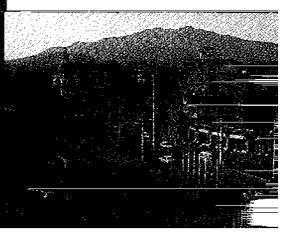
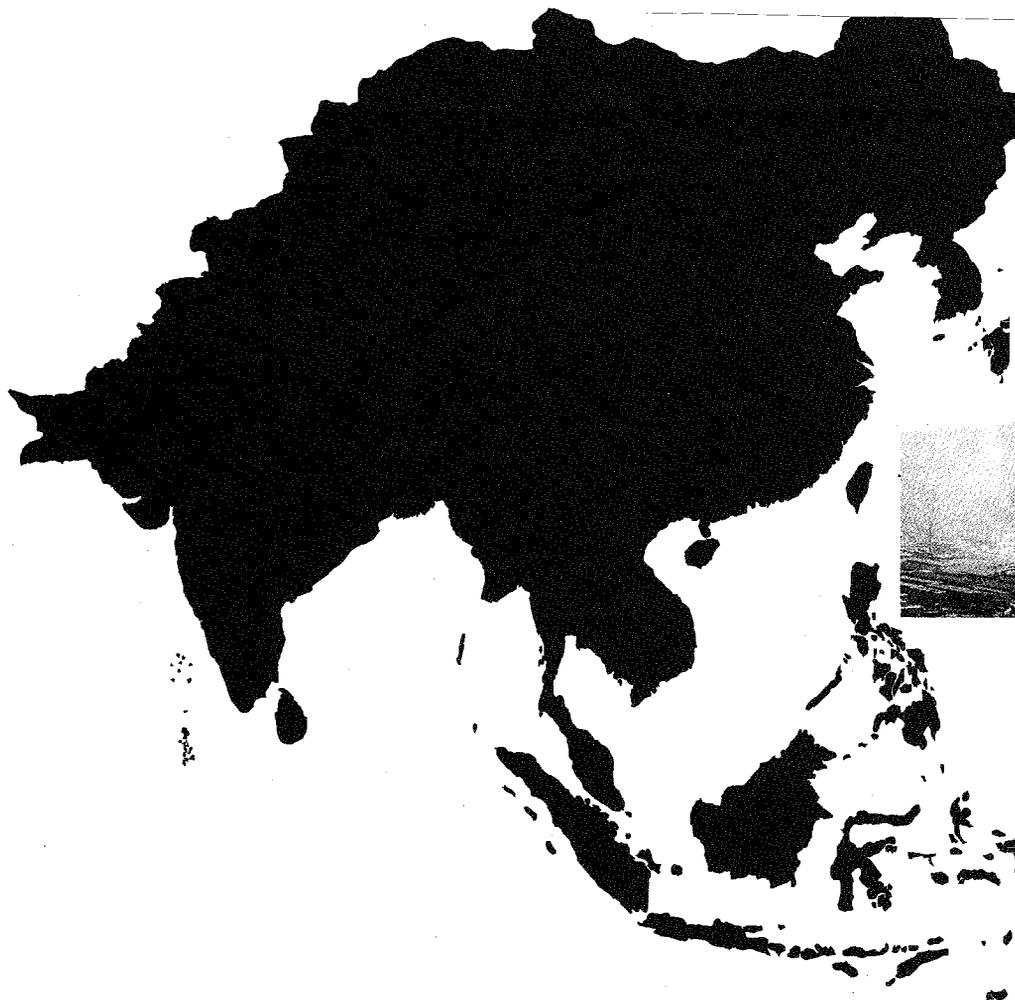


# The Metropolitan Environmental Improvement Program (MEIP) in Asia



17937



People Cities Environment

Building City  
and Intercountry  
Environmental  
Networks

MEIP achievements are based in institutions, public dialogue, and action in its six cities with back-up and guidance from its central office. MEIP is not a stand alone environmental project, but rather uses its relationships and activities with governments, communities, industries, and international organizations to catalyze action on the urban environment. The program's simultaneous "top-down/bottom-up" framework for consultations, workshops, and field activities yields a strong sense of local ownership of MEIP.

*One international partner, on departing from a visit to a MEIP-city office and its field activities, exclaimed, "MEIP's not just another program, it's a movement!"*



## Development in Asia's Cities and MEIP's Mission

- Asia's cities, now and in the future, are powerful engines of economic growth and human development. Urban Asia faces the increasing peril of environmental degradation, yet the same dynamic of development offers the potential to reverse this deterioration and create viable living environments.

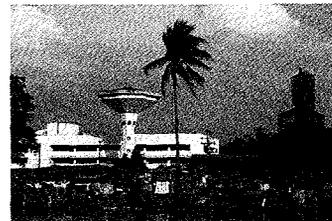
- This rapid growth of urban population, industry, and associated economic activities is taking place at high densities in limited space. To be effective, development policies and projects must increasingly focus on these inter-relationships and on the environment and natural resource base which supports the city region.

- Traditional sectoral development strategies are by themselves inadequate to the task. Action must stem from a framework that accounts for impacts across development sectors and ensures the involvement of all stakeholders in the life of the urban community and of its natural support systems. Investment projects must not be simply designed to overcome discrete technical problems, but "grown" in the climate of peoples' interactions with their social, economic, and physical needs.

- MEIP approaches metropolitan regions as spatial systems in which development activities can be planned, implemented, and monitored in light of their impact on air, water, and land — and on those whose health and livelihood depend on these resources.

- A framework for coordination among government, private sector, non-governmental organizations (NGOs), and communities is essential. MEIP helps to provide that framework and to develop the necessary strategies, action plans, investment preparation, and networking with civic and community groups — all of which are needed to translate good intentions into practical results.

*Reliance on  
governments alone  
is insufficient for  
environmental  
quality manage-  
ment.*



## What is MEIP?

The Metropolitan Environmental Improvement Program is a pilot program aimed at finding innovative solutions to the environmental problems in Asian cities. In 1989, the World Bank and the United Nations Development Program (UNDP) established MEIP to help selected metropolitan regions design and implement practical solutions to rapidly growing environmental problems. The program promotes participation of concerned sectors of society to improve governance and to leave in place a process that is locally-anchored and sustainable.

In phase one, five national governments endorsed the program and activities began in Beijing, Bombay, Colombo, Jakarta, and Metro Manila. In 1993,

Kathmandu joined MEIP and the program moved into its second phase, becoming a constituent partner of UNDP Urban Management Program for Asia and the Pacific (UMPAP).

The third phase of MEIP, 1996-1998, will receive principal support from The Governments of Belgium and the Netherlands, and AusAID. The program will expand to Vietnam and secondary cities in the Philippines, Indonesia, and Sri Lanka.

## Program Objectives

- assist urban metropolitan areas develop environmental management strategies and action plans in the context of urban and industrial development;
- strengthen the institutional and legislative framework for environmental

planning, monitoring and enforcement;

- help to identify and prepare high priority investment projects and mobilize necessary resources;

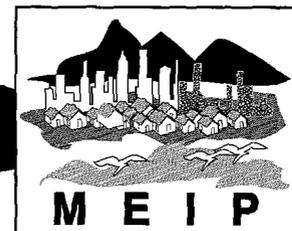
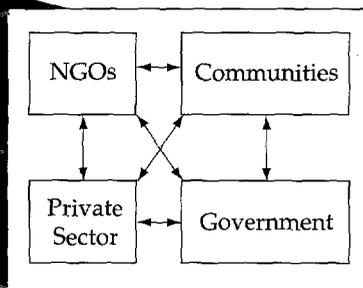
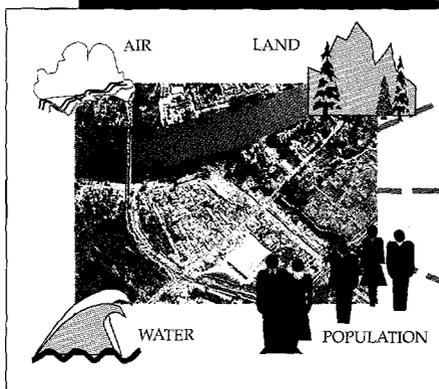
- promote community-led efforts in improving the living environment; and

- initiate a process of cross-country exchange of information and of lessons learned.

This booklet highlights the environmental challenges of development that each MEIP city faces and innovative measures designed to meet these challenges.

We invite you to examine MEIP achievements and to become a part of its future contributions to a prosperous and sustainable urban living environment.

