Indo-US
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Debt Market Component
FIRE(D)

Project Notes

Producing a City-Level Environmental Status Report

A FIRE(D) Project Tool

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As a result of rapid urbanization in India, maintaining the quality of the urban environment is becoming a growing challenge. A clear understanding of the dimensions of this challenge can help inform the planning and priorities of city managers. To facilitate this understanding, the FIRE(D) Project has developed an approach to assessing the status of the urban environment, and in 1996 the city of Pune became the first Indian city to produce an Annual Environmental Status Report. Based on this experience, Pune went on to work with FIRE(D) to develop one of India's first urban environmental infrastructure projects premised on commercial viability and incorporating private sector participation. This Project Note describes the framework and process for the production of an Environmental Status Report by a city, and relates the experience of Pune in producing its first report.

Focus on the Urban Environment

In the 1990s there has been growing attention to local environmental issues and the need for locally-based action. In 1992, the UN Conference on Environment and Development produced Agenda 21, a framework for local environmental action which recognized the critical role of local governments. Four years later, the UN Habitat II conference in Istanbul focused on the quality of life in human settlements and reaffirmed the role of local authorities in this process. In India, the 74th Amendment to the constitution has enlarged the roles and responsibilities of municipalities, specifically citing protection of the environment and promotion of ecological aspects. It is in this context that the state of Maharashtra then called on its municipalities to produce annual reports on the status of their environment.

Information is the crucial basis for sound decision-making by local governments. And a clear understanding of urban environmental issues and problems can greatly inform planning and investment decisions by municipalities. For this reason, and in response to the request of the Pune Municipal Corporation, the FIRE(D) Project has developed a framework and process for the production of an Environmental Status Report by cities. This framework and process can be adapted and developed for application by any municipal corporation, depending upon local conditions and constituencies.

The Report Framework

The status of the environment in an urban setting is a result of many interconnected factors. The local context, characterized by existing natural and historical resources, land use and activity structure, and population, as well as demographic trends, influences the demand for environmental services. The status of current provisions of environmental services, such as water, sewerage, solid waste collection, roads, etc., and the capacity of these services in relation to demand, determine the likely environmental impact. In addition, a city's cultural and architectural heritage can be put at risk in the process of growth and development. Ultimately, the main concern should be the impact of municipal services on the overall health of the popu-

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lation. With this in mind, the framework for assessing the urban environment takes a sectoral approach to analysis and considers cross-cutting issues within this context.

The Sectoral Approach to Analysis

Nine key sectors have been identified as important areas of study for the first annual ESR.

Key Sectors of Analysis

1. Population, Growth and Trends
2. Land Use and Housing Conditions
3. Natural Resources
4. Historical and Cultural Heritage Resources
5. Water, Sewer and Solid Waste Management Services
6. Roads, Traffic and Transport
7. Environmental Pollution
8. Public Health Impacts
9. Public Institutions, Community Groups and NGOs

The ESR framework describes the analysis required for each sector, as well as detailed information requirements for subsectors. Over time, as more cities participate in such processes, this sectoral approach should make it possible to assess environmental conditions across cities. The framework also provides a list of recommended environmental maps which can be produced to enhance understanding of local conditions.

Cross-Cutting Issues to Consider

Time Frame. An Annual Report would typically be made with reference to the preceding year. However, for Pune, as for any city implementing this framework for the first time, the first report would include information from the past few years and attempt to discern trends based on available information. Thus, the first report serves not only as a status report but as a survey of available information.

Spatial Coverage. While analysis can be most easily confined to municipal boundaries, it may be essential to assess environmental impact considering a larger study area. For example, by government orders, PMC must provide water supply and drainage services to all villages within 5 km of its boundaries. Likewise inadequate drainage facilities in peripheral areas outside of PMC often contribute to environmental pollution in the city. Thus it becomes necessary to extend the spatial coverage of the study for different sectors beyond municipal boundaries whenever necessary.

Distributional Issues. Within each of the sectors identified above, it is extremely important to highlight both the macro-situation and the specific environmental aspects across different wards and localities as well as across different socioeconomic groups within the city. Though the current information base may not permit such analysis to be done easily, these distributional issues must be considered in setting up the process for information collection, analysis, and reporting in succeeding years.

Compatibility of Zoning Across Sectors. In order to assess spatial variations in environmental conditions, it is necessary to use comparable information on different zones and across different sectors. For example, the demographic information for the different zones of Pune is generally available from the Census of India. Many of the service-related information is available based on electoral wards and ward offices in Pune. On the other hand, the Pune Development Plan used the notion of 20 traffic zones. Zones for environmental services, such as water and sewerage, are based on other technical considerations. While this difference in zone delineation may be necessary on technical grounds, it is necessary to evolve a system whereby spatial delineation is eventually standardized to allow for a meaningful spatial comparison and analysis across sectors.

The Report Preparation Process

The report preparation process is as important as the report framework itself. The process should be participatory and should involve citizens, local community groups, NGOs and other stakeholders. And because the report can be used as an aid in determining sectoral priorities in terms of budgetary allocations and financial decisions, the process should be based on public consultation as far as possible. A basic five step process is suggested.

1) Meeting with Local Groups to Assess Environmental Concerns

The process should begin with a meeting to be organized by the Municipal Commissioner where the environmental concerns of citizen groups, technical experts, and other concerned citizens can to be heard, discussed and synthesized. Issues and concerns identified at this meeting should shape the initial report approach, and the framework can be adapted accordingly.

2) Environmental Situation Analysis with Mapping

Based on the sectoral framework defined above, information on the existing environmental situation in the

city should be collected and analyzed and information gaps identified. This research can be done by a variety of institutions including the Municipal Corporation, academic and research institutions, NGOs and community organizations. The ESR framework also provides a recommended list of urban environmental maps which can be produced, relating to population distribution, housing, water, sewerage and drainage services, transportation, green spaces and the like.

