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Inter-city Environmental Cooperation: The Case of the Kitakyushu Initiative for a Clean Environment

Mushtaq Ahmed Memon,[a] Christine Pearson,[b] and Hidefumi Imura[c]

Despite major investments in rural development, urbanization is an irreversible trend. In the wake of rapid urbanization, international cooperation has become increasingly important to support the building of local capacity to address environmental concerns. Inter-city cooperation is a recent trend in this regard. This paper discusses the major concepts that form the basis for inter-city cooperation to facilitate local capacity building, with reference to the Kitakyushu Initiative for a Clean Environment. The paper also briefly outlines selected inter-city cooperation programs, highlighting the new approaches of international cooperation in urban environmental management.

Keywords: Capacity building, Urban environmental management, Inter-city cooperation.

1. Introduction

Rapid urbanization is an irreversible phenomenon. Today, most of the world's urban population lives in Asian cities. The United Nations Department of Economic and Social Affairs (UNDESA) Population Division report on World Urbanization Prospects (UNDESA 2003) indicates that in Asia-Pacific, the urban population will increase from approximately 1.4 billion in the year 2000 to about 1.8 billion by 2010, and will reach almost 2.3 billion by 2020. In 1975, there were only two megacities with populations over 10 million, Tokyo and Shanghai, in Asia-Pacific (UN HABITAT 2003, 25); currently, this region is host to 11 megacities out of a total of 19 megacities worldwide. Major cities also form the backbone of economic growth in most of the countries of this region.

However, urbanization and economic activities have an enormous impact on the environment due to water, air, noise, and soil pollution. This has adverse health and socio-economic consequences that go beyond cities, countries, and regions. To reverse this trend, urban environmental infrastructure and services must be enhanced. There have been various strategies developed to improve urban infrastructure and services; however, their sustainable management and operation has been difficult due to lack of local capacity (Fukuda-Parr 2002).

The next section briefly highlights the major environmental issues and gaps facing local governments. The third section reviews the current strategy of international cooperation to support local capacity building through inter-city cooperation. The fourth section discusses the Kitakyushu Initiative for a

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a. Senior Policy Researcher, Urban Environmental Management Project, IGES, Japan.
b. Project Officer, Urban Environmental Management Project, IGES, Japan.
c. Professor, Nagoya University and Project Leader, Urban Environmental Management Project, IGES, Japan.

Clean Environment and briefly introduces other inter-city cooperation programs. The fifth section concludes the paper by providing suggestions to improve inter-city cooperation in order to broaden its coverage and impact.

2. Urban environmental challenges

There is an ever-widening gap between demand for urban environmental infrastructure and services—for water supply and sanitation, wastewater treatment, solid waste management, public transport, and pollution control measures—and available supply. Beyond the geographical borders of cities, pollution is resulting in loss of various environmental resources, through, for example, surface and ground water pollution, deforestation, loss of biodiversity, and degradation of air and soil quality. Moving beyond country borders, acid rain and haze are becoming major concerns in the region. At the global level, greenhouse gas emissions are causing marked changes in climate patterns. Nevertheless, due to the immediate impact on the community, the most important challenges for local policymakers include the improvement of access to water supply and sanitation, management of solid waste and wastewater, and control of local air pollution from different sources (Hardoy, Mitlin, and Satterthwaite 2001; Leitmann 1999). International focus has also shifted to local issues, as outlined in the Millennium Development Goals, adopted by UN member states in 2000 (see http://www.un.org/millenniumgoals).

To improve urban environmental capacity, national and international agencies have started to focus on the importance of decentralization to the local government level, coupled with local capacity building and stakeholder participation (Shah 1998). Local capacity that is needed includes: planning capacity for environmental infrastructure and pollution management, regulatory capacity to introduce regulations for local situations where national regulations are not available, institutional capacity to implement regulations and provide environmental services and infrastructure through various partnerships, financial capacity to support institutions and various measures, technical capacity to monitor pollution levels, and capacity to involve local stakeholders in decision making and implementation of various measures (Memon, Imura, and Hitsumoto 2003). These could be broadly grouped into "assessment" and "response" capacities. Assessment capacity covers primarily capacity to carry out DPSER[1] for various urban environmental challenges. For effective and efficient urban environmental management, it is critical to carry out a detailed assessment of the environmental challenges, identify the sources and the immediate and underlying causes of pollution, analyze the impact of the pollution at various levels, and chalk out possible responses or interventions to control the pollution and mitigate its impact. Response capacity covers the ability to implement those responses or interventions (regulations, financial mechanisms, stakeholder participation, and appropriate technological interventions). However, many cities do not have even the basic capacity to monitor environmental changes, and this can lead to difficulties in identifying and implementing appropriate responses.