## Metropolitan Environmental Improvement Program (MEIP)



## Program Structure

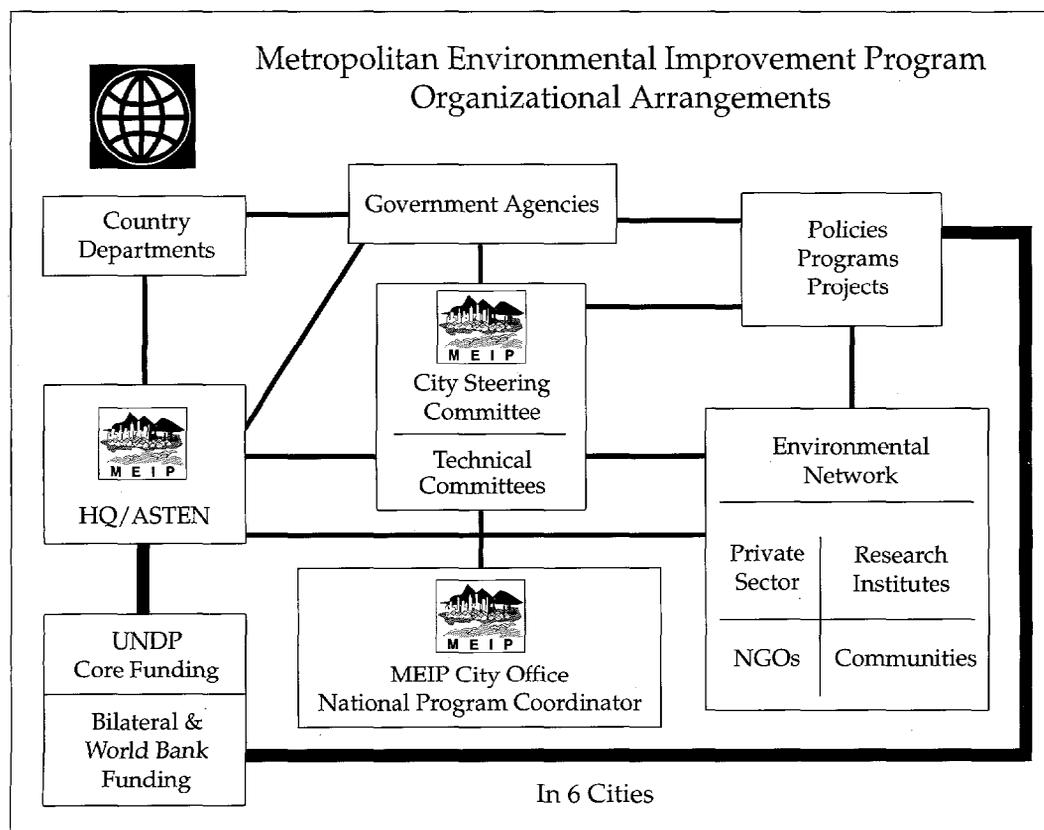


**Central Office**—gives overall guidance to the program. Its staff are involved with the design and supervision of those components of World Bank projects through which a part of MEIP activities are carried out.

**City Steering Committee**—guides work in each metropolitan region. It is composed mainly of representatives from central and local government agencies responsible for environmental quality, budgeting and finance, sectoral development, urban planning, and land use. Working groups are formed to oversee the technical aspects of specific activities.

**City Program Office**—The National Program Coordinator (NPC)—a local environmental professional—forms a secretariat for the Steering Committee, and coordinates MEIP activities.

**Environmental Network**—is composed of government, civic, professional, and business associations, the media, academia, NGOs and community-based organizations. Representatives are included in MEIP Steering Committees and take part in policy, planning, and local level demonstration project work. International partners provide expertise and funds to carry out MEIP network activities.



*At MEIP's heart is the creation of environmental networks; a form of outreach that goes beyond public relations by stimulating practical expressions of public participation and local ownership of the program.*

## The Program

### *Develops Environmental Management Strategies (EMS) for Metropolitan Regions*

The EMS approaches environmental planning with a spatial, geographic focus on individual city regions from the perspective of land, air, and water quality and their impacts on city efficiency and equity. Air quality management aspects in four MEIP cities are linked to EMS activities through the **Urban Air Quality Management in Asia (URBAIR)** initiative. The EMS provides a comprehensive analysis of environmental conditions, sets forth alternatives for action and the environmental and economic costs of inaction, and evaluates the effectiveness of sectoral programs. The strategies are developed through studies and workshops with government agency, community group, and private sector participation. The EMS provides the framework for local action, policy change, and necessary investment—MEIP works through the World Bank and other donor projects to carry out these action plans. The analytical work of the EMS is at or near completion in first phase MEIP cities and priority actions are being adopted and implemented by governments.

### *Strengthens Institutions*

Environmental agencies are often the newest

and the weakest. MEIP strengthens these agencies through technical advice and training in management systems, monitoring, and enforcement. It establishes a framework for coordination with land use planners and sectoral development agencies which is vitally important for successful environmental management.

### *Identifies and Prepares Priority Investment Projects*

Urgent environmental issues need to be addressed even before EMS action planning is complete. MEIP's relationship with the World Bank and other donors has allowed concurrent feasibility work and investment appraisal on pressing industrial pollution, municipal waste, and air and water quality problems. Nearly \$200 million has been prepared for Bank lending and opportunities for a further \$800 million in investment have been identified.

### *Promotes and Mainstreams Local Level Demonstration Projects*

MEIP develops sets of activities with communities, government agencies, NGOs, and private enterprises. Local proponents prepare and implement demonstration projects to improve waste and resource management, and to build awareness and understanding of environmental issues, as well as

the potential for community action to address them. These serve as a model for growing larger projects from grassroots initiatives. Community-driven approaches are being adopted by governments and mainstreamed as components of externally-assisted investment projects.

### *Facilitates Information Exchange*

Sharing among cities and within countries is a practical way to find affordable solutions to environmental problems. MEIP city delegations have reviewed activities and shaped the overall program in a series of intercountry workshops. Institutional, NGO, and community involvement in environmental management have been the subject of multicity research, synthesis, and exchange.

Intercountry exchange includes:

- air quality management through URBAIR
- Japanese environmental management experience and its relevance to developing countries
- economic valuation of environmental degradation
- waste minimization/clean technologies for industry
- environmental management through community development



# COLOMBO

## Issues & Priorities

- loss of natural resources - degradation of rivers, lakes, coastal lagoons, drainage canals, wetlands and in-shore marine waters
- deteriorating quality of surface waters & groundwater
- flooding & stagnation of water courses
- pollution from solid waste
- deteriorating ambient air quality
- environmental problems in low-income areas
- traffic congestion

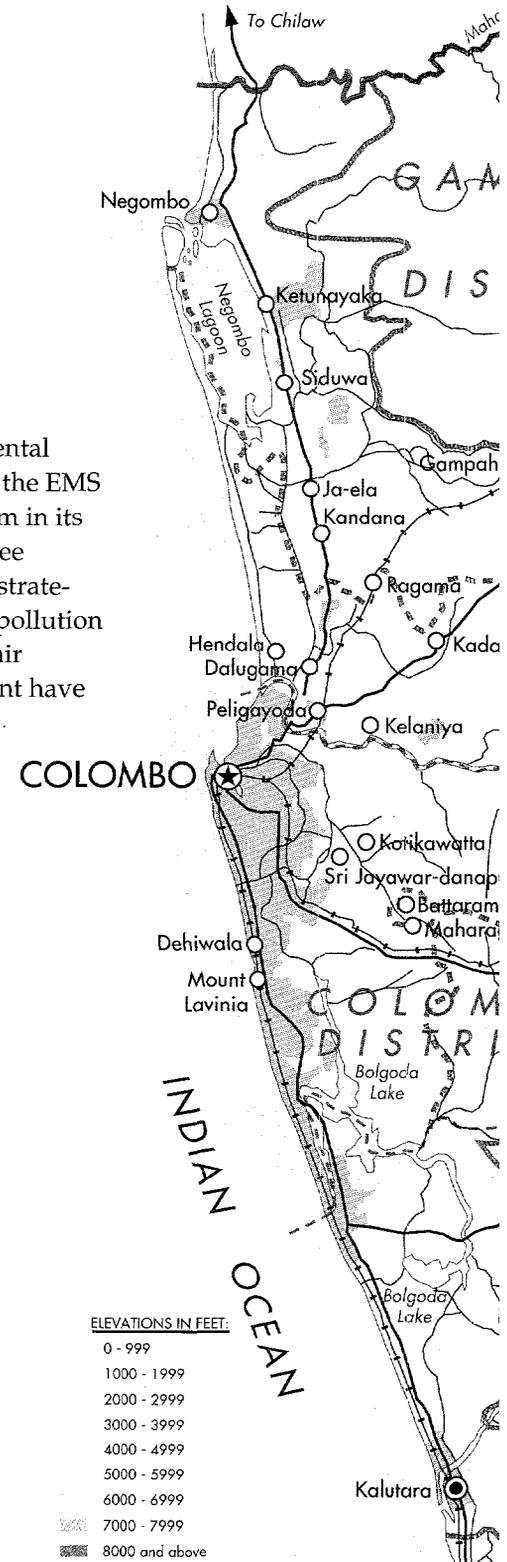
## Management

The Colombo Program is placed under the Ministry of Policy Planning and Implementation and is guided by an interagency Steering Committee with the Ministry Secretary as the Chairman. Recognizing the value of the multi-sectoral approach of this Committee, the Government of Sri Lanka (GOSL) broadened its scope to become the National Environmental Steering Committee (NESC), with the MEIP Coordinator continuing as the Secretary. In addition to deliberating policy issues the NESC has become a forum to resolve development/environment conflicts through the participation of private sector and NGOs. The NESC also effectively coordinates several donor funded environmental initiatives.