3) Public Consultation on Environmental Assessment

Based on the first assessment, public consultation to discuss the preliminary results of the study may be held with citizen groups, technical experts, and other concerned citizens. Relevant case studies done in other cities could be presented for discussion and possible replication, and the need for further studies or assessments may be identified. Sectoral working groups can be established which would assist in the formulation of action plans for each priority sector identified and to assess resources required for implementation. Meaningful action plans will require the involvement of all concerned public agencies.

4) Further Detailed Sectoral Studies on Environment

Specific areas or sectors may be identified for further investigation, such as a Comparative Environmental Risk Assessment as was conducted in Ahmedabad, environmental perception study, or spatial analysis of environmental problems.

5) Second Public Consultation to Determine Targets and Priorities

Based on the above process, a second public consultation would be needed to determine indicators and benchmarks for different environmental priorities. This exercise can be supported by studies of different services and financial allocations based on an analysis of linkages among environmental conditions, service levels, and capital improvement projects undertaken. In addition to financial planning required, other actions, such as legislative measures to be taken and support to be mobilized from NGOs and other concerned groups, have to be identified.

Establishing an Environmental Status Monitoring System

As an outcome of the above process, it would be extremely useful for a city to establish an Environmental Status Monitoring System. This may involve the participation of academic and research institutions and other stakeholder groups. Not only would this enable regular monitoring of urban environmental conditions and provide a new forum for dialogue, but it would facilitate production of annual ESRs in succeeding years.

Pune's Annual Environmental Status Report

Pune's first annual ESR was produced in response to a provision of the Maharashtra Municipal Corporations and Municipal Councils (Amendment) Act of 1994, which called on the Municipal Commissioner to present such a report to the Corporation by the end of July each year. While the PMC recognized that such a report would help to identify priorities for municipal finance decisions and to develop an action agenda in this regard, no framework for such a report existed.

Based on a framework developed by the FIRE(D) Project, the PMC decided to proceed with its first annual ESR. The PMC was determined to follow a participatory process which included the active involvement of individual citizens and concerned groups to determine Pune's environmental priorities, and to use these priorities to guide PMCs planning and financial decisions. This participatory process would also help promote public awareness of environmental conditions and would directly link public concerns to city-level decision making.

A meeting was organized by the Municipal Commissioner in early July of 1996 to solicit the views of several NGOs and research institutions and other groups. Several important environmental aspects were highlighted by participants, and these were incorporated in the framework and analyzed for the first report.

Based on consultation between the National Institute of Urban Affairs and the PMC, MASHAL, a local NGO, was appointed to assist in the preparation of the draft report. For the environmental situation analysis, a database on each sector was created using readily available information with the participation of the PMC, local NGOs and research institutions in the city. The use of this set of sectoral data facilitated the analysis of the current environmental situation.

By state law, the ESR was to be presented by the last day of July, and because of this short time frame, the PMC was able to complete only the first two steps of the process outlined above. Based on MASHAL's draft report of almost 250 pages, the PMC produced a 16 page summary in Marathi, the local language, which included key sectoral analysis, maps and charts. This

summary was presented by the Commissioner to the General Body of the Corporation at the end of July.

The report generated a great deal of media attention and its findings were widely reported. The summary was produced and made available at all ward offices, and was distributed to schools to educate the population about the city and the challenges it faces. The work done by MASHAL has also be disseminated through training activities at the Yeshwantrao Chavan Institute of Development Administration in Pune.

The ESR has been credited with reaffirming the need for an environmental assessment tool to help the municipality define its planning priorities. The ESR highlighted the fact that the increase in slums is a major problem that the city will face in the future, leading to considerable growth in population density and massive solid waste generation. The report also called for an equitable distribution of water and made drinking water the highest priority. It emphasized the need to treat drainage water to make it usable for irrigation. The report suggested policy issues as well, namely the need for the State and municipal governments to attempt to regulate the number of vehicles as a means to check traffic congestion, noise and air pollution.

Based on its experience producing the ESR, Pune went on to work with the FIRE(D) Project to develop one of India's first urban environmental infrastructure projects premised on commercial viability and incorporating private sector participation in the provision of services. FIRE(D) has assisted Pune through the design and tender process for a package of infrastructure investments which will sustain water supply coverage at 100% while increasing the volume of supply; provide sewerage services to an additional 560,000 by the year 2001; and more than triple the city's sewage treatment capacity. The city of Pune provides a valuable example to India's municipalities, for its experience demonstrates how the preparation and dissemination of the Environmental Status Report serves to clarify and define planning priorities for municipalities and in doing so paves the way for development of sound urban development projects.

*This **Project Note** is based on two technical reports: "Framework for Preparation of Annual Environmental Status Report for Pune Municipal Corporation" by Dr. Meera Mehta, and "Annual Report on the Status of the Environment", prepared by Pune Municipal Corporation with the assistance of MASHAL, Pune, and with the support of the National Institute of Urban Affairs (NIUA) and the FIRE(D) Project.*

Indo-US Financial Institutions Reform and Expansion Project - Debt Market Component FIRE(D)

The objective of the Indo-US Financial Institutions Reform and Expansion (FIRE) Project, funded by the U.S. Agency for International Development (USAID), is to support the Government of India in its efforts to strengthen domestic capital markets to enable them to serve as efficient source of development finance. The Debt Market / Infrastructure Component (FIRE-D) seeks to expand the debt market through the financing of commercially viable urban environmental infrastructure projects, by channeling USAID Housing Guaranty funds to selected demonstration cities and states to assist in the financing of urban environmental infrastructure projects.

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