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1. The DPSER (driving force, pressure, state, effect response) model has been widely used to assess the level of environmental change, its sources and underlying causes, and to identify possible strategies for bringing improvements (Imura et al. 1999). This model is also applicable to assess the level of capacity for environmental management (Japan International Cooperation Assistance 2003).

3. Conceptual development of inter-city cooperation

From the early 1970s to the late 1980s, international cooperation focused on providing consultancy services and monitoring equipment, as well as support for high-tech and capital-intensive projects and services. This assistance failed to enhance local environmental management capacity and had little impact on environmentally sustainable development. Fukuda-Parr (2002) highlights important reasons for the failure of international cooperation as a whole, which are relevant for inconsistencies in environmental cooperation as well. The major reason cited for this failure is donor-driven and supply-oriented imported models and foreign expertise; asymmetric donor-recipient relationships were characteristic of such international cooperation and a fixation on physical/visible projects was the norm.

During the 1980s and 1990s, various international agencies and individuals undertook a critical review of international cooperation, covering both general cooperation issues and international environmental cooperation more specifically (Cassen and Associates 1985; Rix 1990; OECD 1991; OECD 1992; Koppel and Orr 1993; Berg and United Nations Development Programme 1993; OECD 1995; Matsuoka 1996; United Nations Development Programme 2001; Fukuda-Parr, Lopes, and Malik 2002). These analyses suggest that most general international cooperation, and international environmental cooperation in particular, might be more effective if emphasis were placed on developing local capacity, rather than solely on the promotion of high-profile and expensive infrastructure projects. Furthermore, a lack of locally appropriate capacity for project identification and implementation led to distorted priorities, while local objectives and wishes were ignored, resulted in a lack of a sense of ownership and participation by the local stakeholders. Donors also understood that the cities, while coping with current levels of urbanization and economic growth, required an appropriate social and institutional culture to sustain an environment in which individual expertise could perform optimally.

These reviews also recommended that capacity building should supplement local knowledge and existing capacity by incorporating appropriate international knowledge. This required an analysis of international experiences with reference to transferability in accordance to local conditions. Stiglitz (2002) promotes the concept of "scan globally and reinvent locally" to make knowledge transfer and acquisition a success. Hence, the process of capacity development should be based on the transformation of local knowledge and existing capacity rather than its displacement by introducing foreign knowledge. Fukuda-Parr (2002) sums up these new directions of international cooperation as: recipient driven and demand driven, improving local knowledge and involving local expertise, promoting partnerships and ownership of local stakeholders, and focusing on institutional strengthening and societal capacity development.