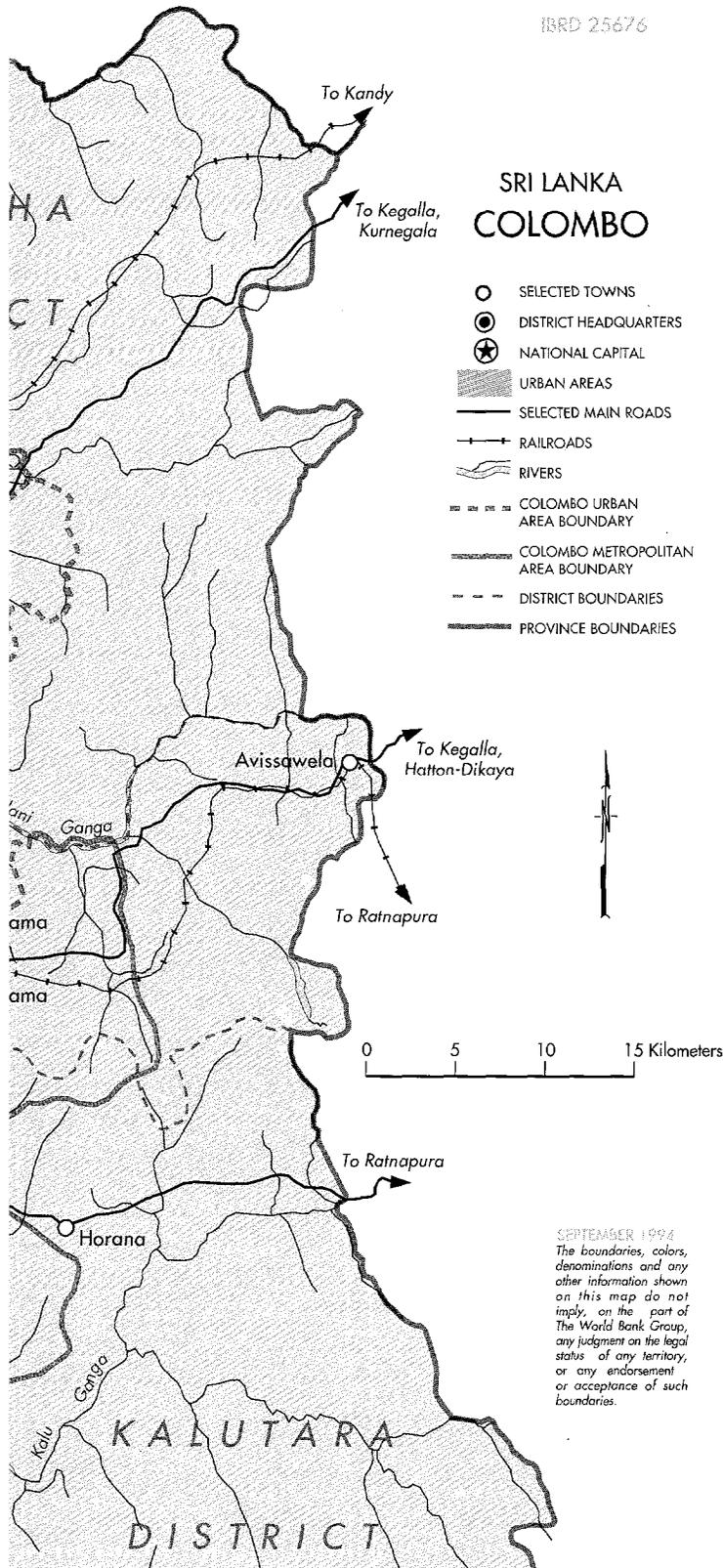
## EMS & Action Plan

Stemming from the Government's National Environmental Action Plan, the preparation of an *Environmental Management Strategy* for Greater Colombo was the first MEIP policy and institutional initiative. Funded by the UNDP and Dutch Trust Funds, the Bank and GOSL jointly developed the terms of reference and selected the consultants. Completed in April 1994, the EMS was prepared over a two-year period and undertakes an ecological land and water analysis, recommends institutional and administrative process changes and identifies high priority investment projects. It is now serving as the framework for the proposed World Bank-funded Colombo Environment Improvement Project (CEIP). The Urban Development Authority (UDA) was selected as the implementing agency. The UDA subsequently established

its own Environmental Unit and included the EMS as a permanent item in its Planning Committee agenda. Similarly, strategies for industrial pollution management and air quality management have been proposed.



IBRD 25676



## Institutional Strengthening & Capacity Building

MEIP-Colombo involves local government bodies, sectoral development agencies, environmental regulatory agencies and the private sector to strengthen the institutional network. This is supported by MEIP-sponsored studies involving Sri Lankan and international consultants, and by conducting workshops, short courses and study tours to other MEIP cities and North America. Over 500 Sri Lankans have participated in local workshops and 30 have undergone training abroad. Strengthening activities also include provision of laboratory equipment and on-the-job training.

## Identifying & Preparing Priority Investment Projects

- Pollution Control and Abatement Fund
- Air Quality Monitoring Network
- Beira Lake Restoration
- Cental Effluent Treatment Plants at Ekala and Ratmalana-Moratuwa
- Municipal Solid Waste Collection and Disposal
- Community Environmental Management and Infrastructure Improvement

The first two are components of the World Bank-funded Colombo Urban Transport Project while the latter four are components of the CEIP.

## Community-based Demonstration Projects

In partnership with SEVANATHA-a local NGO, MEIP initiated Colombo's first *community-based environmental improvement project*. In addition to MEIP support, small-scale grants were provided by the Japanese and Dutch Embassies. The community, through its own organization, is now operating and maintaining its infrastructure services. MEIP is continuing the demonstration efforts by expanding the initiative to school children and middle-income households.

- The program promotes *composting of municipal garbage at local government and community levels*. MEIP, with United States Agency for International Development (USAID) funding, is operating a pilot demonstration plant in Colombo.

## Intercountry Exchange

Building on a National Workshop, the **Clean Air 2000 Short Course** assembled international participants from Bombay, Beijing and other cities in assisting a GOSL Task Force prepare a strategy and action plan for air quality management. Following cabinet endorsement, Clean Air 2000 is currently being implemented.

# BOMBAY

## Issues & Priorities

- loss of natural resources — green areas, coastal areas, wetlands, water sources
- deteriorating quality of surface waters & groundwater
- flooding & stagnation of water courses
- pollution from solid waste
- deteriorating ambient air quality
- environmental problems in low-income areas
- traffic congestion

## Management

The Bombay Metropolitan Regional Development Authority (BMRDA) Board is the policy committee for MEIP-Bombay. A Technical Committee, chaired by the Secretary of Energy and Environment, Government of Maharashtra (GOM), provides direction and a platform for review of MEIP activities. The GOM provides an official in the Environment Department to serve as program coordinator and assist in the various work elements.

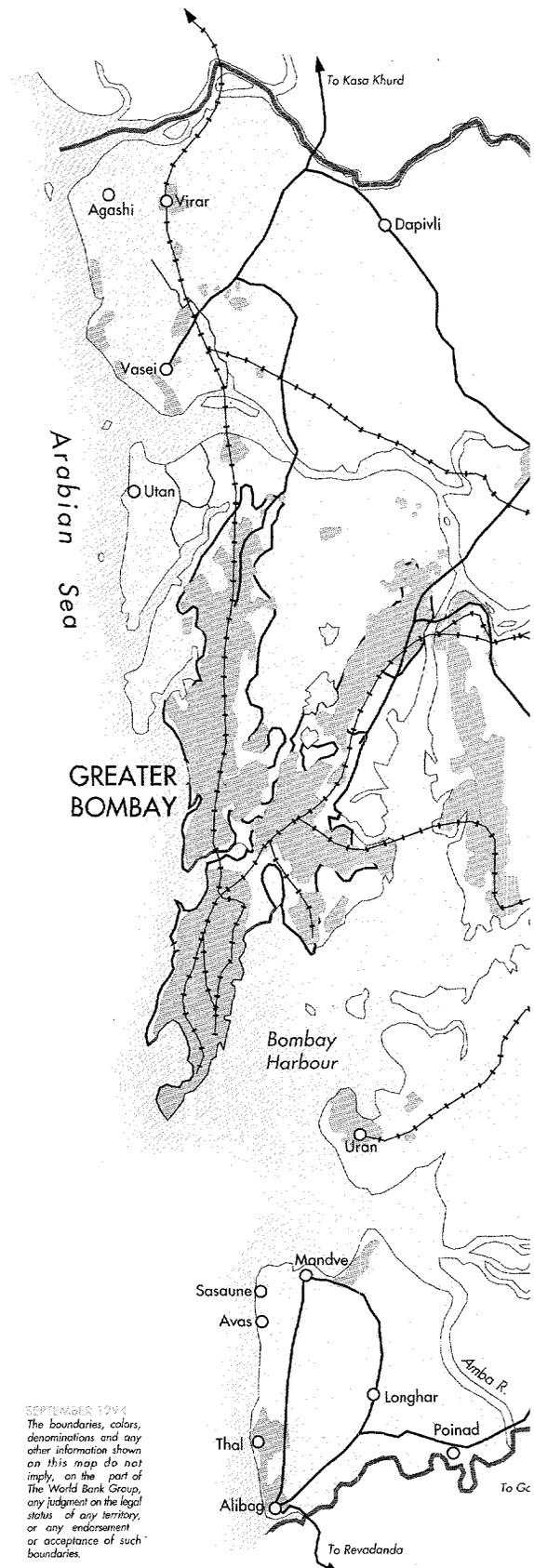
## EMS & Action Plan

The Environmental Management Strategy for the Bombay Metropolitan Region was completed in May 1994, with active participation of senior GOM and Municipal Corporation of Greater Bombay (MCGB) officials. Recommendations include infrastructure, investment projects, and changes in institutional arrangements

and environmental management procedures. The EMS is to be adopted by BMRDA as part of the Bombay Metropolitan Regional Plan. Air quality management aspects of the EMS are addressed through the URBAIR initiative.

