suggestion, two problems arise. Firstly, the Ministry of Science, Technology and Environment, the Division of Local Administration (including Office of Urban Development and the Office of Financial Management), the Ministry of Finance all have input into municipal project management. Choosing the most influential single central government participant would prove difficult at best. Secondly, incorporating the central government is, to some extent, contrary to one of the objectives of the program - to promote greater capacity for decision-making on the part of municipalities.

Pattaya - A Less than Successful Experience

The City of Pattaya was chosen to some degree because of Royal Thai Government (RTG) environmental priorities. Given its severe environmental problems, Pattaya is an extensively "studied" city and receives significant attention from the central government stemming from its high visibility as a tourist spot. For this twinning arrangement, it was determined that the trip to the U.S. did not create a relationship solid enough to warrant a reverse trip by U.S. participants to Thailand. The twinning relationship was unsuccessful for various reasons, including the inappropriateness of those city officials sent to Savannah. Given an upcoming election, the City Manager was unable to travel to Savannah. Two of the participants chosen were from the Division of Health and Environment. However, their medical backgrounds rather than environmental focus made them perhaps less than prepared to present their environmental problems to Savannah. Language problems also proved difficult for the facilitator to overcome. There were also some problems on the U.S. side as perhaps the U.S. city did not fully realize the effort needed to make the trip a success.

RECOMMENDATIONS Regarding Thai Participants

- *Select with caution those cities that are targets of numerous donors and researchers - such cities might tend to participate less than wholeheartedly and expect more "gimmes".*
- *RHUDO should continue to screen the Thais selected to participate to ensure that their responsibilities are in conjunction with the planned purpose of the trip. Efforts should be made to choose participants that can "make a difference" and create and "own" a lasting relationship.*
- *According to assessment trips made by RHUDO staff, the level of English of future participants may be quite minimal - hence the facilitator might also need to be a Thai speaker to ensure that communication is successful.*
- *Allow for a mix of participants - technical, political, and one having overall responsibility for the city.*

Selection of the U.S. Participant City

With its membership of over 7000 U.S. municipalities, RHUDO/Bangkok found it quite appropriate to use the International City Managers' Association to identify possible participating U.S. cities for the twinning program. ICMA was given a general background paper as well as information on specific environmental problems the twinning program sought to address for each Thai candidate city. ICMA thereby made recommendations of two-three potential matches from which RHUDO could choose. Two of the U.S. participant cities were selected through contacts between U.S. cities and Mission personnel.

In each case, the match between the two cities was quite appropriate. The U.S. and Thai cities had similar characteristics (size, demographics, etc.) and the willingness to become involved on the part of the U.S. twin was quite apparent. U.S. cities, however, do not have vast expense accounts to provide support to visiting groups for the two week period; maintaining a high level of U.S. local official support proved quite difficult throughout the two week period. Culturally this proves quite interesting in that the U.S. officials perceive hospitality as meeting the professional needs of the delegates. Thai culture perceives hospitality as a function of meeting both the professional and social needs. It would be in USAID's interest to prepare a cultural briefing paper for both sets of participants.

In terms of the actual team sent from the U.S. twin, all of the participants were certainly qualified to meet the expectations of the Thai partner and appropriate for the task. In one instance, a U.S. participant did not hold responsibilities for the subject area under consideration during the two week activity, yet the participant's past experience and degree were "relevant enough". (Similarly in this case, the Thai participants that had visited his city requested that this person be invited regardless of his current position, confident in his ability to make a contribution.) Suggestions were also made to pursue using one or two of the U.S. participants in future technical assistance activities pending availability.

RECOMMENDATIONS Regarding U.S. Participant Cities

Louisville-Nakorn Sawan: An Ideal Match

As the second phase of the twinning exercise has not yet occurred upon completion of this evaluation, the results of this twinning have not been included in this report. Following the recommendations of this report, the order of the twinning exercises were reversed. This allowed for Louisville to get a more complete sense of the realities of Nakorn Sawan before hosting. Louisville sent three engineers to Nakorn Sawan to provide technical assistance to the city on water supply and waste water treatment plans. The team was highly competent and professional. Several areas were covered (i.e., water quality, distribution systems, waste water treatment, flooding, etc.) in a very systematic way and practical and appropriate recommendations were made following each day's activities. The City of Nakorn Sawan was the true "owner" of the project and both sides were determined to make every minute count. In fact, the Mayor was so pleased that the City of Nakorn Sawan will be paying for an additional four officials to participate in the U.S.-based activity.

