

URBAN ENVIRONMENTAL MANAGEMENT: LOCAL CAPACITY BUILDING THROUGH INTERNATIONAL COOPERATION

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This paper discusses the local capacity building process for managing urban environmental challenges, particularly in the areas of water and wastewater, solid waste, and air quality. Local capacity is categorized under assessment capacity and response capacity. Assessment capacity covers the monitoring capacity as well as capacity to assess the socioeconomic impacts of the pollution. The response capacity covers planning, regulatory, institutional, social, financial, and technical capacities. Thereafter, we discuss the role of international cooperation in local capacity building process. In this regard, we present “Kitakyushu Initiative for a Clean Environment” as an example.

Key Words: *Urban environmental management, local capacity building, Kitakyushu Initiative*

1. INTRODUCTION

Rapid urbanization and increased economic growth has a severe impact on the environment. The consumption of natural resources has been increased multi-fold and the pollution levels are getting serious in many parts of the world. However, this region, Asia and the Pacific, presents the worst case scenario due to its high population and increased pace of urbanization. The urban population in this region will grow from 1.347 billion in year 2000 to 1.783 billion in year 2010 (UN Population Database). This will result in an increase of about 436 million inhabitants against an increase of about 37 rural inhabitants during the same time period.

A report¹⁾ suggests that rapid urbanization and

industrialization is severely damaging local as well as global environment. Furthermore, the lack of appropriate urban environmental management capacity has created an alarming situation in most of the urban centres. An immediate and appropriate action is urgently required to improve the situation.

This paper discusses that appropriate action: capacity building for urban environmental management (UEM). The second section defines UEM capacity. The third section discusses the capacity building and the role of international cooperation. The fourth section presents “Kitakyushu Initiative for a Clean Environment.” The fifth section proposes a few policy recommendations, based on the discussions, and finally sixth section concludes this paper.

2. UEM CAPACITY

To improve the environmental situation, there should be essential capacity for the assessment of the problem as well as to formulate and implement an appropriate response. Fig.1 shows that assessment capacity may include the ability to monitor the pollution levels, identification of the major pollution sources, and assessment of the socioeconomic impact due to that pollution. This assessment capacity helps to draw a cause and effect relationship, which may further help to arrive at an appropriate response²⁾.

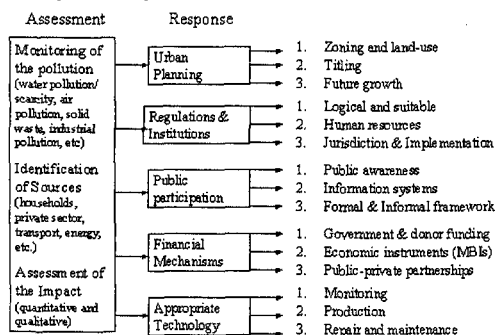


Fig.1 Assessment and response capacity

(1) Assessment capacity

Most of the cities in the region lacked sufficient monitoring capacity, mainly technical and human capacity^{3), 4)}. However, recently some of the major cities are being equipped to improve their monitoring capacity⁵⁾. The identification of major sources, with regard to their share in polluting environment and their importance from socioeconomic point of view, is essential to draw the appropriate response. For example, households generate substantial municipal solid waste and an appropriate response should consider various characteristics of the households and implications of the proposed response for the community.

The valuation of the impact, quantitatively and/or qualitatively, would help towards cost-benefit

analysis of the response. An appropriate response could be selected from various possible responses to improve the target environmental situation.

(2) Response capacity

The response capacity is the ability to propose and implement appropriate means for urban environmental management. This capacity may be categorized under planning capacity, regulatory capacity, institutional capacity, social capacity, financial capacity, and technical capacity²⁾ (Fig.2).

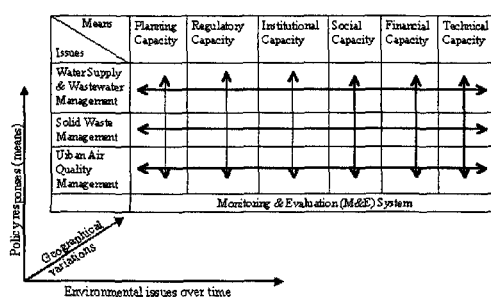


Fig.2 Urban environmental management framework

(a) Planning capacity

This capacity broadly covers the urban environmental infrastructure. This capacity is crucial in Asian context, as urban growth rates are very high and a lot of pressure on the land use and on the environment related public services including waste management, water supply and sanitation, and transportation. Moreover, the age of the cities in the region is comparatively younger than the cities in Europe, where modern urban planning techniques were initially developed. Hence the planning techniques may need some modification to suit the needs of Asian cities.