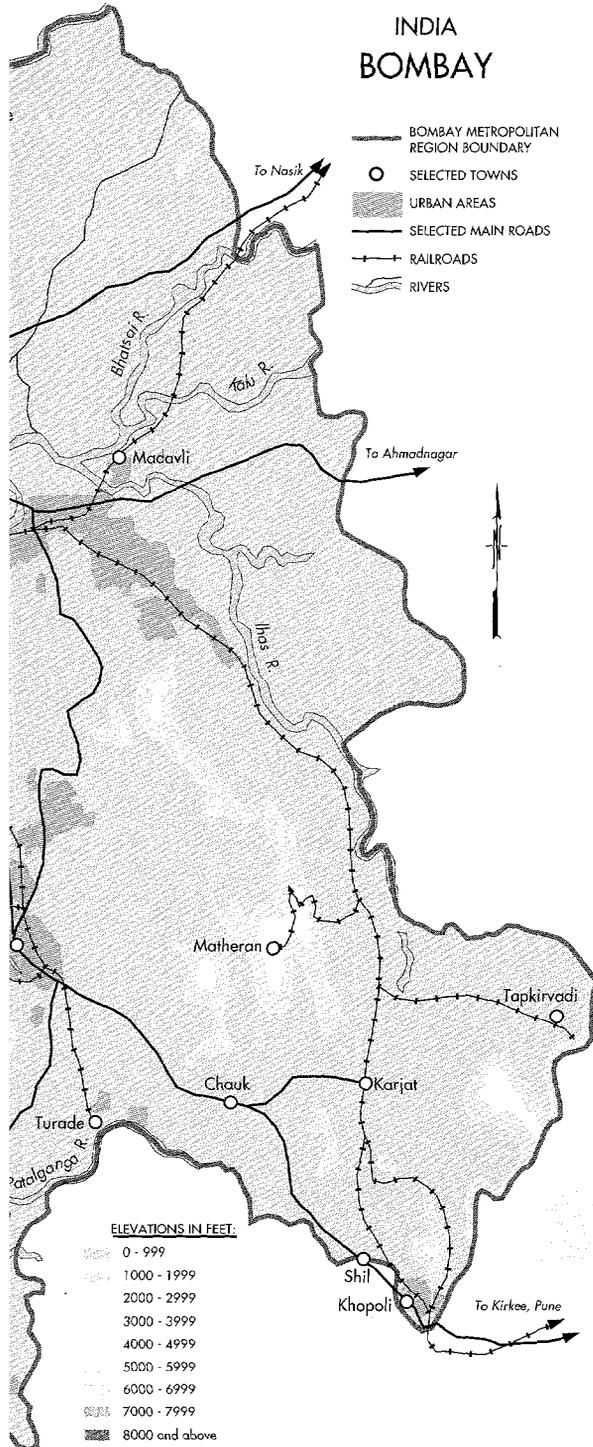
## Institutional Strengthening & Capacity Building

Participatory planning processes elicited active and sustained involvement of key government officials, including GOM cabinet secretaries, the Municipal Commissioner of MCGB, the Metropolitan Commissioner of BMRDA, and the Chairman of Maharashtra Pollution Control Board, as well as interaction in working sessions among these officials, experts on environment from local academic and research institutions, local NGOs, and news media. As a result of the success of these processes, GOM



IERD 25675

## INDIA BOMBAY



intends to establish a permanent interagency committee (Committee of Secretaries) as called for in the EMS to oversee implementation of MEIP recommendations as well as coordination of other environmental management activities in BMR.

### Identifying & Preparing Priority Investment Projects

- *Bombay Urban Transport Project II - air quality component*
- *Solid Waste Management in Thane, Kalyan and Navi-Mumbai*
- *Water Supply Improvement for Thane, Kalyan, Bhiwandi, Bhayander & Vasai-Virar*
- *Hazardous Waste Treatment Facilities*
- *Municipal Urban Development Fund*
- *Industrial Waste Abatement, Resource Recovery & Infrastructure in Cherubem & Thane-Belapur*

### Community-based Demonstration Projects

- *Solid Waste Management*

### Intercountry Exchange

- *URBAIR*
- *Clean Air 2000*
- *Cleaner Production in the Chemical Industries*
- international seminars with United Nations Environment Program & the Indian Chemical Manufacturers Association

# KATHMANDU VALLEY

## Issues & Priorities

- haphazard urban development consumes valuable land, making for difficult & costly services
- inadequate & deteriorating water resources for domestic & commercial use
- water pollution from inadequate sewage collection & treatment
- deteriorating ambient air quality due to traffic & uncoordinated industrial expansion
- pollution from inadequate solid waste disposal
- traffic congestion

## Management

An Environmental Council has been established, and MEIP is attached to its Urban Environmental Management Committee (UEMC) through the Ministry of Housing and Physical Planning (MHPP), the secretariat to the UEMC. A local program coordinator was hired by MEIP and his office in MHPP was set up by mid-1993.

## EMS & Action Plan

A number of studies have been undertaken, reviewed, and proposed as preliminaries to the full EMS:

- *URBAIR*
- *Bagmati River Study*—supported by the Japan Grant Facility (JGF)
- *Air Pollution Control component*—JGF (proposed)

The investment proposed in these studies may be funded by the World Bank through a Kathmandu Valley Environment Project.

## Institutional Strengthening & Capacity Building

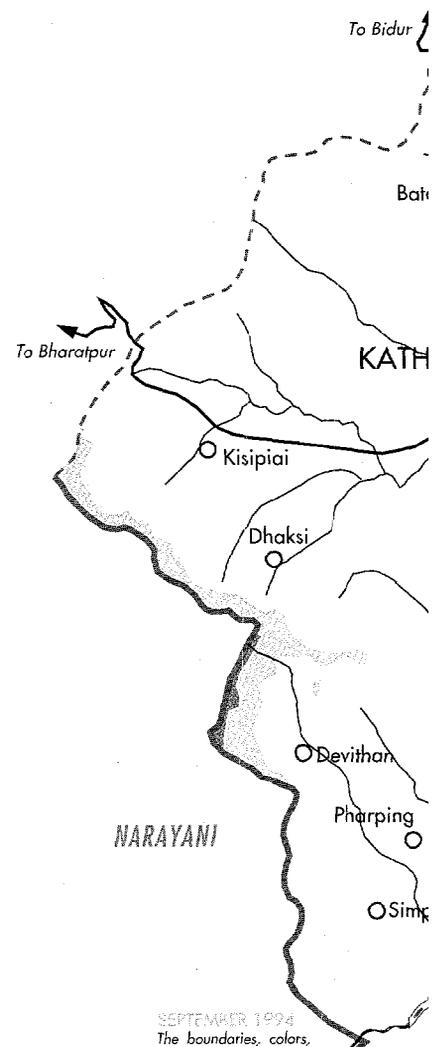
MEIP-Kathmandu is assisting His Majesty's Government of Nepal to prioritize and implement a practical set of actions from earlier studies, and assist in clarifying and strengthening institutional roles and responsibilities for urban and environmental management in the Valley. A World Bank Institutional Development Fund grant is under consideration to expand funding for this work.

## Identifying & Preparing Priority Investment Projects

- *Brick Kiln Energy Improvement Analysis*

## NEPAL KATHMANDU

- DISTRICT BOUNDARIES
- ==== ZONAL BOUNDARIES
- SELECTED TOWNS AND VILLAGES
- DISTRICT HEADQUARTERS
- ★ NATIONAL CAPITAL
- ▨ URBAN AREAS
- SELECTED MAIN ROADS
- ~ RIVERS



