Partnerships for urban environmental management: the roles of urban authorities, researchers and civil society

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SUMMARY: This paper discusses the different roles of researchers, urban authorities and civil society groups in developing partnerships that address both environmental management and development. It draws on discussions at a workshop which brought together teams from six countries involved in research on this theme. It begins by describing the Local Agenda 21 and stakeholder partnerships developed in Jinja, Uganda and then discusses the experiences of the different teams in developing partnerships. The paper highlights how much the local context and broader political settings influence the set of roles the research teams take on, and ends with recommendations directed at urban authorities, researchers and civil society leaders.

I. INTRODUCTION

AGENDA 21, WHICH resulted from the UN Earth Summit in Rio in 1992, and the recommendations from the UN City Summit[1] in 1996 recommend that urban authorities develop innovative partnerships in urban environmental management with researchers and civil society. Based on this recommendation, several towns have implemented a Local Agenda 21 and Jinja, in Uganda, is one of the model community towns implementing the strategic action plan concept of a Local Agenda 21. Jinja hosted an international workshop to review and discuss the role of researchers in the development and implementation of urban environmental management partnerships. The workshop was organized by a group of researchers from the Swiss National Science Foundation involved in North-South collaboration on sustainable urban environmental management.

In recent years, many countries have decentralized responsibility and authority for handling environmental and social problems relating to development to the local level. While being empowered through such a move, local authorities often lack the means of tackling the social and ecological problems relating to development that they inherit. Thus, they seek new, innovative partnerships with other stakeholders such as the urban poor, research teams and local industry to develop solutions to urban environmental problems.

In the follow up to the UN Earth Summit, governments committed to helping Southern countries with research and capacity-building have mobilized researchers to develop demand-driven and problem oriented

solutions to environmental problems through multi-disciplinary and stakeholder oriented research in partnership with Southern countries. One of these partnership programmes in North-South research collaboration consists of six research projects in Benin, Burkina Faso, Chad, Pakistan, Uganda and Vietnam (see Box 1). These projects are organized within a network which periodically reviews issues relating to the development of innovative approaches to sustainable urban environmental management. The project group reviewed their experiences at a workshop in Jinja, developed recommendations on the role of researchers in urban environmental partnerships and received feedback from representatives of local authorities, the donor community and civil society. This paper summarizes these recommendations.

II. JINJA, UGANDA

a. Background

UGANDA IS AMONG the poorest countries in sub-Saharan Africa. Since 1986, under the civil war recovery policies of President Muzeveni, Uganda has developed a decentralization policy within the policy framework of structural adjustment and a comprehensive environmental policy, which is built on the recommendations of the UN Earth Summit on environment and development. Thus, local urban authorities now have a double key role in sustainable urban development. First, as urban authorities, they are responsible for providing services for the people. Secondly, as district authorities, municipalities such as Jinja have the duty to implement the environmental legislation and policy developed in the follow-up to the Earth Summit. All local authorities are faced with the urgent need to facilitate investments and to ensure development that will provide work and income for the many displaced people. They must also address a heavy inheritance of environmental and social problems relating to urbanization. Ugandan towns concentrate many problems which are the result of

1. The official title of the Earth Summit was the United Nations Conference on Environment and Development – often called UNCED. The official title of the City Summit was Habitat II; the second United Nations Conference on Human Settlements.

Box 1 | **The Urban Environmental Management Programme**

This paper draws on a partnership programme in North-South research collaboration, sponsored by the Swiss National Science Foundation, which consists of six research projects:

- "Développement durable, métropolisation et pollution des resources naturelles: le cas de Ho Chi Minh Ville et du réseau urbain au Vietnam", Institut de Recherche sur l'Environnement Construit (IREC), Département d'Architecture, Ecole Polytechnique Federale Lausanne (EPFL); Jean-Claude Bolay and Bui Thi Lang.
- "La gestion concerteé de l'environnement urbain: politiques publiques et dynamiques locales en villes moyennes", Institut Universitaire d'Études du Développement (IUED), Genève; Cyrus Mechkat, Alain Viaro, Alicia Casalis, Eric Roth and Sharar Saukat.
- "Gestion des déchets solides dans les villes africaines, en particulier valorisation des déchets organiques", Association Alter Ego, Lausanne; Evelyne Waas, Paul Bayili, Félix Adégnika.
- "Gestion par ses occupants d'un espace urbain défavorisé", Swiss Tropical Institute, Basel; Kaspar Wyss, Allassambaye Dobingar and N'Diékhor Yemadji.
- "Health impact and management of waste water use in small-scale agriculture in urban Sahelian settings; risks and potential intervention strategies", Swiss Tropical Institute, Basel; Marcel Tanner and Guéladio Cissé.
- "Use and protection of water resources in Lake Victoria through sustainable management of wetland-ecotones", Institute of Plant Biology and Institute of Ethnology, University of Zurich; Markus Wolf, Corinne Wacker, Frederick W. Bugenyi, Konstantine.

rapid urbanization and for which they have to seek rapid remedies without having the necessary expertise or being in a position to draw on prevailing monetary resources. While having the legal powers to implement the legislation relating to environmental protection, the town governments lack the capacity to set adequate environmental standards. Neither do they have, as an inheritance of British urban governance, a tradition of a stakeholder approach to urban management. Urban authorities in Entebbe, Gulu, Mbarara and Njeru face increasing pressure to act; as staff from these authorities explained at the seminar, they hold two heavy responsibilities, as noted above, but very limited capacities.

Jinja, the conference host town, has chosen a stakeholder and participatory approach to urban environmental management. It is the second largest city of Uganda and has developed an innovative model for tackling its pressing environmental and social problems. Developed as a town as early as 1901, Jinja was Uganda's main industrial town between 1950 and 1970, before the Asian investors left the country. The town's economy collapsed for 15 years in which time the urban space became a refuge for poor and displaced people during the civil war. Under the recovery policies of President Muzeveni, the urban authorities of Jinja actively encouraged developers and industries to settle within the urban boundary and to contribute to the redevelopment of the city's economy. While some industrial development has started to gain ground again, the town is still faced with three key problems of sustainable urban development, namely, poverty, a lack of tax income and a heavy heritage of industrial pollution. Seventy to eighty per cent of the 65,000 urban population live below the poverty line and the population is growing by 3-4 per cent a year. More than half the workforce make a living in the informal sector while the town authorities provide the urban infrastructure for a large peri-urban area encompassing 2 million people. The authorities' capacity to act is constrained by low tax income – in part because of the lack of formal economic activities within the urban boundary. The town is faced with widespread poverty, unemployment, malnutrition, inadequate low-cost housing, inadequate health and education facilities, and water and energy supply systems which are unable to meet many poor people's needs.

Jinja also inherited from its former period as chief industrial town a heavily polluted environment. Most industry is on the shores of Lake Victoria and the river Nile into which untreated effluents are discharged. Thus, the town is among the main contributors to the degradation of the lake's water quality – and the lake serves as the drinking water reservoir to millions of people living on its shores in Kenya, Tanzania and Uganda.

During the period of economic collapse, the natural vegetation gained ground in the city and became a habitat for numerous wild plants and animal species. Today, three large wetland sites on the lake shore provide multiple natural resources for urban population livelihoods in the form of garden crops, craft material, medicinal herbs, fuel, fodder and fish. The urban wetlands also have an important function in withholding and filtering effluents entering the lake. However, with the successful redevelopment of the town's industrial capacity, the contradiction between development and environmental protection grows. Examples of these contradictions include:

• How can industrialists be persuaded not only to come back to Jinja despite its limited infrastructure and low human resource development standards but also to install effluent treatment facilities in the old factory buildings?

- How can the many self-employed urban people making a living from wetland resources be prevented from investing in pesticides and chemical fertilizers for the wetland gardens and from investing in more efficient fishing gear in order to protect the natural environment from overuse or destruction?
- How can the town's parastatal National Water and Sewage Corporation, which operates as a service delivery provider on a commercial basis, be helped to solve environmental and social concerns relating to water provision for the many poor who can't pay for water services and to install a sewage treatment plant when, up until now, the wetlands have assumed a filter function without generating any costs?