(b) Regulatory capacity

Environmental standards provide the foundations to lay down a regulatory framework. In most the developing countries, the standards are set at the national level and only sometimes the cities may have different or stringent standards. These standards are usually borrowed either from a

developed country or from an international body. Due to variations in geo-climatic conditions, a technical review of the imported standards is essential to set the foundations for a suitable regulatory framework.

To avoid social unrest and economic backlash, economic and social appraisal is also very important before implementing these regulations. Therefore, to formulate a good regulatory framework, scientific, legal, economic, and social capacity is essential.

(c) Institutional capacity

The essential institutions are vital to build the institutional capacity. The proper placement of these institutions within the government structure and allocation of proper resources, a clear jurisdiction and implementation authority is necessary. In some cities, some sectors like industries are beyond the jurisdiction of the local governments. In other cities there may be a problem of different level of authority in different departments. Hence a clear cohesion of the environmental related issues across the relevant departments should be clearly chalked out to optimise institutional capacity.

(d) Social capacity

Effective participation of civil society and the private sector is vital for urban environmental management. Most of the development scientists agree that the social capacity is a backbone of successful projects and programs⁶⁾. The decisions, which are meant to affect a group of stakeholders, should be taken with a consensus from all of these stakeholders. Public participation is required to be induced through proper institutional arrangements. The capacity of local governments, to involve all the stakeholders in the decision-making and implementation, is the essential condition for UEM.

(e) Financial capacity

This covers a wide range of financial sources including the funding from national and international agencies, economic instruments to

generate local revenue, and public-private partnerships for urban environmental services to bridge the financing gaps as well as to improve the efficiency of the services. The financial decentralization may help cities to reduce the dependency on the national funding, which fluctuates and does not fulfill the local requirements in most of the countries.

The local environmental funding could be generated from direct taxes. If the direct taxes, based on polluter pay principle, are well designed and implanted, these may help to achieve efficiency and equity, and may influence the consumer behaviour to conserve the resources. These taxes may also help to reduce the burden of subsidies to run the environmental services.

There is a debate on user charges to cover all the costs instead of cross-subsidies from the taxes. For pollution charges, Tietenberg⁷⁾ suggests that the tax may be regressive as higher prices hit poor people proportionately more, who spend all their money, then the rich people, who can save some of their money. However, Kolstad⁸⁾ suggests that without a price system, polluters (consumers) do not "see" the damage caused by the pollution they emit and if polluter pays a price for every unit of pollution, this corrects market failure, at least in theory.

The government or international funding may fall short of the required finances to support various environmental services including urban water, solid waste management, or pollution control measures. Furthermore, the efficiency of government investments in government-managed services is not high in most of the developing countries⁹⁾. Hence public private partnerships may provide a better alternative to bridge the financial gap as well as to improve the efficiency. Moreover, consumers need to understand that environmental good is a social as well as an economic good, and that should be priced accordingly¹⁰⁾.

(f) Technical capacity

This covers the technology for monitoring the emissions and ambient levels, the technology to repair and maintain automobiles and industrial equipment properly, and the technology for environmental friendly automobiles and the industries. In most of the developing countries, there are insufficient monitoring stations to keep track of emissions and ambient levels⁴⁾.

The technology for the repair and maintenance of vehicles and industries is not modern and high-tech. Hence, the industries and vehicles cannot be put back into operations with the required level of emissions. This capacity for repair and maintenance also influence the type of vehicles and industrial equipment, as the new and environmental friendly cars and industries could not be imported as long as the repair and maintenance facilities for that level of technology are not available in these urban centres.