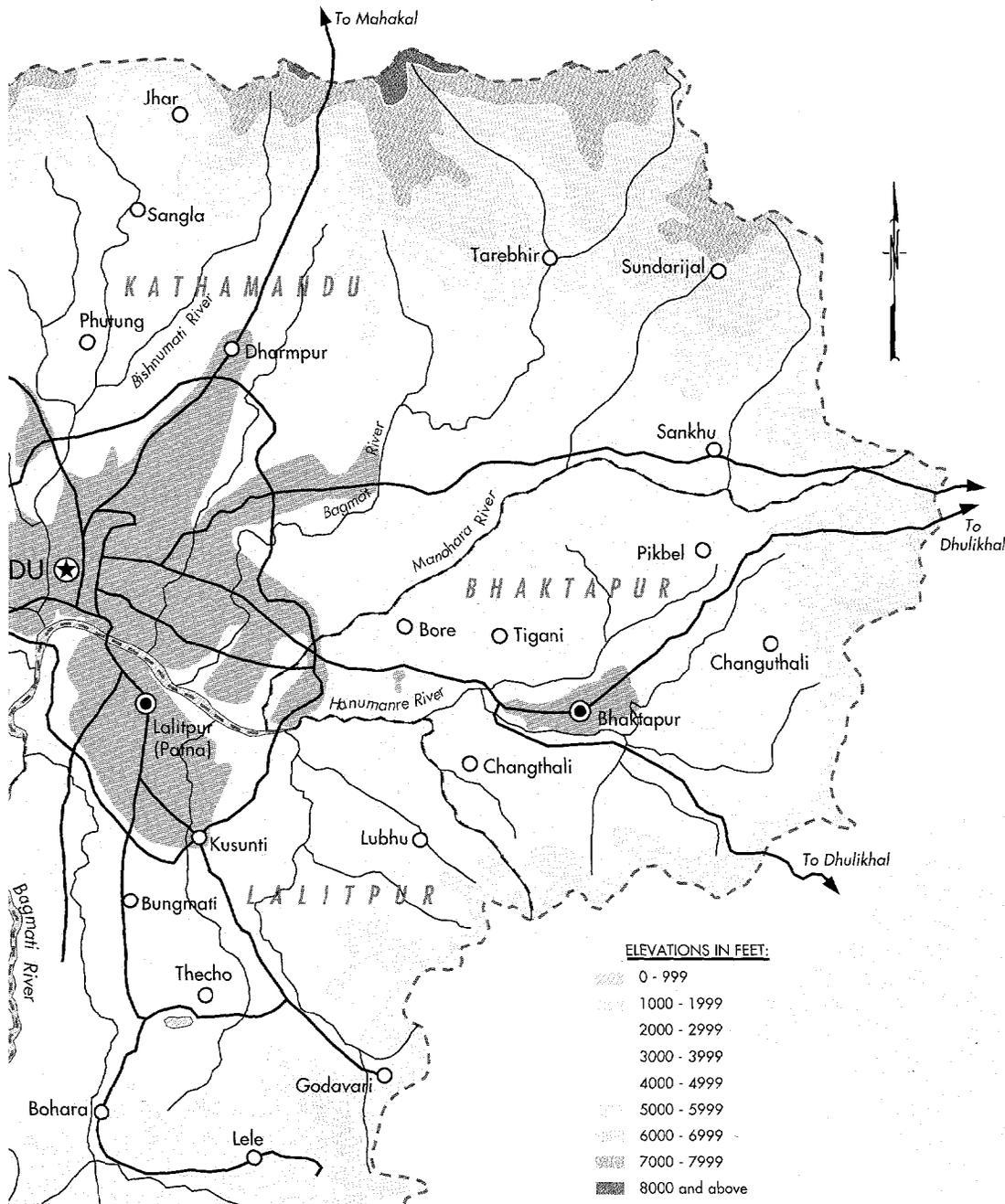
SEPTEMBER 1994  
The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

## Community-based Demonstration Projects

With support from the World Bank Swedish International Development Agency (SIDA) participation fund, MEIP is undertaking *community-based environmental sanitation action planning and implementation* in three Kathmandu wards. MEIP and local NGO facilitators are working with municipality, ward committees, and community-based organizations to develop community-designed solid waste and environmental sanitation schemes linked to municipal services.

## Intercountry Exchange

- URBAIR



# BEIJING

## Issues & Priorities

- inadequate & deteriorating water resources for domestic & commercial use
- water pollution from inadequate sewage collection & treatment
- deteriorating ambient air quality due to traffic & uncoordinated industrial expansion as well as predominant use of coal in cooking and heating
- pollution from inadequate solid waste disposal
- traffic congestion

## Management

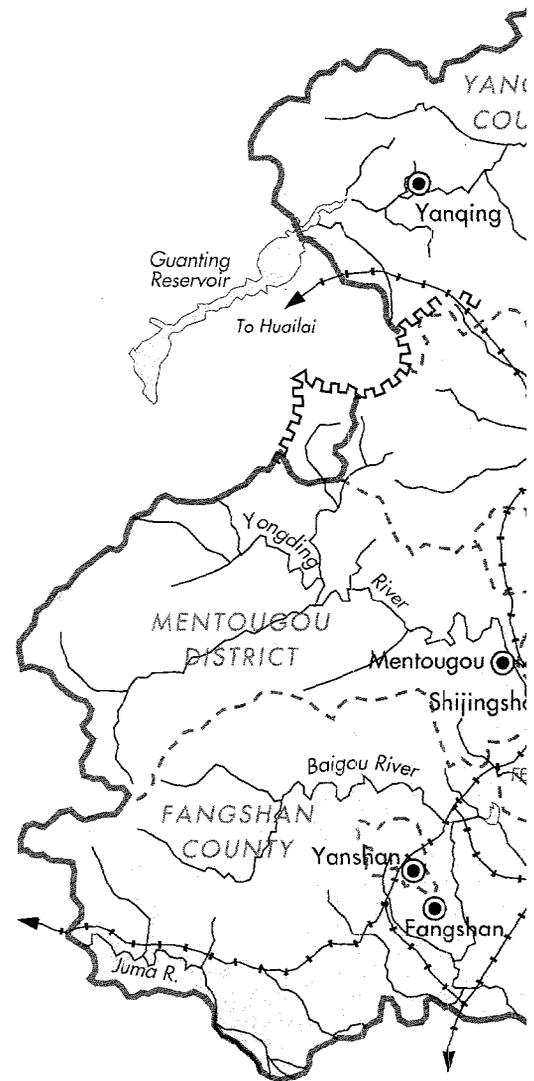
Beijing was the first city to join MEIP in late 1989. It established a Steering Committee chaired by the Beijing Economic Planning Commission with the Beijing Environmental Protection Bureau (EPB) as the lead agency and designated a staff member of the EPB as the MEIP National Program Coordinator.

## EMS & Priority Investment Planning

MEIP provided financial and technical support for the preparation of the Beijing Environment Project (BEP), notably in two major components of the BEP: 1) preparing the economic analysis of the Beijing heating subproject and 2) preparing the terms of reference for and supervising the Beijing Environmental Master Plan (BEMP). The Beijing heating subproject is the largest component in BEP and the BEMP paved the way for Beijing's future investment in environmental protection. BEMP is expected to be completed in December 1994 with a workshop thereafter to agree on implementation measures.

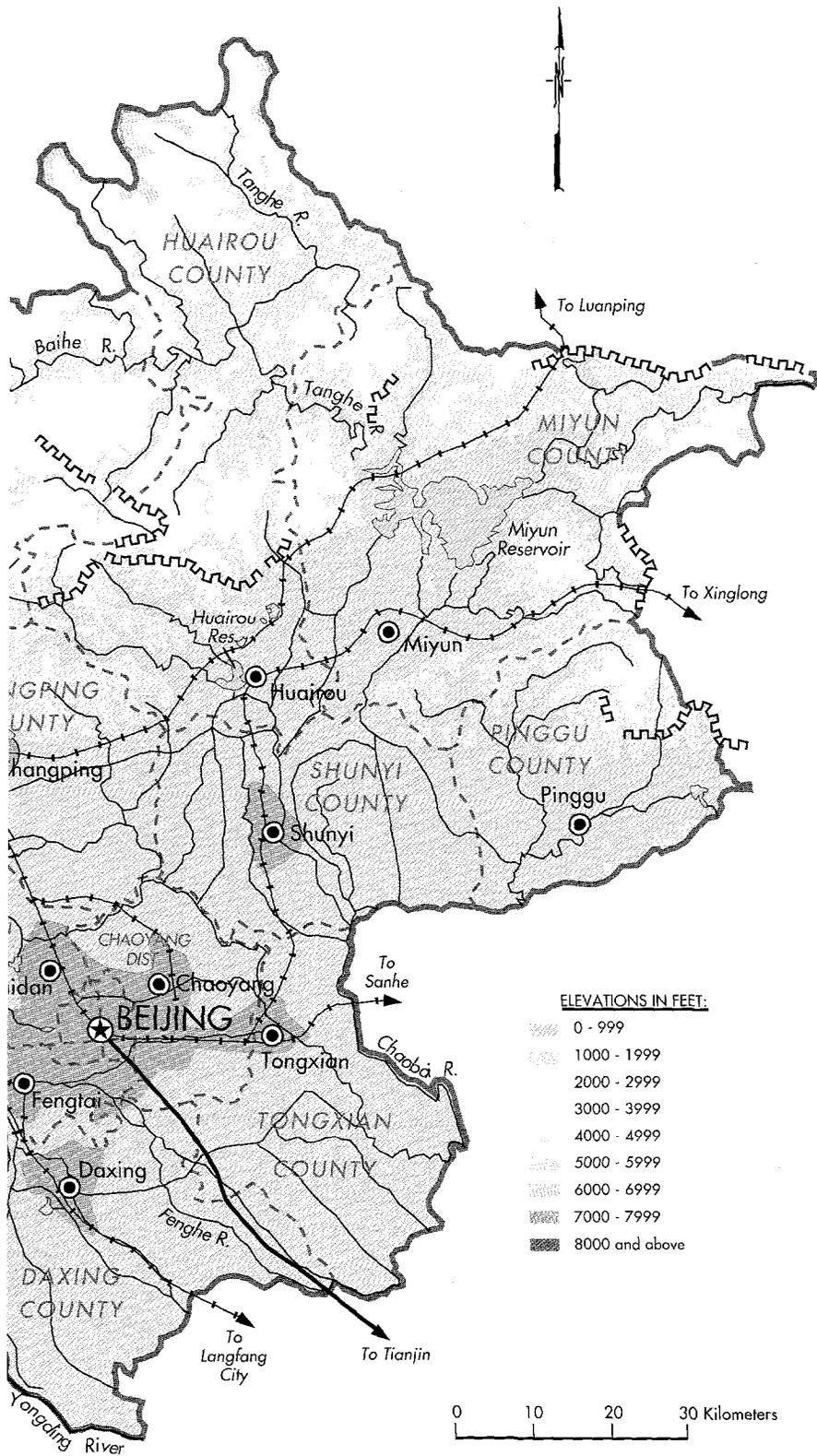
## CHINA BEIJING

- - - - COUNTY OR DISTRICT BOUND
- PROVINCE BOUNDARIES
- ⊙ COUNTY OR DISTRICT CAPITAL
- ★ NATIONAL CAPITAL
- ▨ URBAN AREAS
- EXPRESSWAY
- +— RAILROADS
- GREAT WALL
- ~ RIVERS



SEPTEMBER 1994

The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.