With economic and industrial development the social burden of the town is reduced but the environmental problems grow in scope and complexity.

b. Partnerships in Urban Environmental Management within the Framework of a Local Action Agenda 21 Programme

To find and improve the balance between conflicting environmental, social and economic constraints and needs of development, Jinja town has embarked on an innovative approach by implementing a Local Action Agenda 21 programme with the people and by implementing reform in the sectoral approach to urban planning and service delivery. Under the new decentralized government structure in Uganda, which transfers political, administrative, financial and planning authority away from central to the local government councils, the municipalities are becoming, to a large extent, responsible for solving environmental, social and infrastructural problems. The councils are statutory bodies with legislative, judicial and administrative powers. Thus it was within the competence of the town to review and reform its planning and management machinery by setting up cross-sectoral planning and a stakeholder approach in which the civil society and the private sector assume a key role in providing the services required while the urban authorities resume a role of governance, planning and monitoring.

Jinja town has also adopted the ICLEI Local Action Agenda 21 Model Communities programme approach. In this participatory approach to urban environmental management, the stakeholders in the urban environment, industries, business holders, schools, youth, religious and women's groups (in short all segments and leaders of civil society) are invited to participate in a strategic action planning exercise to identify priority needs and concerns relating to the urban environment. This is a two-year process that includes meetings, seminars, discussions and an environmental assessment exercise. Through this, waste and sanitation and the management of the natural environment, including wetlands, have been defined in Jinja as priority concerns of urban environmental management. In the course of this strategic planning process, Jinja has successfully built up partnerships with the civil society to tackle the town's most pressing environmental problems. To develop an integrated approach for a sustainable management of the urban wetlands in Jinja, the town has also established a partnership with a national research institute, the Fisheries Research Institute (FIRI), and its overseas partners, natural and social scientists from the University of Zurich, Switzerland, who are developing a scientific database for monitoring the urban swamps. They

are also developing institutional solutions to a long-term oriented (and thus more sustainable) use and management of the wetland resources through a partnership model which includes more than 500 women organized in 23 wetland women's groups, the local urban authorities and national environmental authorities and experts. In the course of developing solutions to the environmental, juridical, economic and social problems relating to the sustainable use and management of urban wetlands as "common property resources", the partnership between the town, the civil society organized in community based organizations and the national and international research community grew in scope and complexity.

III. CREATING INNOVATIVE PARTNERSHIPS FOR SUSTAINABLE DEVELOPMENT: CONSTRAINTS AND GUIDELINES

OVER FIVE YEARS experience of building up and maintaining partnerships with researchers and civil society in urban environmental management, Jinja town has become a living laboratory in the development of innovative solutions to urban environmental problems. It has also become a model that is gaining increasing recognition and interest from other towns in East Africa and around Lake Victoria. The aim of the seminar was to invite other researchers and their partners from urban authorities and civil society to review and discuss achievements and problems on the theme of development and maintenance of partnerships for sustainable urban environmental management.

Several speakers highlighted the multifaceted dimensions of the problems.[2] Environmental problems often have a temporal and a spatial dimension which expands the urban boundary and extends beyond the capacity of different actors and actor groups involved in decision-making to act. It becomes clear that to promote a comprehensive policy of environmental protection, policy, economic and legal instruments have to be integrated. Frames of regional collaboration should also be built. The Council of Europe's experience of this, as presented by Mrs. Déjeant-Pons, brought key elements to the discussions of case studies in Southern countries that were presented at the workshop. Besides state authorities, researchers and civil society, international donors can have a catalytic role in enhancing sustainable development. By supporting collaboration between the above named stakeholders in sustainable development, they can guide research and development towards meeting poor people's needs and priorities and can encourage stakeholders to develop solutions to the obstacles which prevent people from deploying their full potential for sustainable development. The speeches by Jean Doyen, Françoise Lieberherr and Bernd Decker[3] highlighted the potential of donors and development programmes to act as catalysts with a view to encouraging the actors concerned to remove barriers to development.