(3) Three-dimensional relationship

The term of optimum capacity for UEM may be misleading and requires a careful handling. The cities across this region vary in natural, political, and socioeconomic conditions. Furthermore, within the same cities, the environmental problems has a temporal variation due to changes in industrial output, mode of transport, type of solid waste, coverage of water and wastewater services and so on. Therefore, the policy responses or the means should also vary in accordance with these changes. The generalization of optimum capacity for all the cities during the same time periods and over the different time periods for the same city could lead to ineffective management.

3. CAPACITY BUILDING PROCESS

First of all it is important to identify the focus group for the capacity building. Within the cities,

local governments or municipalities are responsible to provide the environmental services including water supply, sewerage, and solid waste management¹¹⁾. Moreover, Local governments are directly accountable to the people^{12), 13)}. Thus, they are in a better position to manage the local issues including environmental issues. Hence for urban environmental management, the local government should be the focus point and all the support policies and actions from the national governments are required to strengthening their role. Furthermore, the capacity building of private sector and civil society is essential to implement successful environmental management.

(1) Driving forces for capacity building

The local capacity building process should involve all the stakeholders, which can be broadly categorized as government sector, private sector, and the community. We can identify the various driving forces for the capacity building²⁾ (Fig 3).

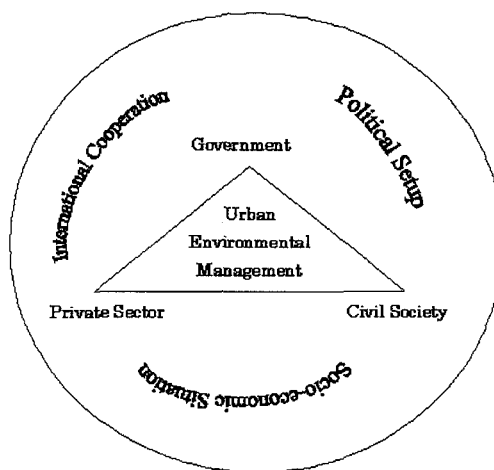


Fig.3 Driving forces for capacity building

Firstly, as the socio-economic situation changes over time, the capacity of all the stakeholders also improves. Secondly, the political setup of a country plays an leading role, as countries, at similar

economic growth level, may have different level of capacity depending on their political set up over the years. Thirdly, the international cooperation can also make a difference, as countries with active international cooperation may achieve higher level of environmental management capacity in comparison with the countries, which are not seeking an active international cooperation.

(a) Economic growth

The different stages of economic growth lead to different types of environmental problems. The cities with lower per capita GDP faces worst poverty-related environmental problems including access to clean water and sanitation. The higher economic growth, as a result of industrial activities, leads to industrial pollution (water, air, and solid waste) at the initial stage, and then there will be consumption related environmental challenges including pollution from increased number of vehicles and energy use, municipal solid waste generation, and so on. Therefore the capacity building goals may also follow this path in different countries or cities.

(b) Political stability

Strong political setup provides stability, as we have seen that due to strong political system coupled with a clear commitment in China, the economic situation is improving rapidly and environmental situation is also picking up the pace. Recently, most of the political parties in many countries are putting environmental agenda on the priority issues.

(c) International cooperation

During the earlier years of overseas development aid (ODA), technical cooperation (TC) was mainly tied up with procurement of equipment and hire of consultants and contractors from the donor countries¹⁴⁾. Furthermore, this aid was not based on demand responsive approach DRA¹⁰⁾, rather it was a reflection of the perceptions of the donors that "what is good for the recipient country."

Outcome and impact of this international cooperation was not in accordance with the local expectations. Hence environmental management could not be improved accordingly.

In many cases, the international cooperation was mainly focused to provide consultancy for the environmental assessment, and to provide the monitoring equipment. Due to rapid urbanization coupled with industrialization, these environmental assessment reports were become obsolete before any concrete decision-making was done on their basis. Furthermore, the monitoring equipment did not perform the way it is performing in the developed countries, mainly due to black box syndrome. It was not the technology transfer in the real terms, and there were not enough institutional and human resources available in the recipient country.

Based on these experiences, the international cooperation is changing its directions. Now most of international cooperation is based on DRA, where the recipients are the partners and they submit their demands, provide their share of resources, and become responsible for the management.

Now major focus is on the "capacity-building" for environmental management¹⁵⁾. The capacity building is an objective as well as an approach for achieving a defined objective, for example capacity building to improve urban environmental management. The common agenda between the DRA and capacity building is to support local initiatives and to strengthen local management capacity.