### Institutional Strengthening & Capacity Building

#### • Clean Technology in Beijing

Two workshops in Beijing, participating in the **trainers program**, organizing facilities for **environmental audits**, preparing a Chinese **environmental audit manual**, and identifying **demonstration facilities**

#### • Mass-based Environmental Programs

**Summer eco-camp for children** which focuses on control of desertification on the perimeter of Beijing and protection of endangered species, and an **exhibit on waste utilization** for the World Environment Day in 1993

### Intercountry Exchange

- Clean Air 2000
- URBAIR
- Solid Waste Management

# JAKARTA

## Issues & Priorities

- loss of natural resources — green areas, coastal areas, wetlands, water sources
- deteriorating quality of surface waters & groundwater
- flooding & stagnation of water courses
- pollution from solid waste
- deteriorating ambient air quality
- environmental problems in low-income areas
- traffic congestion, air pollution

## Management

A Steering Committee with representatives from national government and DKI-Jakarta, is chaired by the Director General of Local Government (PUOD) in the Ministry of Home Affairs. The National Program Coordinator is located in the offices of the Environment Agency—BAPEDAL.

## EMS & Action Plan

The *Environmental Protection and Pollution Control Strategy (EPPCS)*, as the MEIP Environmental Management Strategy study is known in Jakarta, began in early 1993 with a team of international consultants comprised of Australian, US, and local firms. Concerned agencies have participated in a workshop to discuss alternatives and set priorities. Workshop results will be reflected in the final report due September 1994.

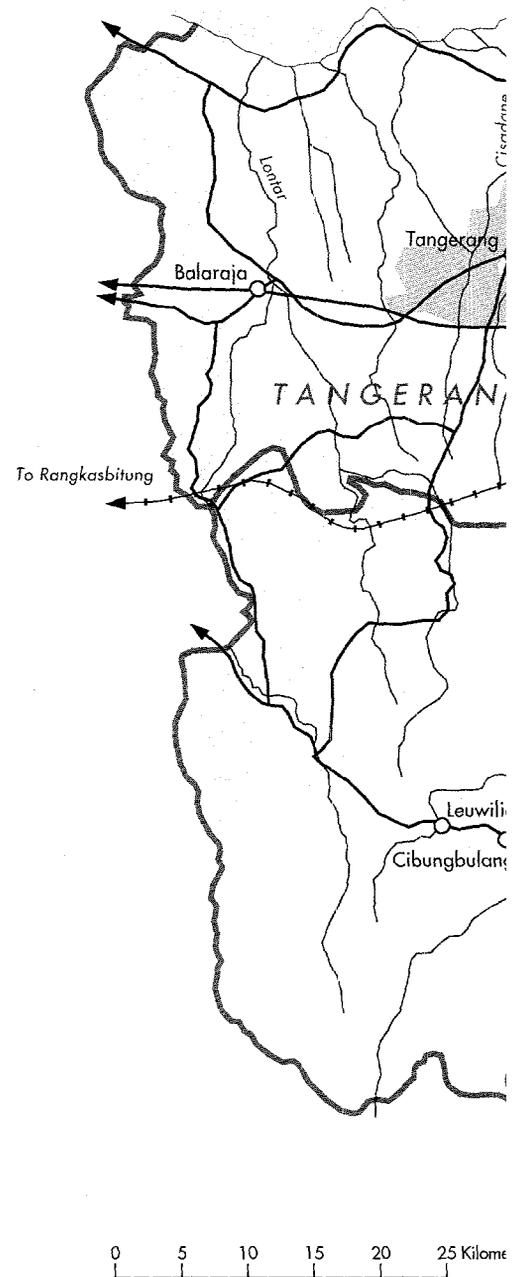
Air quality management aspects of the EMS are addressed through the URBAIR initiative.

## Institutional Strengthening & Capacity Building

The *Institutional Analysis and Strengthening Study (IASS)* is being conducted in tandem with the EPPCS by the same consultants. Its primary focus is on developing organizational recommendations for environmental protection and pollution control in DKI Jakarta and West Java. The consultants are also identifying training needs for pollution control staff and will be pilot testing training packages.

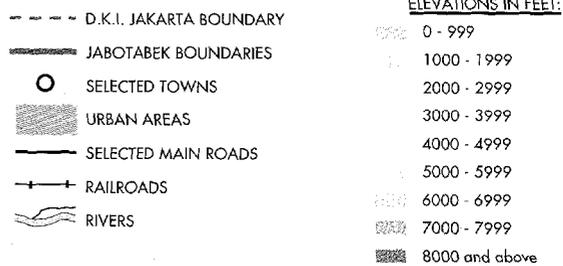
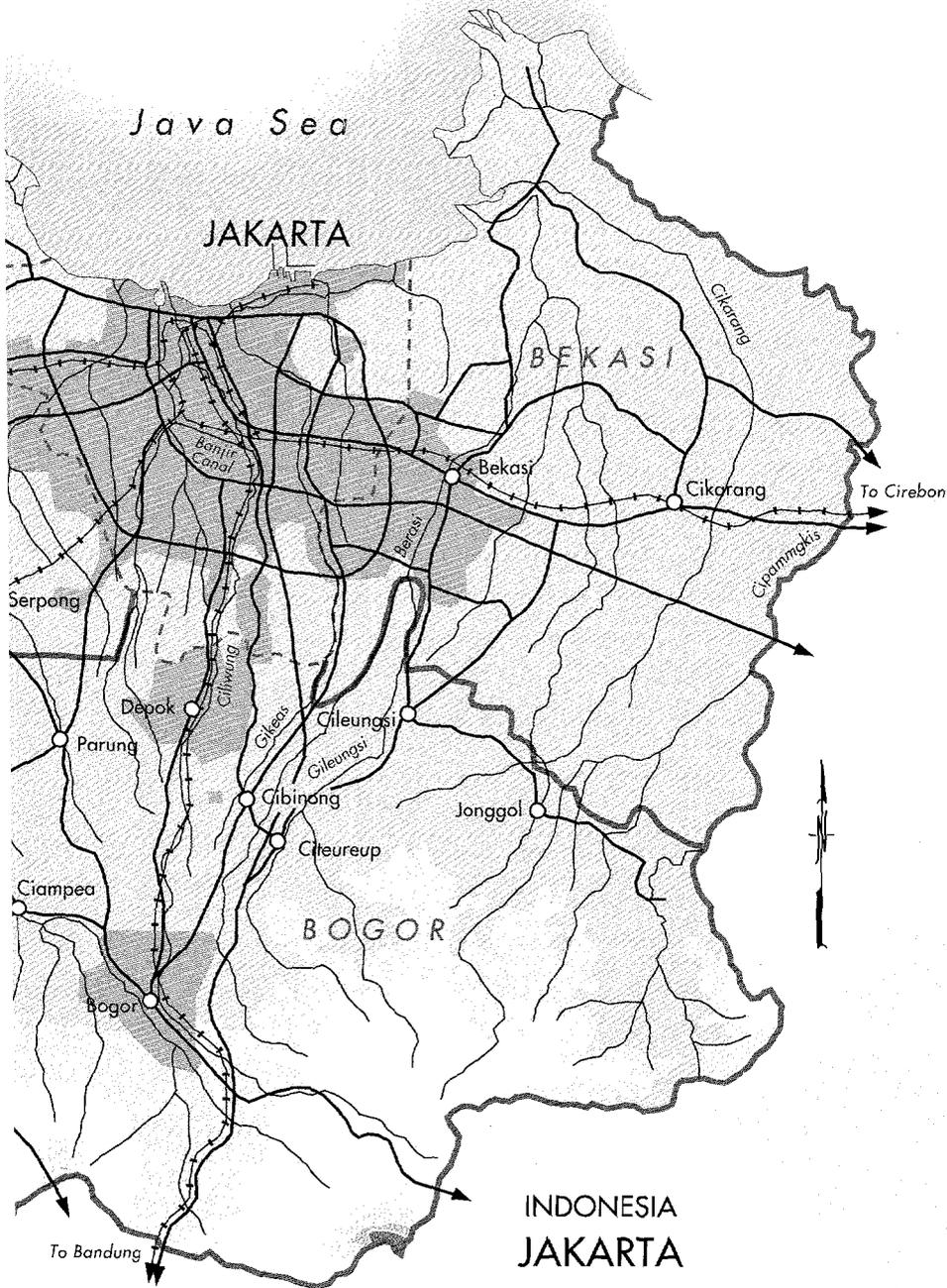
## Identifying & Preparing Priority Investment Projects

- *Joint Wastewater Treatment for Industrial Estates in DKI*—private investors from Canada & Australia



SEPTEMBER 1994

The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.



are investigating the possibility of constructing the facilities based on a MEIP-designed feasibility study.