- *USAID should continue to be active in the selection of U.S. cities and individual participants. Efforts should be made to choose participants that can "make a difference" and create a lasting relationship.*
- *A free flow of information between RHUDO and ICMA should be used in selecting the U.S. twin candidates. Selection should be based not just on availability but the strengths of their infrastructure programs relative to the needs of the Thai city. Selection decisions should be provided to WEC as the facilitator with selection justification.*
- *U.S. cities should be made more aware of what will be involved in hosting for the 10 day period - both professionally and socially. Presentations and the Scope of Work should be more tailored to meet the needs of the Thai twin. To the extent possible, Thai officials should be fully briefed before their trip to the U.S. city to create realistic expectations.*
- *Additional relationships besides city to city, similar to the MWA-EBMUD, twinning should continue to be considered in the future.*

Timing and Scheduling

The appropriate length of time cities can be expected to host their twinning partner should not exceed 10 days. Momentum cannot be sustained for longer periods. Similarly 5 days visiting with a city is perhaps too short given the protocol involved in the first day or so, and the jet lag that occurs in the second and third days. The ideal schedule for the Thai-based activities would allow for one day briefing and then debriefing in Bangkok, and 7 work days in the host city. For U.S. cities, the burden seemed to be too great on the host as out-of-pocket expenses became too much to expect for city officials to cover.

In terms of the lag time between visits, two schools of thought exist on the matter. The first school suggests that the time between the U.S. visit and the Thai visit should be minimal - not much longer than two months - to keep the momentum going and solidly continue the relationship. The second school suggests that the lag time between visits should perhaps be somewhat longer (6 months) to allow for Thai managers to assimilate the information received in the United States before hosting their counterparts. In essence the discussion is turned upside down as the order of the trips will be reversed, bringing the U.S. counterpart to Thailand before the Thai trip to the U.S. The U.S. participants would then have the opportunity to see the actual situation in their Thai counterpart city to allow for the U.S.-based activity to be more focused on more appropriate technologies. The length of visits should remain between 7-10 days as suggested above. The lag time between visits, this evaluator suggests, should be relatively minimal - not more than 2-3 months to allow for actual projects to get off the ground. Regardless, much of the timing issue is dependent on the participants' ability to leave their city and somewhat out of USAID's control.

One problem that occurred when the Thai-based activity was the follow-up activity the response of the U.S. counterpart in report form has been delayed. In one case, the Thai city is waiting for a pre-design from their U.S. twin to send to the Governor's office as part of a funding proposal. RHUDO has remained the middleman in each case but has been unable to get

comments on the activity report from the U.S. participants. In switching the order of the activities, the U.S. response has been easier to incorporate into the final conclusions part of the U.S.-based activity. In other words, as the U.S.-based activity draws to a close, the U.S. twin can be formulating their technical assistance write-up with the facilitator's assistance.

RECOMMENDATIONS for Timing and Scheduling

- *Order the activities to bring the U.S. counterparts to Thailand first.*
- *Shorten the length of the trips to 7 work days in the host city (plus 2 briefing days).*
- *Push for a minimal lag time of 2-3 months between the trips to keep the momentum.*
- *Include write-up sessions in the final days of the U.S.-based activity to speed up the report/technical assistance process.*

Pre-Trip Planning

In general, pre-trip preparations were quite appropriately handled to the satisfaction of the participants. One problem noted was a lack of information provided beforehand by the Thai city to the U.S. participants related to the project they wished to address. In one instance before arriving in Thailand, the U.S. twin city requested substantial information as a result of discussions during the U.S.-based activity. The Thai city, for reasons unknown, did not provide the information. It was thought that perhaps the city did not have the capacity to collect the information. This, however, turned out to be incorrect as data was collected after the arrival of the U.S. team. Some of this problem has been alleviated as the order of the twinning was reversed. Information will thereby be requested by the visiting U.S. participants to be put into a format while the Thai participants are in the U.S. host city.

In all cases, a representative from WEC (in the U.S.-based activities) or RHUDO (in the Thai-based activities) worked with the hosting city to prepare for the upcoming trip. Schedules were determined and discussions of expectations were held. The Scope of Work was reviewed and refined. As for the Thai side, the Thai officials generally waited for RHUDO to determine the schedule and set the agenda.