(2) Capacity building process

As discussed above, the main focus of the capacity building should be the cities. Therefore, the networking of the cities among themselves and with the outside national and international agencies including expertise can be the starting point for capacity building process.

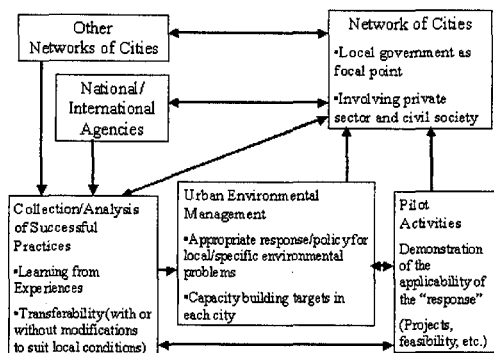


Fig.4 Local capacity building process

The research, to analyze the successful or unsuccessful practices, helps to learn from the experiences. The research may also focus on how these successful practices could be transferred to other cities, facing similar challenges. The variation in local conditions is the crucial factor in this regard. Therefore, indigenous researchers should collaborate with international researchers to identify the transferability of the policy responses. These practices could be collected from developed and developing countries alike; however, care should be taken while learning the lessons or while making recommendations on the transferability.

Based on the local demand and the research outcome, some solutions could be tested as pilot activities to show their applicability in the local conditions. This may also help to build the confidence of the local stakeholders, who can decide and implement the same activities at city-wide level.

The outcome of the analysis and the lessons from implementation of pilot activities may lead to draw up concrete policy recommendations on the type of "responses" and on the capacity building targets for various cities in the region.

This capacity building process is shown in Fig 4. It is also evident that research plays a highly supporting role in this process. To bridge the research and policy, the research should fulfil the needs of the policy makers.

4. KITKYUSHU INITIATIVE

"Kitakyushu Initiative for a Clean Environment" is a good example of the international cooperation for local capacity building process. The objective of this initiative is to bring tangible environmental improvements through local capacity building.

This initiative was launched during the Ministerial Conference on Environment and Development (MCED) in year 2000 for Asia and the Pacific region, which was held in Kitakyushu City (Japan). United Nations' Economic and Social Commission for Asia and the Pacific (UN/ESCAP) is the sponsor of this initiative, and there is active support from Government of Japan and Kitakyushu City. Institute for Global Environmental Strategies (IGES) is hosting this initiative and provides administrative, technical, and some financial support. The detailed information is available at the website (<http://www.iges.or.jp/kitakyushu>).

(1) Major components of the initiative

(a) Demand for capacity building

The local networking activities, including thematic seminars and network meetings, revealed that the local governments' priorities are as under:

Municipal solid waste management:

- Final disposal methods including sanitary landfill and incineration
- Community based initiatives for recycling, composting, and primary collection/cleaning

Urban water and wastewater management:

- Pricing the services for cost recovery
- Public-private partnerships for improved efficiency and coverage

Urban air quality management:

- Regulations and institutions at local level
- Public awareness and political will for implementation of regulations
- Agreements between neighbouring cities

(b) Successful practices

The analyzed successful practices are as under:

Municipal solid waste management:

- Dhaka (Bangladesh): Innovation in community-driven composting
- Surabaya (Indonesia): Integrated sustainable approach to waste management
- Nonthaburi (Thailand): Community focused initiatives for solid waste management

Urban water and wastewater management:

- Cordoba (Argentina): public private partnership PPP in urban water (concession contracts)
- Manila (Philippines): PPP in water supply, wastewater management
- Macao (China): PPP in water supply, wastewater management
- Johor Bahru (Malaysia): PPP in bulk water
- Weihai (China): Wastewater management
- Rongcheng (China): Water management models
- Shenzhen (China): Construction and operation of environmental infrastructure
- Kimhae (Korea): Water quality improvement
- Cartagena (Colombia): PPP in urban water (joint venture)