Because of a long tradition of focusing research efforts on improving the productivity of a country, environmental research can be quite a new endeavour in countries of the South. It is frequently carried out by conservationists from a single discipline perspective rather than as a multi-disciplinary effort which links development and environmental protection in an approach to sustainable resource management. In Uganda, several research institutes under the common umbrella of the National Agricultural Research Organization play a key role in research on sustainable

2. The papers presented at the seminar are published by the seminar organizers and can be obtained by contacting the authors of this paper; the list of papers is given at the end of this paper.

3. Jean Doyen is from the regional office of the World Bank, Françoise Lieberherr from the Swiss Development Co-operation and Bernd Decker from the UN Centre for Human Settlements (Habitat) in Nairobi.

development by linking environmental protection and development. This was elaborated by Panta Kasoma, head of the environmental department of the Makerere University, in his historical exposé. Frederick Bugenyi, director of the Fisheries Research Institute in Jinja, also brought insights into the challenges experienced by research institutes with a long tradition such as his when embarking on multi-disciplinary research for sustainable development. Traditionally, research institutes had a role in providing scientific evidence for government concerns and in advising government in the development of legislative and policy instruments to protect the environment. But today, research has to assist and promote sustainable development and the research process must include numerous inputs from various disciplines and from different stakeholders who often have short-term and divergent interests. The examples quoted were overseas funded research projects and donor-driven research agendas, which emphasized people and sector-centred approaches to sustainable development.

Research can contribute as classical disciplinary baseline research and as action oriented research to help decision makers identify solutions aimed at sustainable development. While classical research contributes to the identification of problem sets, action oriented research is mainly useful to planners for identifying ways of implementing measures which tackle recognized problems. This was elaborated by Marcel Tanner from the Swiss Tropical Institute of Basle based on his experience in applied health research. Coming from an international organization with a mandate to promote social development, and with a long experience in inducing and coordinating research for development, David Westerndorff from UNRISD[4] pointed to the social dimension of equity included in the definition of sustainability of the Earth Summit and the necessity that research should articulate the needs of the poor and marginalized segments of the population in development. Roland Schertenleib elaborated on how the end users of research findings should already be included in the planning phase of research, based on his experience in applied research for water and sanitation from Sandec EAWAG, Dübendorf. Abimbola Davis-Cole from NETWAS in Nairobi emphasized how, as marginalized groups often lack the capacity to articulate their needs, NGOs can have a major role in supporting them in communicating their needs and priorities to decision makers, in enhancing environmental awareness among the people and in translating the research recommendations into actor-centred and thus manageable instruments for sustainable development.

It is local knowledge that integrates research, policy and action in developing innovative responses and solutions to environmental change. Research should valorize and highlight people's knowledge of the environment and the social context in which they develop their livelihoods. It should contribute to a much needed change of attitude among donors and development experts towards more respect for local actors' innovations and traditional knowledge. With the strong statement from Mr. Munene from the Makerere Institute of Social Research (MISR) regarding the importance of drawing on and valuing local knowledge, a new set of questions was raised at the workshop regarding the necessary institutional arrangements between local actors and other decision makers.

Joseph Bagonza-Birungi, assistant town clerk of Jinja municipality, elaborated on the learning process of an urban authority in developing an innovative role away from problem-solving and decision-making towards being a partner of civil society in assisting private sector actors to develop

4. United Nations Research Institute for Social Development.

solutions to environmental problems. But human actors often do not know the full chain of cause and effect with regard to environmental degradation. They may perceive environmental problems in a diffuse way and assume they cannot address them; they tend to expect solutions from government authorities and their experts rather than feeling empowered and responsible for tackling them on their own. Thus, the creation of environmental awareness is important in promoting sustainable development – as stressed by Ruth Kaufmann-Hayoz, based on her experience in human centred environmental research in Switzerland.

All presentations and discussions underlined the need for collaboration and communication between various actors in tackling environmental problems so that environment and development are integrated in a stakeholder oriented approach to sustainable development. Among the many stakeholders concerned, three key actors assume a central role in collaborating towards developing solutions for sustainable urban development:

• the urban authorities (their various departments and forms of inter-departmental collaboration as well as their relationship towards central government);

• the civil society and their different actor groups such as community based organizations and the private sector; and

• the research community and research teams in a given urban context. Besides data collection, they assume various roles in the collaboration between the urban authorities, civil society and other key actors in developing and communicating possible options for a more sustainable urban development.