**Community-based Demonstration Projects**

- Greening in Low-Income Neighborhoods (three projects)
- Greening of River and Canal Banks
- Recreational Open Space in Low Income Communities
- Development of Community Solid Waste Management Techniques
- Development of Small Scale Solid Waste Composting
- Development of Small Credits for Small Business and Environmental Improvement
- Kampung Improvement

**Intercountry Exchange**

- URBAIR
- Workshop on Environmental Management through Community Development.

# METRO MANILA

## Issues & Priorities

- loss of natural resources - degradation of rivers, lakes, coastal lagoons, drainage canals, wetlands and in-shore marine waters
- deteriorating quality of surface waters & groundwater
- flooding & stagnation of water courses
- pollution from solid waste
- deteriorating ambient air quality
- environmental problems in low-income areas
- traffic congestion

## Management

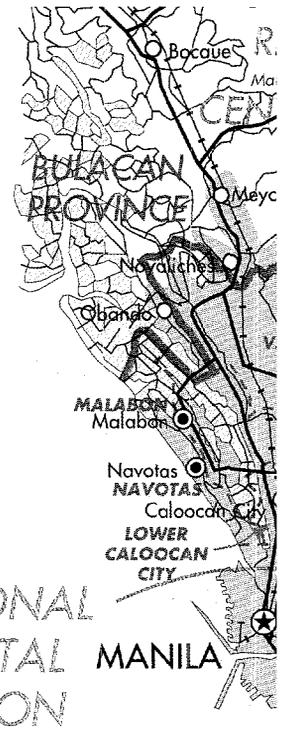
The Interagency Steering Committee (SC) was established to guide the implementation of the program with the Department of Environment and Natural Resources (DENR) Undersecretary for Environment and Research as Chairman and the Undersecretary of the Department of Trade and Industry as the Vice Chairman. SC membership includes representatives from seven national government agencies, two regional government units, two industry representatives and two NGO representatives. The MEIP Coordinator serves as Secretary of the SC and supervises the day to day progress of the different projects and undertakes liaison with other donors/projects/programs dealing with urban and industrial issues.

## EMS & Action Plan

The MEIP-developed *Environmental Management Strategy* was prepared over a 17 month period, during which 16 workshops were held with representatives from national government agencies, local government units, industry, and NGOs on earlier work undertaken by the Asian Development Bank (ADB) and USAID. The SC has endorsed the EMS and now uses it as the framework for identifying and carrying out specific projects/programs which aim to address urban environmental degradation. Air quality management aspects of the EMS are addressed through the URBAIR initiative.

## PHILIPPINES MANILA

- SELECTED TOWNS
- MUNICIPAL HEADQUARTERS
- ★ NATIONAL CAPITAL
- ▨ URBAN AREAS
- SELECTED MAIN ROADS
- RAILROADS
- ~ RIVERS
- - - MUNICIPAL BOUNDARIES
- PROVINCE BOUNDARIES
- ▨ REGION BOUNDARIES

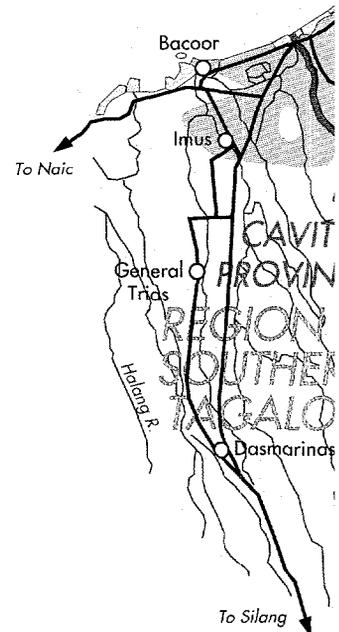


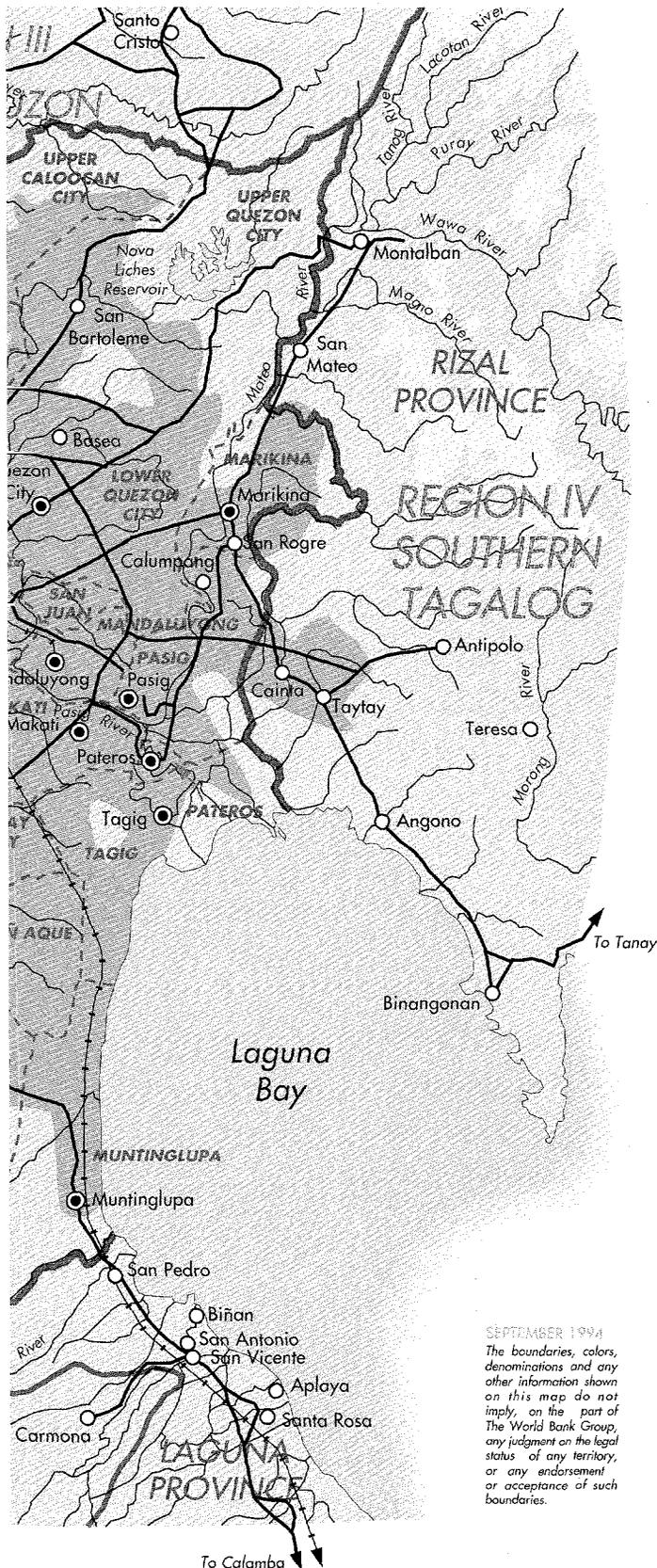
## NATIONAL CAPITAL REGION



Manila Bay

- ELEVATIONS IN FEET:**
- 0 - 999
  - 1000 - 1999
  - 2000 - 2999
  - 3000 - 3999
  - 4000 - 4999
  - 5000 - 5999
  - 6000 - 6999
  - 7000 - 7999
  - 8000 and above





## Institutional Strengthening, Capacity Building & Network

The operations of the Environmental Agencies (DENR and the Laguna Lake Development Authority) were analyzed and improvements to their management practices and staffing proposed.

Assistance was provided to local government agencies in developing their environmental protection function through on-the-job training of staff. Workshops and study groups were held for technical staff of national agencies, of which nearly 300 so far have participated. NGO, community organizations and private sector environmental efforts were also strengthened through the program's function and outreach.

## Identifying & Preparing Priority Investment Projects

- World Bank Industrial Efficiency and Pollution Control (IEPC) project -
  - Toxic & Hazardous Waste Disposal Facility
  - Waste Minimization & Clean Technology
  - Central Effluent Treatment Plants in Industrial area of Metro Manila
- World Bank Manila Sewerage Project
  - Investment Planning of Public Sanitation Facilities (PSF)

## Community-based Demonstration Projects

- Waste Resource Recovery Feasibility Study
- Youth Ecology Network, Teacher Seminar, and Youth Ecology Camps
- Community-based Solid Waste Management
- Information, Education and Communication Campaign - Solid Waste
- PSF - studies and demonstration projects mainstreamed into investment

## Intercountry Exchange

- URBAIR
- Clean Air 2000

## Intercountry Cooperation - MEIP's Regional Initiatives

Exchange of local and relevant international experience have had significant impact on the city work programs and on the development of multi-city initiatives. City delegations have used four major intercountry workshops to build the framework for city and intercountry work programs, review and learn from progress on the ground, examine relevant international practice, and formulate city-to-city assistance and intercountry projects.