Urban air quality management

- Kathmandu (Nepal): Role of Government, private sector and civic society in promoting battery operated electric three-wheelers
- Singapore: De-coupling of urban mobility need from environmental degradation
- Singapore: Successful experiences in containing environmental problems from transportation
- Chongqing (China): SO₂ pollution control
- Guiyang (China): Strategies for air pollution control
- Kitakyushu (Japan): Coexistence of industry and community
- Lanzhou (China): Special program on air

pollution

- Pohang (Korea): Air quality improvement

(c) Pilot activities

Pilot activities translate local initiatives into concrete measures for a tangible output. These activities are different from the traditional donor activities, which were mainly abandoned once the aid was dried out. In these activities, UN/ESCAP provides a very small aid to make a start, based on local government's clear and feasible activity involving all the stakeholders. IGES provides technical assistance for identification of a viable activity as well as for formulation of the proposal. IGES also continuously support the implementation of the activity and documenting its success to share these experiences with the other cities.

Following pilot activities are the various planning and implementation stages:

- Cebu (Philippines): To improve the overall urban environment with particular focus on river water quality and solid waste management
- Dhaka (Bangladesh): Solid waste management
- Ho Chi Minh (Vietnam): Industrial management for environmental pollution control
- Korat (Thailand): Construction of small-scale treatment facilities for domestic wastewater
- Nonthaburi (Thailand): Promotion of recycling and reduction of waste
- Puerto Princesa (Philippines): Vehicular reduction strategy for air pollution prevention and climate change mitigation (implemented by ICLEI)
- Surabaya (Indonesia): Air quality
- Ulaanbaatar (Mongolia): Air pollution countermeasures through the introduction of bio-briquettes
- Weihai (China): Feasibility study on the construction and management of centralized industrial wastewater treatment plant using PPP

(2) Example of successful practice analysis:

Kitakyushu city was one of the most polluted cities in Japan due to industrial activity. Their successful experiences provide a good learning grounds for many cities in the developing countries, as these cities are experiencing same environmental problems. Here we only present the analysis of Kitakyushu City's successful practice for overcoming SO_x pollution. The other experiences, like water pollution control, were also based on the similar policy interventions. The summary of the measures taken to control SO_x is as follows:

(a) Planning for the future

The consideration for the future development was given high priority in the planning process by the local government. This includes planning based on future anticipated industrial facilities, scientific analysis of the relationship between source and pollution distribution, support from wind tunnel test/computer simulations, and prediction models

(b) Strengthening of local regulations

In addition to the national government's anti-pollution law, the city government also laid down strict standards, regulations, and inspection systems. Market based instruments (MBIs) were also introduced, which include health compensation law of 1974, where industries have to compensate the patients, who get sick due to SO_x pollution.

(c) Enhancing institutional capacity

The city government has enhanced its institutional capacity to effectively manage the environmental challenges (Table 1). The authority of decision making for regulations and standards, and smog warning was shifted from Fukuoka Prefecture to City of Kitakyushu in 1970.

After this, Kitakyushu Air Pollution Prevention Joint Council was established consisting representatives from national government, Fukuoka Prefecture and key polluting enterprises. This council played a key role in implementing a wide

range of countermeasures. Decentralization of the responsibilities within Kitakyushu City was also a key institutional measure.

Table 1 Institutional capacity enhancement

Year	Status	Office Staff	Research Staff
1963	Subsection	4	-
1965	Section	8	9
1870	Division	22	17
1971	Bureau	25	21
1977	Bureau	75	45

(d) Public awareness

The women groups started campaigns to mobilize public support for forcing industries to adapt pollution control measures. This public awareness provided ground for communist parties to challenge the Mayor of the city. The Mayor and the Industries adapted various "voluntary" measures, as if a communist Mayor may be elected, then that would create more stringent measures for the pollution control. Those agreements helped Kitakyushu City to bring back its blue skies

(e) Financial mechanisms

The financial mechanism consisted of two parts: (1) public capital financing system and (2) tax incentives.

Table 2 shows the level of local governmental financing for the air pollution countermeasures of small and medium scale companies.

Table 2 Local government subsidies for SMEs

1968-95	Number of Cases	Million US\$
Air pollution	57	4.8
Odor	19	1.0
Noise	161	15.0
Water pollution	45	3.0
Others	11	0.6

The core of the control measures was the technological enhancement and the fuel switching. To support these measures, the capital was required

by the industries, which opted for the “volunteer agreements,” for controlling the emissions. The public finance was provided to them on the low interest rate. The pay back period depended on the type of companies from 7 years to 20 years.