How can collaboration between the different key actors contribute, in a sustainable, long-term oriented way, to helping processes of sustainable urban development?

IV. COMPARING EXPERIENCES IN PARTNERSHIP CREATION

a. The Six Case Studies

THE SIX RESEARCH projects in urban contexts involved different environmental problems such as solid waste management, environmental health and natural resource management. Each brought lessons in collaboration between urban authorities, researchers and the civil society in developing solutions and innovations based on a four-year collaboration experience. The presentations included:

• Experiences of collaboration concerning solid waste management problems in West African towns presented by Paul Bayili from the municipality of Ouagadougou, Burkina Faso, Felix Adegnika from the municipality of Cotonou, Bénin and a team consisting of Allassambaye Dobingar, Yémadji N'Diekhor and Kaspar Wyss, on the case study for the city of N'Djamena in Chad.

• "From research to public health action – experience from the case study of Burkina Faso and Mauritania" by Marcel Tanner and Gueladio Cisse which discussed the issue of when it is best to use either classical or action oriented research approaches.

• A case study on urban environmental health and sewer related problems in Vietnam presented by Bui Thi Lang and Jean-Claude Bolay.

- A case study on urban planning in the city of Mingora, Pakistan by Sharar Saukat and Alain Viaro.
- A case study on popular participation in urban environmental planning from Latin America by Erik Roth and Mrs. Alicia Casalis, researchers in San Borja, Bolivia; and,
- The research project taking place in Jinja on the sustainable management of urban wetlands in the context of sustainable water resource management of Lake Victoria by Konstantine Odongkara.

Can different experiences centred in different cultural, institutional and political contexts be compared to discuss the issue of sustainable forms of collaboration between urban authorities, civil society and researchers? After individual presentations of each case study, participants divided into three working groups to develop conclusions and recommendations on the development of innovative partnerships for sustainable development.

All the cases presented at the workshop are situated in urban environments affected by problems of environmental management and poverty where the urban authorities lack the necessary funds (and sometimes also the initiative and awareness of the problems) to tackle pressing problems of poverty and environmental degradation. In all contexts, the local population assumes an important role in tackling the problems faced. However, the mode of collaboration between the urban authorities and civil society varies considerably from one context to the other. The variations in the examples discussed at the workshop range from high decentralization and a high degree of institutionalization of peoples' participation in environmental management, through confusing or conflicting contexts of decentralization and participatory approaches to urban development, heavily influenced by foreign donor support and policies, to contexts of low decentralization and low levels of institutionalized partnership between urban authorities and civil society.

b. High Levels of Decentralization and Institutionalization of Participation

Comparing the different case studies with regard to the creation of partnerships between urban authorities, researchers and civil society for sustainable development, factors relating to the political context have an important role in co-defining the type of partnerships the teams have established. The case studies in Bolivia and Uganda are situated in political contexts of high decentralization including an explicit government mandate to include local actors, such as communities and the private sector, in monitoring and assisting local government authorities to identify and monitor changes towards sustainable development. In both contexts, the researchers collaborate with civil society as well as with governmental planning bodies. In both contexts, the research teams identified a tendency to place a considerable burden on local communities with regard to environmental management, often too heavy for the communities' interests and for their capacities to take the steps needed to address urban environmental degradation. In the case of Bolivia, the community based organizations were required to be active in monitoring and overseeing the decisions and actions of the urban authorities without gaining any real benefits from their participation in terms of meeting their pressing problems and needs relating to poverty and the lack of ownership rights to the urban land. Thus, the policy role attributed to them by government is not perceived by them as an instrument of empowerment

for improving their livelihood in the urban environment in which they have no legal rights.