In terms of preparing the Scope of Work, the focus must be as specific as possible especially for the Thai visit to the United States. In all cases, Thai participants requested to see various technologies that were tangential to the main project to be addressed. In some cases, this was due to the U.S. counterpart's desire to "show-case" the progress their city had made in addressing any number of issues. Perhaps the length of the U.S. stay, being longer than necessary, allowed extra time to bring in unrelated topics and sidetrips. Though USAID is eager to have U.S. cities provide a show and tell of their accomplishments, this was in some cases to the detriment of the program's targets. A set percentage of the time, say 70 percent, should be allocated to the specific project to be addressed with the remaining 30 percent allocated to other areas of interest. Though difficult to maintain the focus, the facilitator for both the U.S. and Thai-based activities must convey the importance of concentrating on the main problem to be addressed.

RECOMMENDATIONS Regarding Pre-Trip Planning

- *Target the Scope of Work so that it covers a specific area - especially for Thai-based activities, trying to tackle several unrelated project areas in one week does not maximize the use of the U.S. participants' time.*
- *Stress the need to provide materials and information up-front to the Thai participants.*
- *Stress that the Thai city should be the "owner" of the relationship, making requests and using USAID/WEC more as a facilitator/advisor than host.*

Handling Logistics and Facilitating the Trips

In co-managing the project, WEC was quite responsive and flexible. WEC and RHUDO staff have created a fluid working relationship with free and easy give and take. WEC staff have allocated significant time to managing the project and providing inputs. In one twinning case, a senior professional from WEC provided substantial time, unpaid by the contract, to help the Thai city organize the schedule and presentations. He then gave personal time to assist with the facilitating in the Thai city. His contribution in focussing the discussion and selling the potential of the relationship was quite significant.

In addition to the personnel contributions by local governments and private sector participants, each host city (U.S. and Thai) provided transportation to all official meetings and a number of informal/recreational activities. City officials in both a professional and private capacity provided significant hospitality. The amount of personal time invested on both sides was quite noteworthy. In one case, the Thai city provided daily pickup and delivery from the Bangkok hotel to the municipality, an hour-plus distance. Meals were provided and dinners were often quite extravagant. One city provided a computer for use in writing up the report as well as equipment for surveying. Three teachers were pulled from their teaching responsibilities in local schools to serve as interpreters for the American participants. Chaperons for weekend tours were provided in all cases.

The facilitator is crucial for the success of such twinning projects. To make the U.S.-based activities more meaningful, efforts have been made to choose Thai participants whose English is adequate enough to converse in the technical topics at hand. At times, however, language was a barrier to more successful communication. Similarly, a Thai speaker for U.S.-based activities would allow the facilitator to have a better sense of the issues and concerns that unofficial Thai conversations may reveal. It should be anticipated that some Thai participant cities may not be able to provide competent English speakers. This will create further responsibilities for the facilitator to be an interpreter as well.

For Thai-based activities, the facilitator must be a Thai speaker to initiate communications between and seek inputs from the various municipality staff. For media-related events, an actual interpreter might be required depending on the nature of the activity. RHUDO staff is not qualified to do simultaneous interpretation for media events.

The facilitator also serves as a point of contact for all liaison work between the two cities. All pre-departure preparation and post-return activities can be accelerated by the facilitator. During the twinning exercise, the facilitator is charged with keeping the activity on target. Problems for the U.S.-based facilitator in the past have stemmed largely from the lack of focus in the Scope of Work. Thai participants arrive in the host city and want to "see everything." The facilitator thereby has difficulty in keeping the activities focused. In the future, this problem may be somewhat alleviated as the Thai visit to the United States will occur after the U.S. visit to Thailand. Thus, hopefully the focus for the U.S.-based activity has already been established between the counterparts.

The facilitator should also be somewhat knowledgeable about the cultural differences between the U.S. and their Thai counterparts. This provides smoother and more enjoyable interaction and allows expectations to be more realistic. All of the facilitators used to date are qualified to explain cultural differences which may bring about differences in expectations. A brief cultural orientation has been an informal part of all briefing sessions when the U.S. participants arrive in Bangkok.

RECOMMENDATIONS Regarding Logistics and Facilitation

- *For logistics issues, RHUDO should contact the WEC coordinator in Washington directly, forwarding a copy of all correspondence to the WEC/Bangkok office. This will facilitate communications between RHUDO and WEC.*
- *Increasingly, as English capability of the participants becomes less reliable, the facilitator must be able to converse in both languages - serving both as facilitator and interpreter.*
- *Tighter schedules and focus the Scopes of Work to streamline the facilitator's task.*

Reports

Two separate formats for reports have been used to date - one completed by WEC relating the U.S.-based activities and the second by USAID/RHUDO staff upon completion of the Thai-based activities. The WEC reports are synopses of the trips giving a day-by-day overview and are appropriate for distribution.