Tax system benefits included tax exemptions and reductions on fixed assets related to pollution control facilities and equipment, and the extension of applied terms for repayment.

(f) Technological improvements

The city government encouraged the enterprises to shift from coal based energy system to liquid fuel and then gradually to natural gas. The sulfur content per unit of energy consumption was decreased drastically. The process involved first to fuel switching from coal to crude oil (sulfur 1%) in 1960s. This was followed by switching to low sulfur content crude oil (0.15%) and light oil, then LPG, LDG and finally to LNG.

Moreover, enterprises were motivated to introduce cleaner technology, as efficient manufacturing process can produce large amount of energy savings in the manufacturing establishments. Following technology improvements were carried out:

- Process conversion to efficient processes such as in cement kilns
- Raw material switching, such as ferric sulfide to sulfur in sulfuric acid manufacturing plants
- Phasing out of small and mid-size boilers and introducing large scale boilers
- Introduction of better equipment
- Recycling of waste energy
- Increased height of the chimney stacks
- End of pipe technology, in particular, FGD (Fluidizes gas desulfurization) installations

(g) Outcome of the environmental measures

These measures helped to reduce SO_x emissions from 27575 tons in 1970 to 607 tons in 1990 despite of high economic growth and improvements in the living standards during the same time period.

(h) Lessons for other cities

There are many general lessons, which can be replicated in many cities those are facing the similar environmental challenges. The planning of industrial locations and transport infrastructure is the first condition to take care of future growth. The regulatory framework is essential with mixture of command and control, and market based measures. The institutional capacity enhancement by increasing the number, status, and jurisdiction of the environmental institutions is also vital. Building social capacity by encouraging stakeholders to participate is an important factor. Financial mechanisms through taxes and subsidies may help the polluters to improve the situation without loosing much of their businesses. Technology innovation is the base for all the environmental improvement. This also includes cleaner technology or efficient way of production.

Many network cities are already improving their environmental situation by introducing most of these measures. The most evident example is of Bangkok, which has improved urban air quality by introducing various measures.

(3) Example of a pilot activity

Nonthaburi, a residential city next to Bangkok, is conducting a pilot activity. The city wanted to improve the solid waste management by increasing the rate of recycling by 30% and reducing the solid waste by 20%. This is to be achieved through segregating the waste at the source (by households), and by effective management. This would help to reduce the pressure on final disposal methods, including incineration and sanitary landfill, as well as to earn income by selling the recycling materials. The summary of the pilot activity as under:

(a) Institution/management by local government

There is a strong political will to take hard decisions, and provide dedicated staff with

incentives for solid waste management including recyclable waste.

(b) Regulations & policy

A direct tax on collection of solid waste, minimum 20 Bhat/month, has been introduced by the city government.

(c) Public awareness

Media campaign and corner meetings are being held to improve communities' awareness for separating recyclable materials in separate bags and disposing off at proper days.

(d) Community participation

At the starting, the local government is collecting and selling the recycling materials. Now, communities are being motivated to manage the collection and sell of recycling waste and composting waste on their own.

(e) Incentive policy

The recycling materials are being sold and the earnings being divided between the communities and the staff from local government, who is responsible for collection, sorting, and selling of recycling materials.

(f) Outcome

In less than a year, there is a substantial improvement in the rate of recycling materials as shown in Table 3.

Table 3 Improvements in rate of recycle materials

Month	Solid waste (kg/d)	Solid waste per capita	Recyclable materials (kg/d)	Recycling rate (%)
Nov 01	1222	0.95	6507	5.3
Dec 01	1211	0.94	60.2	5.0
Jan 02	968	0.75	90.3	9.4
Feb 02	949	0.74	98.6	10.9
Mar 02	1166	0.91	99.7	8.7
Apr 02	1047	0.82	125.2	12.6
May 02	1093	0.84	168.7	16.9
Jun 02	831	0.65	174.2	22.1

On the other hand, the communities have learned to improve their environment and work together. This is evident from their neighbourhood, which has become cleaner and brighter during this campaign.