There are interesting parallels in the case of Uganda. Local communities are also mobilized by government policies to participate actively in planning and monitoring the urban environment. Here too, there were problems over land rights as the wetland resource user groups experience negative effects with regard to a lack of ownership or user rights to the natural environment from which they derive resources for their basic needs. Within an economic context still marked by the previous period of civil war and economic collapse, they face problems of malnutrition, poverty, health and unemployment, and make a livelihood by combining survival strategies that conflict with the legal status of their context. The intensive role they are encouraged to take in planning and monitoring solutions relating to urban environmental problems does not help them to meet directly the pressing problems relating to their livelihood. One exception is the women's project on the use and management of wetlands, through which they can directly benefit in the form of training and income-generating activities. This was sponsored by a donation relating to the research project.

In the Bolivian and Ugandan examples, local communities lack the necessary means (training, incentives) to influence the decision-making procedures in such a way that their priorities are met. In these situations, the urban authorities are confronted with apathy and a lack of initiative from the urban poor. Their interests, however, could be turned into positive assets for sustainable urban development if the long-term rights of the poor to the environment were provided (user rights, property rights) and environmental concerns were translated and linked directly to people's economic needs and priorities. Besides documenting the participatory process (Bolivia, Uganda) and generating baseline research data for decision-making (Uganda), the research teams involved in these two case studies assume a role of working with the local communities to identify options for linking environment and development in such a way that the needs of the poor and marginalized are met as a first priority. In neither case is there substantial donor involvement (funds, policy dialogue).

c. Unclear Contexts Regarding Decentralization and Participation

The partnerships established in Burkina Faso, Benin and Vietnam are situated in contexts of unclear and partly conflicting policies and structures of decentralized urban management. Conflicts between different sectors or departments within the urban administration, conflicts between the urban administration and the elected leaders, conflicts between central and local government authorities co-exist with an inconsistent donor policy which gears funds and steers policies in different directions. In these political contexts, a multitude of local initiatives appear and develop concrete service delivery projects for improving the urban environment. Community based organizations, NGOs and private sector initiatives experience competition and conflict with each other. Specific projects by one local initiative can thus jeopardize the efforts of other initiatives in achieving an economically viable role in urban environmental management, and these may also be sponsored by a foreign donor.

In these contexts, the research teams participating in the workshop combined two roles: they generated a research database on the issue

concerned and a description of the dynamics taking place; and they acted as assistant planner and coordinator to the local authorities to improve coordination among the numerous local initiatives. In the case in Vietnam, the local initiatives are recent and small-scale (revolving funds) and are being developed to meet urban infrastructural needs (latrine construction) but they lack a sound planning base to allow adequate implementation. In none of these case studies do the researchers strive to link environmental and development concerns with a specific poverty alleviation bias.

d. Limited Decentralization

The case studies in Chad and Pakistan are within political contexts of low decentralization. In neither have the urban authorities developed mechanisms for collaborating with civil society to tackle their environmental problems. The research teams assumed different roles in the two cases. In Chad, the research team acted as mobilizer, catalyst and consultant to local, informal grassroots initiatives that lacked recognition and integration into the state machinery. In Pakistan, due to the absence of local authorities, the researchers developed a role as urban planners to help develop the beginnings of an awareness of environmental and urban problems through the involvement of all actors/stakeholders and to encourage actions and participation in that field. The research results will constitute a first database for the government with regard to planning the management of urban development and environment. In neither case was a form of collaboration institutionalized which included the three partners in the interaction, namely, the urban authorities, civil society and the team of researchers.

V. LESSONS LEARNED AND RECOMMENDATIONS

THE EXAMPLES OF arrangements for collaboration between urban authorities, researchers and civil society presented at the workshop in Jinja indicate that there is a possible correlation between context, political setting and the roles the three actors play in their collaboration. By comparing the case studies, one can see how contexts shape the role of research teams:
• In contexts of high decentralization and institutionalization of people's participation, the research teams tend to assume a role of supporter of local initiatives, and an advocacy role in trying to influence urban policy-making to meet people's needs more directly and sustainably.
• In contexts of medium (and conflicting) settings of decentralization and heavy donor involvement in the participatory arrangements between the urban authorities and civil society, the researchers tend to assume the role of coordinator between competing local initiatives and of advisors to the urban authorities in charge of implementing urban development programmes with a civil society participation.
• In contexts of low decentralization and low commitment by urban authorities in tackling urban environmental problems with people's participation, the researchers have a role either as advisors to the government or as mobilizers and catalysts for local initiatives.
  The workshop developed sets of recommendations for each of the key sets of actors. These came out of three working groups, each with repre-

sentatives from research, the urban authorities and civil society. The recommendations were also reviewed by three separate working groups which included only urban authorities, researchers or civil society representatives. Below is a summary of their main points.