Since the first Earth Summit in Rio de Janerio, Brazil, in 1992 (the World Summit on Sustainable Development), various global and regional inter-city initiatives have been launched focusing on local capacity building in one specific environmental area (for example, solid waste management) or on overall urban environmental management. Some initiatives also take a focus beyond environmental concerns, as they see environment as only one of the major aspects in the creation of a "sustainable city".
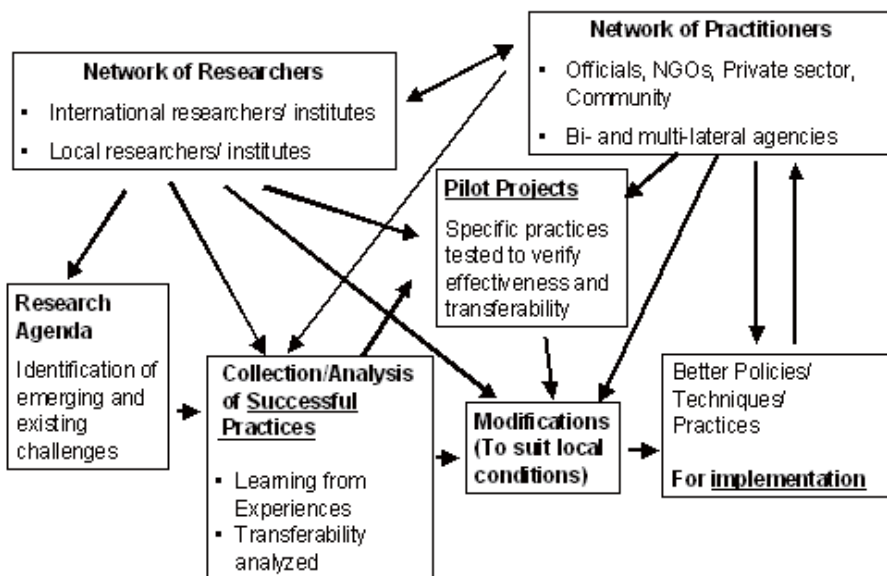
Figure 1. Conceptual model of an inter-city cooperation initiative

Reflecting this new direction, various inter-city programs, with the expertise of both international and local experts, have started to focus on North-South and South-South cooperation to scan and modify the experiences of different cities in order to streamline that information in accordance with local conditions. This approach helps cities to formulate local action plans and policies for sustainable environmental improvement. Figure 1 sets out the conceptual model behind a typical inter-city cooperation initiative.

The focus and process of each inter-city initiative differs slightly, depending on the host institution and objectives. Although most of the initiatives are quite new, a comprehensive review may lead to the identification of suggestions to make these initiatives more effective and efficient.

4. Inter-city cooperation initiatives

4.1. Kitakyushu Initiative for a Clean Environment

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) organizes a Ministerial Conference on Environment and Development in Asia and the Pacific (MCED) every five years to discuss the *State of Environment* report (*SOE*) and to draw up appropriate action plans with consensus among its member states. During MCED 2000, held in Kitakyushu, Japan, an initiative was launched to bring improvements in the urban environment. This initiative, the Kitakyushu Initiative for a Clean Environment, had a particular focus on the area of environmental quality and human health and was based on *SOE 2000* (United Nations Economic and Social Commission for Asia and the Pacific and Asian Development Bank 2000). The Kitakyushu Initiative was endorsed as a "type-I initiative" in the Plan of Implementation adopted during the second Earth Summit in Johannesburg, South Africa in 2002. The initiative is sponsored by UNESCAP, with active support from the

Government of Japan and the City of Kitakyushu. The Institute for Global Environmental Strategies (IGES), as the host organization, provides administrative, technical, and financial support. With the objective of achieving tangible environmental improvements, the main focus of the Kitakyushu Initiative is to build urban environmental management capacity by sharing and transferring environmental knowledge and experiences in the formulation, implementation, and monitoring of local plans.

The three major components of the Kitakyushu Initiative—collection and dissemination of successful practices, support for the implementation of pilot projects, and development of the network—are illustrated in figure 2. With close links to national governments, the donor community, NGOs, and experts in the field of urban environment, this initiative is active in 60 cities among 18 countries in the Asia-Pacific region (as of August 2004) and promotes close ties with other international networks and initiatives that focus on urban environmental management issues. Major activities include conducting thematic seminars to identify local governments' requirements for capacity building and to share cities' successful and unsuccessful experiences; national seminars to create an intimate understanding for all stakeholders within a specific country context; periodic network meetings to assess the progress of activities and re-focus priorities and methodologies; and an active website to share relevant information and facilitate prompt feedback (http://www.iges.or.jp/kitakyushu).

The Kitakyushu Initiative recognizes that the experiences of cities cannot be transferred to other cities as is; the necessary elements for success must be identified and concrete methods and points of reference for other cities should be indicated. To this end, a portfolio of successful practices is being maintained with a focus on community-based solid waste management, partnerships for water supply and sanitation services, stakeholder involvement in air pollution control and greenhouse gas mitigation, and integration of urban planning with environmental management strategies. To review the transfer and promotion of these successful urban environmental management policies and target setting, pilot activities are conducted and experiences from them are shared with other cities within and outside the city and/or country. Activities that qualify as pilot activities essentially involve actions at ground level aiming towards tangible improvement in environmental quality and human health, along with other co-benefits; quantitative monitoring of progress using indicators; enhanced participation by local stakeholders; and encouragement of a replication approach.