5. POLICY RECOMMENDATIONS

This paper highlights two important policy recommendations. First of all, the urban environmental challenges are getting severe in Asia and the Pacific region. This highlights the importance of capacity for urban environmental management. The effective capacity is the most crucial aspect to reverse the environmental degradation.

Therefore, the importance of local capacity building should be high on the agenda for national and international agencies. Focal point for the capacity building should be the local governments, which are directly accountable to the local people. Stakeholder participation from the community, private sector, NGOs, academia, local government, national government, and international agencies is essentially required to build this capacity on the sustainable basis. The capacity building process may be focused on regulatory, institutional, financial, technical, and social capacity.

The regulations or environmental standards, which are usually adapted from other countries or agencies, should be in accordance with the local conditions requiring scientific, economic, and social evaluation prior to implement the same standards. Institutions with proper and clear role and jurisdiction should be set up and the sufficient human resources should be employed. These institutions should encourage public participation in decision-making and implementation. Financial capacity should be self-sustained through progressive environmental tariff or taxes as well as by re-allocation of subsidies.

Public-private partnerships should be encouraged, where either government finances are in short-supply or efficiency of government-managed services is low. Finally, appropriate technology, to meet the local needs on long-term basis, should be

promoted. This covers technology for monitoring the pollution, technology for repair and maintenance of the vehicles and industries and to bring them up to the required level of performance, and environmental friendly production technology and vehicles.

Secondly, the socio-economic conditions or the level of economic growth, political set up, and international cooperation are the driving forces for capacity building process. All of these factors are also closely integrated with each other. However, International cooperation is the most important factor, which can build the local capacity by providing required international support to the local initiatives. Traditionally, international agencies used to provide expertise to assess the environmental situation and they also used to provide equipment for monitoring. However, lack of the capacity of the local actors, to take and implement the prompt and appropriate decisions, resulted into low efficacy and efficiency of those environmental assessment reports.

Hence the problems were getting complex over time. The monitoring equipment also had black box syndrome, so due to lack of proper know-how for repair and maintenance and due to un-availability of the spare parts, most of the equipment went out of order.

The new directions of international cooperation are focused on building the local capacity for environmental management. Furthermore, to promote local initiatives instead of replicating the foreign recipes, North-south as well as South-South learning is essential for planning and promoting the local initiatives. International cooperation for urban environmental management is helping local governments to build their capacities by involving all the stakeholders in the areas of regulatory framework, institutions, financial mechanisms, appropriate technology, and social capacity.

Kitakyushu Initiative, one of the examples in this regard, is supporting the local initiatives to build the local capacity for achieving tangible environmental improvements.

Therefore, the international cooperation should further strengthen these initiatives through integration of the efforts and the outcomes

6. CONCLUSION

Local capacity building is the most important aspect to improve urban environmental management. The capacity for assessing the pollution and ambient levels, the pollution sources, and its impact can be termed as assessment capacity. The capacity to overcome the challenges can be termed as response capacity, which may include urban planning or infrastructure, regulations, institutions, financial mechanisms, technology, and social capacity.

Capacity building may be primarily targeted to build the capacity of local governments, by creating enabling environment through integrating local governments with all the stakeholders viz.: civil society, private sector, and national governments. The capacity building process is primarily influenced by socio-economic level, political setup of the city as well as country, and the international cooperation. All of these three factors are also inter-dependent; however, international cooperation can become more effective if it supports the local initiatives. In this regard, the example of Kitakyushu Initiative suggests that local initiatives can work well if these are based on "scan globally and reinvent locally."¹⁶⁾

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国際協力による都市環境管理の為の地方政府の能力向上

ー北九州イニシアティブ

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本論文は、都市環境問題、特に上下水、固体廃棄物、大気分野を対処するための地方政府の能力向上のプロセスについて、検討を行った。地方政府の能力は、アセスメント能力と対策実施能力として分類できる。アセスメント能力は、モニタリング能力を含むと同時に、汚染が齎す社会経済への影響も含まれる。対策実施能力は、計画、規制、行政、社会、資金、技術における諸側面の能力を意味する。そして、地方政府の能力向上のプロセスの中で国際協力の役割を論じた。北九州イニシアティブは、国際環境協力が如何に地方政府の能力向上プロセスに寄与するかが示され、一例として挙げた。