For urban authorities. There is a need to develop a policy approach that includes the use and careful integration of legal, policy and economic instruments to promote sustainable development through people's participation. The implementation of one of the three instruments without considering, balancing and reforming the two others is likely to jeopardize the efforts of stakeholders in promoting sustainable urban development as defined by the UNCED recommendations in 1992.

The UNCED recommendations seek to promote development that:

- does not undermine the development options of future generations (by depleting the natural resource base and the natural environment);
- tackles the problems of poverty and marginalization by promoting equity between the present generation (poverty alleviation measures through legal, policy and economic instruments); and
- links environment and development in such a way that the private sector initiatives (such as industries, water and sewage corporations, etc.) are promoted and integrated within an overall sustainable development policy framework provided by government. This policy framework has to ensure the internalization of the social and environmental costs of production within the development policy of the town concerned.

In contexts where Local Action Agenda 21s are being implemented, it has been observed that this policy has the potential to link policy and economic instruments in promoting sustainable development. Conflicts were, however, experienced between legal and policy instruments. Urban authorities should clarify possible contradictions in this field when adopting participatory approaches in urban environmental management. To do so, the participation of local authorities in legislative work dealt with at a national level is often necessary.

For researchers and the research community. Research teams involved in partnerships with urban authorities and civil society in sustainable urban environmental development assume important additional roles beyond those of research, especially in the creation, monitoring and maintenance of innovative partnerships between urban authorities and civil society. Their additional roles are multiple and include advocacy and awareness creation for environmental and social concerns; planning and monitoring; and capacity-building and training of local researchers, civil servants and civil society leaders. Research programmes involved in promoting environmental/development research should take into consideration the complex setting of the research teams with whom they collaborate, should actively support their own capacity-building as they assume these important additional functions, and should be committed to a long-term involvement as partners in urban development and established partnerships. The nature of environmental problems and the necessary institutionalization of partnerships both require stable long-term partnerships between the actors involved. If donors contribute support to environmental/development research, their short-term information needs are no alternative to the creation of viable partnerships for urban environmental management.

With regard to the specific dynamic and stage of development of the local actors in tackling environmental issues, the researchers can draw on

different methodological concepts of research varying from participatory and/or action research to the establishment of a solid database for problem identification and long term-planning. They thus need training and skills in a range of research methodologies. Research teams involved in the kinds of partnerships discussed here should consider including NGOs and other external experts in communication and advocacy roles to complement their own roles as researchers and capacity builders.

Whether or not they do involve NGOs, community based organizations or other local actors as partners in the research process, the agenda-setting for research and the identification of research needs and priorities should be done in careful collaboration with the most vulnerable groups in the urban context, working where possible with the urban authorities. Not making provision for the careful involvement of the stakeholders concerned with urban environmental development in the planning phase of research jeopardizes the establishment of a partnership in the future for developing solutions to urban environmental problems.

For civil society leaders. The policy recommendations for sustainable development elaborated in Agenda 21 policy as well as in follow-up conferences such as Habitat II include three key aspects of empowerment of local communities in environmentally sound development practices: equity (poverty alleviation), participation, and an internalizing approach to the social and environmental costs of development. Research has been highlighted as a major asset in helping stakeholders solve their environmental and development problems. However, local communities often lack the expertise to interpret the recommendations within Agenda 21 or the Habitat Agenda in their praxis and context. In contexts of multiple local initiatives which might conflict with each others' achievements and efforts, planning and action have to be coordinated. We suggest that community leaders consider the inclusion of the three chief policy instruments of sustainable development, namely, legislative, policy and economic, to foster initiatives aimed at citizen empowerment and to communicate their needs and priorities in decision-making processes. Researchers and NGOs can assist local leaders in capacity-building in this matter and should be committed by the local initiatives into doing so.

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