Pilot activities conducted under this initiative differ from traditional donor-supported activities, which are mostly discontinued once aid is exhausted: after a clear and feasible pilot activity proposal is submitted by a local government, appropriate financial and technical support is provided by UNESCAP, IGES, or other relevant institutions, which serves to enhance the substantive in-kind contribution of the local government itself. A case in point is a pilot activity conducted by the administration of Nonthaburi Municipality in Thailand aimed at accelerating the rate of recycling and reducing the volume of final solid waste through community participation. After successful implementation, the outcomes of this pilot activity have been analyzed to determine areas of necessary modification to facilitate transfer to other communities within the city, as well as other cities in the region. Other cities, such as Cebu in the
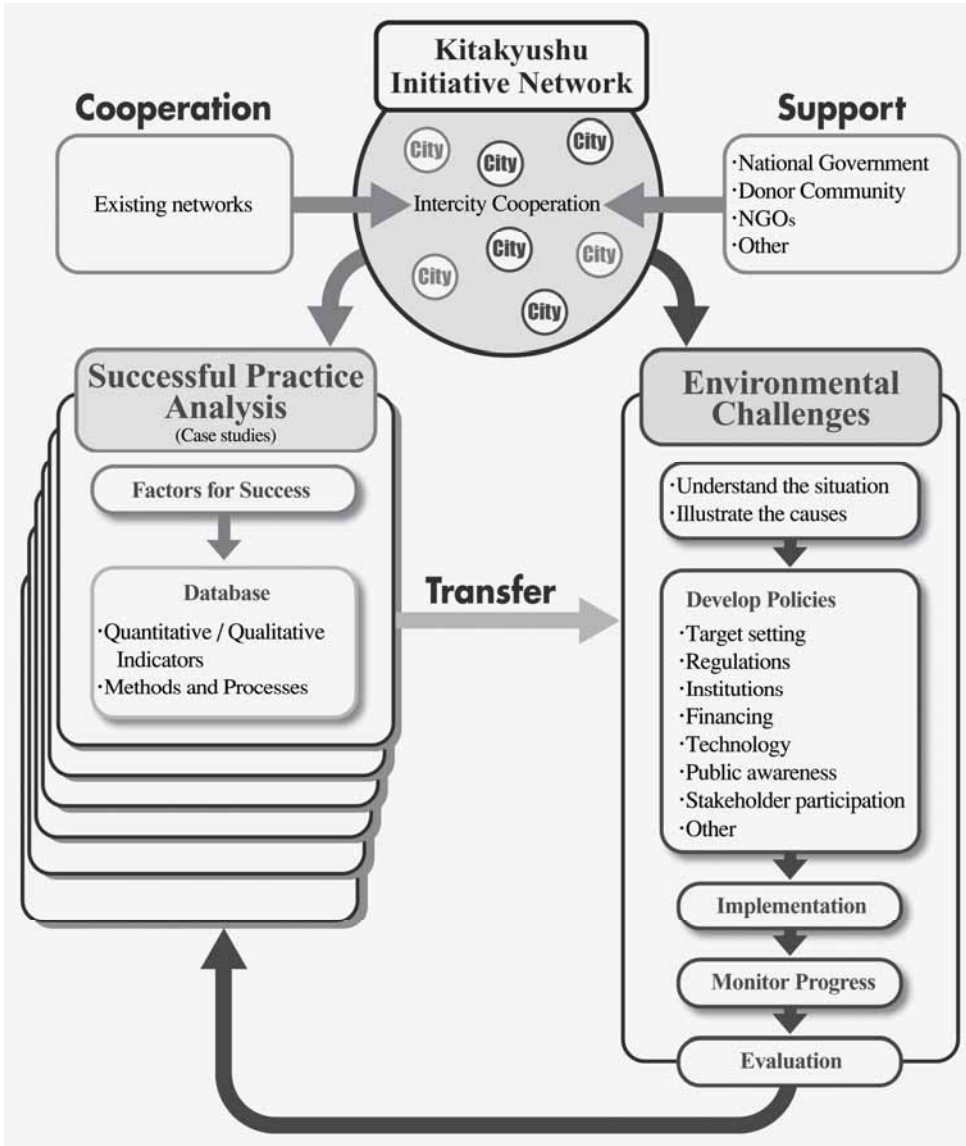
Figure 2. Flowchart for Kitakyushu Initiative for a Clean Environment