The RHUDO reports to date, on the other hand, are generally memos to the files though also giving a day-by-day overview of activities. RHUDO staff have suspended reporting activity waiting for U.S. participants comments and conclusions. Memos to the files have been prepared as drafts of the final reports and faxed to the U.S. participants for comments to be incorporated. Perhaps it is unrealistic to expect city officials busy with the day-to-day management of their cities to draft recommendations or design suggestions for their Thai counterparts. In an attempt to alleviate this problem, the schedule for the U.S.-based activity must allow for a day of consultation with the facilitator to begin drafting the report, i.e. conclusions and future expectations stemming from the U.S.-based activity.

RECOMMENDATIONS for Reporting

- *Include time in the U.S.-based activity schedule for drafting by the facilitator in collaboration with U.S. host officials.*
- *Reporting cable-like documents should be prepared by RHUDO staff for circulation in the Mission - with or without participant comments. Such reports should be brief, 2-3 pages, with a focus on future activities and accomplishments to date.*
- *Ideally, updates on the relationship would be created on a regular basis.*

Thai Urban Environment Questionnaire
[Bracketed text in italics is for interviewer guidance.]

1. The following are some basic background questions about your city:
- a) What has been your city's pop. growth rate since 1990? _____
 - b) What has been your city's eco. growth rate since 1990: _____
 - c) What are your city's most important economic activities: _____
 - d) What are your city's fastest growing economic sectors: _____
 - e) What are your city's most important employers (& size): _____
 - f) What foreign firms are present in your city (esp. U.S.): _____
 - g) How important are exports in your city's eco. base: _____

2. Please rank, in order of importance, the three most important environmental problems facing your city. *[Examples: water & air pollution, solid waste, flooding & drainage, noise, and hazardous & toxic waste. Probe about balance between households and businesses as contributors to the problems. Also probe whether the problems have gotten worse, remained the same, or gotten better over the last five years.]*

- A) _____
- B) _____
- C) _____

3. What do you think are the most appropriate types of solutions for the three problems just mentioned? Are any of these solutions being implemented? *[Solutions may include: a) more capital investment, b) more monitoring equipment, c) new regulations, d) better enforcement of regulations, e) recycling, f) more staff training, and g) prevention/increased public awareness. If R. mentions more than one solution, probe about the relative importance of each. Also probe about the availability of trained personnel to address the problem.]*

- A) _____
- B) _____
- C) _____

4. Again referring to the three most important environmental problems facing your city, please indicate how the costs of related infrastructure should be apportioned between different levels of government and users of the infrastructure. *[Non-mutually exclusive sources include: a) central gov. grants, b) local gov. grants, c) user charges, d) public/private and e) BOO and BOT schemes. For each problem, try to get R. to apportion these costs on a pct. basis with the total adding to 100%. If R. mentions the local government as a source of funds probe whether he/she thinks the municipality is prepared to borrow or raise taxes to pay for the investment.]*

- A) _____
- B) _____
- C) _____

5. It has been suggested that strengthening local government revenue generating and financial planning capabilities are keys to managing and resolving environmental problems at the local level. Please identify any ongoing efforts that you are aware of to upgrade your city's capacities in the following areas: a) property tax revenue generation, b) instituting and collecting fees or tariffs, c) financial planning for infrastructure development and d) any other related efforts. Would you be prepared to pay a higher proportion of operations, maintenance and capital costs of environmental infrastructure if you could improve your revenue raising capabilities? *[Probe to see whether R. feels a central government fig leaf would be helpful in raising additional revenue. For example, the central government might compel the municipality to raise additional funds and receive additional central government funds in exchange.]*

6. Please identify the most important nongovernmental organizations and private firms active in managing and resolving environmental problems in your city. In addition, briefly characterize their role. Are they watchdogs, program sponsors, investors, program managers, contractors, etc.