### *Air Quality Management*

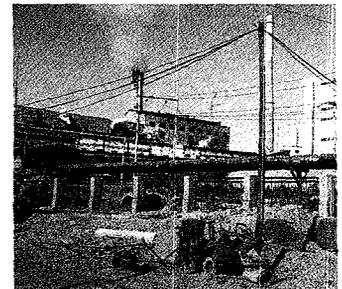
MEIP-Colombo learned of Beijing and Bombay's air quality management experience and expertise at the 1991 Intercountry Workshop in Beijing. It subsequently put together an internationally-assisted Short Course where a Sri Lankan task force used regional and international lessons to draft the Clean Air 2000 Action Plan. This was followed up by government endorsement and the first phases of implementation of an air quality management scheme for the Colombo Metropolitan Area.

Building from this experience, MEIP is coordinating the four-city **URBAIR** initiative in Bombay, Jakarta, Metro Manila, and Kathmandu with support from the Dutch and Norwegian

governments. International consultants provide generic air quality guidebooks to which each city adds its specific context for presentation at initiating workshops. City working groups on policy, air quality assessment, and economic factors develop these guidebooks into action plans for air quality management which are refined at a second set of **URBAIR** workshops in each of the four cities. These action plans then become guiding instruments for government air quality policy and investment programs.

### *Urban Environmental Management Experience in Japan*

MEIP collaborated with Japanese government and research consultants on a landmark study that included a national overview of 30 years of Japanese experience and city case studies from Osaka, Yokohama, and Kitakyushu. A field study tour of MEIP city teams to these Japanese sister cities culminated in the 1993 Kitakyushu Intercountry Workshop and Seminar featuring regional and international exchange on urban environmental management in Asia. The Japanese experience was assessed in the light of its relevance to the current and future needs of developing countries. Further exchanges are being developed as follow up to these sessions.



### ***Economic Valuation of Environmental Degradation***

City teams — formed in Bombay, Colombo, and Manila — are undertaking practical research on applying valuation methods to environmental problems. The aim is to give decision-makers an in-depth look at real economic costs of environmental degradation and the benefits of preventive and remedial actions. The teams focus on specific issues in key spatial areas of their cities and evaluate the costs of pollution on living environments, on human health, and on public and private sector investments. Findings and methodologies are shared and refined at intercountry workshops.

### ***Waste Minimization/Clean Technology for Industry***

Pollution management appraisals in 25 facilities from five industrial sub-sectors are underway in Metro Manila. In a related MEIP study, industrial association and university-based NGOs have documented Philippine challenges and success stories in cleaner production. MEIP-Colombo is coordinating establishment of institutions to assist Sri Lankan industry. MEIP-Beijing coordinates a pilot project to conduct industrial waste audits and demonstrate cleaner production and is drafting

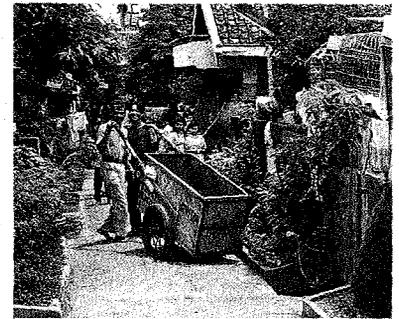
an Audit and Waste Reduction Manual. In conjunction with UNEP, MEIP assisted the Indian Chemical Manufacturers Association to mount international conferences in Bombay and Baroda on Cleaner Production in the Chemical Industries. Over 400 participants attended and the workshops generated interest and requests for advice and assistance to specific sub-sectors and firms.

### ***Urban Environmental Management through Community Development***

MEIP is collaborating with the US Environmental Training Institute on regional workshops (in Jakarta and Colombo) that bring together practitioners from neighborhood associations, NGOs, and government involved in community upgrading through waste recovery, sanitation provision, greening, and self-managed community and entrepreneurial efforts. MEIP-supported local level projects are the subject of these intercountry exchanges. In Indonesia, the Urban Community Development Forum was created to develop the work started at the Jakarta workshop.

### ***Publications and Dissemination***

Field activities and intercountry exchanges are yielding significant lessons in environmental management. Newsletters and workshop reports have now been followed by the publication of "MEIP Progress Report 1993" and "Air Quality Management in Sri Lanka." Reports, case studies, and handbooks are being prepared on topics such as Japan's urban environmental management experience, Chinese environmental institutions, community-based environmental management, regional urban air quality management, and lessons from environmental management strategies in the MEIP cities.



## MEIP's Future — Opportunities for New Partnerships



Some MEIP cities are ready to achieve "graduate" status from extensive central office back-up. They would maintain connection to the overall organization, but continue their activities with logistical support from their own governments and use this base to assist other cities in their country.

New partners have the opportunity to increase the exchange of environmental management experience among MEIP cities, and to take these experiences to new cities in existing MEIP countries and additional cities and countries in Asia and beyond.

MEIP looks to:

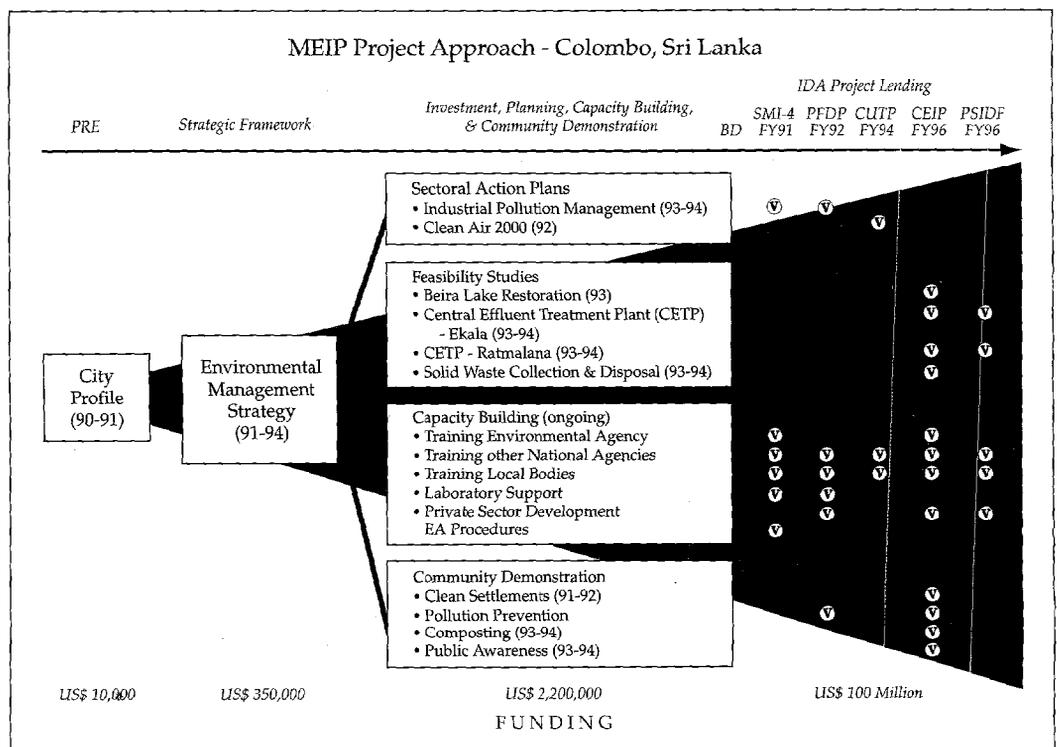
- **governments and environmental agencies** to exchange information and
- **industry groups** to share gains in efficiency and pollution control through waste minimization/clean technology and abatement programs;
- **non-governmental organizations and community groups** to collaborate on innovative approaches to environmental management and community development;
- **training institutions** to make use of MEIP projects, reports, and publications, and to assist MEIP cities with their training needs; and
- **bilateral and multinational donors and private foundations** for new

experience, and to identify new sources of expertise for MEIP cities;

partnerships in MEIP's overall operations, to give support to "graduating" MEIP cities as they build independent locally-maintained institutions, and for new financial resources to broaden the exchange of information and lessons learned and to support local program expansion to new cities.

MEIP has been successful through carefully prepared innovations. It needs partners to develop and implement these new approaches and share in the costs. If you want to explore how you can become a MEIP partner, how you can become a part of MEIP, please contact your MEIP city office or the central office at the World Bank.

*MEIP has built political will, developed and shared information, and strengthened organization and coordination to efficiently use existing financial resources and to prioritize additional investment needs.*



**The Government of Belgium**

**The Government of the Netherlands**

**Australian Agency for International  
Development (AusAID)**



**Metropolitan Environmental Improvement Program (MEIP)**  
Asia Technical Department  
Environment & Natural Resources Division (ASTEN)  
The World Bank  
1818 H Street, NW Washington, DC 20433 USA

telephone: 202-458-2726, 2729, 2747  
fax: 202-522-1664

*Brochure design by Beni Chibber-Rao*