Source: http://www.iges.or.jp/kitakyushu.

Philippines, have expressed an interest in replicating these experiences; Nonthaburi itself is now taking this initiative to full scale. Other examples of potential transferability and modification of experiences can be seen in the field of industrial relocation: following successful collaboration between Kitakyushu in Japan and Dalian in China, both recipients of the Global 500 Award, concrete cooperation has started between Dalian and Ho Chi Minh in Vietnam. This type of shift from North-South cooperation to South-South cooperation and the necessary modifications to transfer such practices must be investigated in depth.

The main strength of the Kitakyushu Initiative lies in its networking and interactive communications among cities, national governments, experts, and the donor community. Its other strength is its support for the implementation of pilot activities, where multi-stakeholder involvement and local resources buck the trend to turn piloting into long-term full-scale activities. However, the priorities of cities in the network in relation to urban environmental management are diverse and the limited availability of human and financial resources makes it difficult to address all the priorities identified by the cities. Hence there is a need to balance the selection of focus areas with the availability of resources. This is also a reason for shallow analysis of various environmental challenges in the cities. To ensure in-depth analysis of the environmental challenges and capacity gaps, it would be more beneficial to narrow the focus to selected areas and fewer cities, and to collect/analyze appropriate experiences (successful practices) accordingly. Because the scale of many pilot activities is too small to have a real impact on the local environment, the development, implementation, and/or outcomes of these activities may be intertwined with other activities that are supported by other initiatives or donors. For example, in Cebu, the pilot activity under this initiative is acting as a support mechanism for community awareness as part of a larger pilot activity for river clean-up and solid waste management, which is supported by the local government and other donors. Another option would be to improve financial support on a larger scale, by diverting funds from other donors into one basket.

While the initiative has been evaluated by its stakeholders during the first phase of implementation (2000–2005), a third-party evaluation is essential to incorporate changes to improve effectiveness and efficiency. A detailed cost-benefit analysis of various activities is also critical in order to determine the priorities of the initiative. To date, the focus of internal evaluation has been placed on the cost-effectiveness of collection and sharing of information, as well as scaling-up of pilot activities on a sustainable basis.

4.2. Other initiatives

CITYNET (http://www.citynet-ap.org): In 1987, CITYNET (the Regional Network of Local Authorities for the Management of Human Settlements) was established in Yokohama, Japan. It is a network of local authorities that promotes sustainable urban improvement initiatives in the Asia-Pacific region. To date, 63 cities and 40 local organizations are counted among its members. Its focus, based on priorities set by members, is on urban environment and health, urban poverty alleviation, urban infrastructure and services, urban governance, municipal finance, and urban social infrastructure. In 2002, CITYNET's endeavors were recognized by UN-HABITAT in its "Scroll of Honour" for facilitating city-to-city cooperation and networking among local governments and other urban stakeholders. With respect to urban environmental management, the initiative focuses on solid waste management, water and sanitation, land-use planning, and transport systems. Its major activities include international seminars and training, and publications. Its strength lies in its support from international donors, including the Government of Japan and several UN agencies. Shortcomings include a rather broad focus and emphasis on brainstorming activities (seminars, trainings, and publications) rather than working on focused areas with targeted cities and stakeholders, which could facilitate tangible environmental change.