Organization:	Organization's Role:
A) _____	_____
B) _____	_____
C) _____	_____
D) _____	_____

7. Please identify some on going initiatives where a small amount of additional training or outside expertise might have a large impact on ameliorating environmental problems. *[Try to get R. to define his proposal as tightly as possible. What resources does he/she think are needed to address the problem. Who are the key players likely to be involved? How would the application of US resources be of assistance?]*

A) _____

B) _____

C) _____

8. *[Immediately after you have parted company with the respondent please evaluate the following, based on the tone and substance of the interview: a) the degree to which the local government appears to be committed to solving the most important environmental problems mentioned by the respondent, b) the extent and quality of the local government's regulatory capability, and c) were any special economic, political or social factors discussed that might impact a potential twinning proposal d) were any capital projects mentioned that might represent an opportunity for an American firm?.]*

A) _____

B) _____

C) _____

BUDGET (As of May 5, 1994)CHIANG MAI - KNOXVILLE

Airfare: CM-Knoxville-CM 3 pax @ \$3,200 ea	\$9,600.00
Airfare: Bangkok-CM-Bangkok	366.00
Hotel: Bangkok	231.60
Knoxville - 38 nights @ \$52.09/night	1,979.42
Per Diem: 3 pax @ 13.75 days @ \$26/day	1,072.50
Airfare: DC-Knoxville-DC (Facilitator)	290.00
Hotel: 13 nights @ \$52.09/night (Facilitator)	677.17
Per Diem: 12.75 days @ \$28/day (Facilitator)	331.50
.5 days @ \$34/day (Facilitator)	17.00
M&IE/other allowable expenses (Facilitator)	<u>84.26</u>
	14,649.45

KNOXVILLE-CHIANG MAI

Airfare: Knoxville-Bangkok-Knoxville 3 pax @ \$3,567.48	\$10,702.36
Travel Advance: 3 pax @ \$829.80	2,489.40
Airfare: Bangkok-CM-Bangkok 2 pax @ \$100 (Facilitator)	200.00
Hotel: 2 pax @ 5 nights @ \$50/night (Facilitator)	500.00
M&IE/other allowable expenses (Facilitator)	<u>350.00</u>
	14,241.75
TOTAL KN/CM	28,891.20

PATTAYA-SAVANNAH

Airfare: Pattaya-Savannah-Pattaya	9,682.00
Hotel: Bangkok	147.20
Hotel: 3 pax @ 14 nights @ \$47.68/night	2,002.56
M&IE: 3 pax @ \$474.50	1,424.25
Airfare: DC-Savannah-DC (Facilitator)	400.00
Hotel: 14 nights @ \$47.68/night (Facilitator)	<u>667.52</u>
	14,323.53
TOTAL P/S	14,323.53

SAMUT PRAKARN - CORPUS CHRISTI

Airfare: SP-Corpus Christi-SP	8,050.40
Hotel: 3 rooms @ 14 days @ 65.54/night	2,752.68
Advance: 11,173.76 baht	446.95
M&IE: 4 pax @ 14 days	1,787.80
Ground Transport	200.00
Airfare: Houston-Corpus Christi (Facilitator)	\$95.00
M&IE: 2 quarters (Facilitator)	13.00
Airfare: Corpus Christi-Dallas (Facilitator)	<u>59.00</u>
	13,404.83

CORPUS CHRISTI to SAMUT PRAKARN (No Facilitator Costs)

Airfare: CC-Samut Prakarn-CC 2 pax @ \$3,366.45	\$6,712.90
Travel Advance: Hotel + M&IE = 2 pax @ \$1,632.00	<u>3,624.00</u>
	10,336.90
TOTAL CC/SP	23,741.73

MWA to EBMUD

Airfare: 3 pax @ \$2,151.33 ea	6,454.00
Hotel: 2 rooms @ 12 nights @ \$78.81/night	\$1,891.44
1 room @ 13 nights @ \$78.81/night	1,024.54
Per Diem: 3 pax @ \$586.00	1,755.00
Ground Transport	120.00
Airfare: DC-SFC-DC (Facilitator)	468.00
Hotel: 13 nights @ \$76.81/night (Facilitator)	1,024.53
M&IE/other allowable expenses (Facilitator)	<u>893.35</u>
	13,630.86

EBMUD to MWA (No Facilitator Costs)

Airfare: SFO-BKK-SFO 3 pax @ \$2,287.45	\$6,862.00
Hotel: Bangkok 6 nights (50,000 baht)	2,000.00
M&IE/other allowable expenses	<u>\$ 1,304.04</u>
	10,166.04
TOTAL EBMUD/MWA	23,796.90

GRAND TOTAL 90,753.36

AVERAGE COST PER ARRANGEMENT 25,929.53