ICLEI (http://www.iclei.org): Local Governments for Sustainability was founded in 1990 by local governments at the United Nations Headquarters in New York as the International Council for Local Environmental Initiatives (ICLEI). ICLEI is a democratically governed membership association of cities, towns, counties, metropolitan governments, and local government associations. Its headquarters are located in Toronto, Canada. It offers membership to local governments and their national and regional associations. Currently, it is host to 458 members from all over the world. Major activities include: the Local Agenda 21 Campaign, the Cities for Climate Protection Campaign, and the Water Campaign. Its strength lies in the assistance it provides to cities in developed countries enabling them to be more environmentally conscious during the development of various policies and action plans; however, support for cities in developing countries is comparatively low, as financial and technological support from developed countries/cities is normally expected by the developing countries/cities.

IULA (http://www.iula.org): United Cities and Local Governments is a network of local governments, large and small, rural and urban, in over 100 countries across five continents. It supports international cooperation between cities and their associations, and facilitates programs, networks, and partnerships to build the capacity of local governments. It promotes the role of women in local decision making, acts as a gateway to relevant information on local governments around the world, and is committed to capacity building of associations. Its strengths lie in its Information Library, with a wide range of case studies, articles, reports, and studies; its Partnership Gateway, with information on partnerships between local government associations across the world; an online toolkit on the work of local government associations, including case studies and interviews with members of the IULA network; and its publications and newsletters.

CAI-Asia (http://www.cleanairnet.org/caiasia): The Clean Air Initiative for Asian Cities (CAI-Asia) is based in Manila, Philippines, and is supported by the World Bank and the Asian Development Bank. This initiative promotes and demonstrates innovative ways to improve the air quality of Asian cities through partnerships and sharing of experiences. It aims to share knowledge and experiences on air quality management, improve policy and regulatory frameworks at the regional level, implement pilot projects to encourage innovation, and assist cities in implementing integrated air quality strategies. To date, it comprises members from 26 cities, 20 national and state agencies, and a number of NGOs and academic institutes, international agencies, and the private sector. Its strengths are in the active coordination among all levels of stakeholders, and its annual conference, Better Air Quality, which has become established as a key meeting for the region. However, a major shortcoming is that it focuses on coordination only, rather than working intensively with local stakeholders to transform concepts and action plans into reality. Moreover, this program addresses air pollution only, and focuses less on the immediate local impacts of pollution, having instead a broader focus on global impacts.

Other relevant initiatives and programs include WHO's Healthy Cities Programme and Network (http://www.who.org); the Sustainable Communities Network (http://www.sustainable.org); the Urban Environment Forum of UN-HABITAT (http://www.unchs.org); the Asia Urbs Programme of Europe AID (http://203.155.220.242/environment); Southeast Asia Urban Environmental Management Applications, supported by the Canadian International Development Agency and the Asian Institute of Technology (http://www.serd.ait.ac.th/uem/sea-uema.htm); and Environmentally Sustainable Cities in

ASEAN, which is facilitated by the National Environmental Agency of Singapore (http://app.nea.gov.sg/cms/htdocs/article.asp?pid=2264).

5. Conclusion

Rapid urbanization coupled with lack of environmental management capacity is a major challenge for developing countries. Acknowledging this challenge and recognizing that the traditional focus of international cooperation is ill suited to meet it, the donor community is incorporating local capacity building into its policies and programs. Inter-city cooperation is an important way to assist cities to strengthen their capacity to manage urban environmental challenges.

There are differences between various initiatives and programs focusing on inter-city cooperation. These differences are due to variations in philosophy, policy, scope, and geographical coverage of the donors or host organizations. To optimize the impact of these initiatives and programs, the strengths of one initiative could be used to complement the shortcomings of another initiative, rather than just competing. This could be applied in terms of balancing regional coverage, environmental coverage (water, waste, air, etc.), scope of activities (seminars, trainings, best practice portfolios, pilot activities, publications, etc.), and human and financial resources. The individual initiatives and programs must also conduct intensive evaluations by stakeholders and third parties to adjust their objectives according to their resources and strengths. Comprehensive cost-benefit analysis would also be helpful in prioritizing the activities according to their efficiency and effectiveness. Nevertheless, inter-city cooperation is facilitating the move towards South-South and South-North learning and sharing of experiences, in addition to traditional North-South exchange, which is vital in bringing to the fore experiences and technology that can best fit local conditions.

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