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PORTFOLIO OF SUCCESSFUL PRACTICES IN URBAN ENVIRONMENTAL MANAGEMENT

(Item 4(c) of the provisional agenda)

Note by the secretariat

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I. Introduction

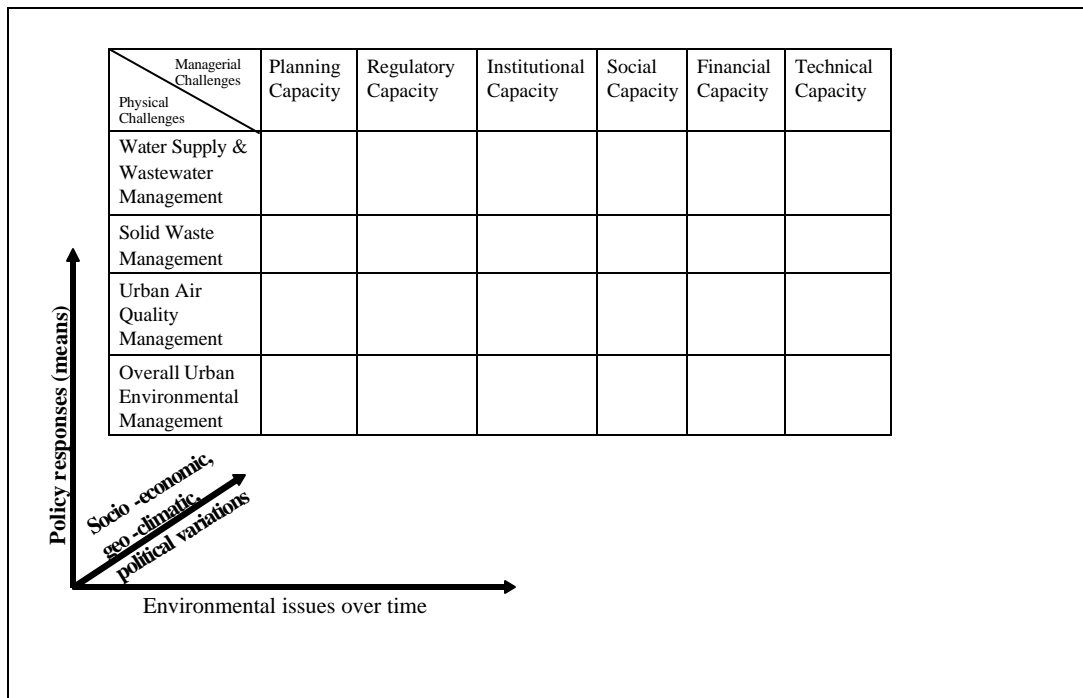
1. Kitakyushu Network for a Clean Environment, a UN/ESCAP initiative, has four interrelated means to achieve tangible improvements in urban environment. These are networking within member cities and with outside agencies, compilation and analysis of successful practices to identify the elements that can be transferred to other cities, implementation of pilot activities to demonstrate the applicability of new ideas for managing urban environment and organization of thematic seminars and training for capacity building. This report discusses the portfolio of successful practices that have been prepared under Kitakyushu Initiative Network. The document has been divided into four parts. After a brief introduction, the next part describes the methodology for the development of the portfolio. The third part describes the scope of successful practices collected in the portfolio including their scope and lessons learnt from them. The fourth part analyzes the potential for replication, while the final part outlines issues for the consideration of this Meeting.

2. The existing portfolio of successful practices covers most major challenges for urban environmental management. The physical environmental challenges cover water and wastewater, air quality, solid waste, and overall urban environment. The managerial challenges cover urban planning and infrastructure development capacity, regulatory and institutional capacity, financial capacity, appropriate technology, and social capacity including stakeholder participation. Many of the successful practices, however, overlap and cover more than one challenge.

II. Methodology for selection, compilation of portfolio and analysis of successful practices

3. To optimize the selection, compilation and analysis of successful practices a clear methodology was adopted. Criteria for the selection of successful practices included effectiveness, innovation, efficiency, relevance and sustainability. Moreover, the possibility for sharing the information and experiences, as well as transfer of technology to other cities was also kept in mind while compiling the portfolio. It was also considered important that the successful practices selected should clearly demonstrate the accomplishments quantitatively and should have a clear and identifiable set of policies on one or more elements of success, i.e. target setting, decision-making processes, regulatory instruments, economic instruments, voluntary approaches, institutional structures, financial mechanisms, appropriate technology, public awareness, stakeholder participation, monitoring and evaluation systems, and so on (see fig. 1).

Figure 1 Coverage and applications of successful practices

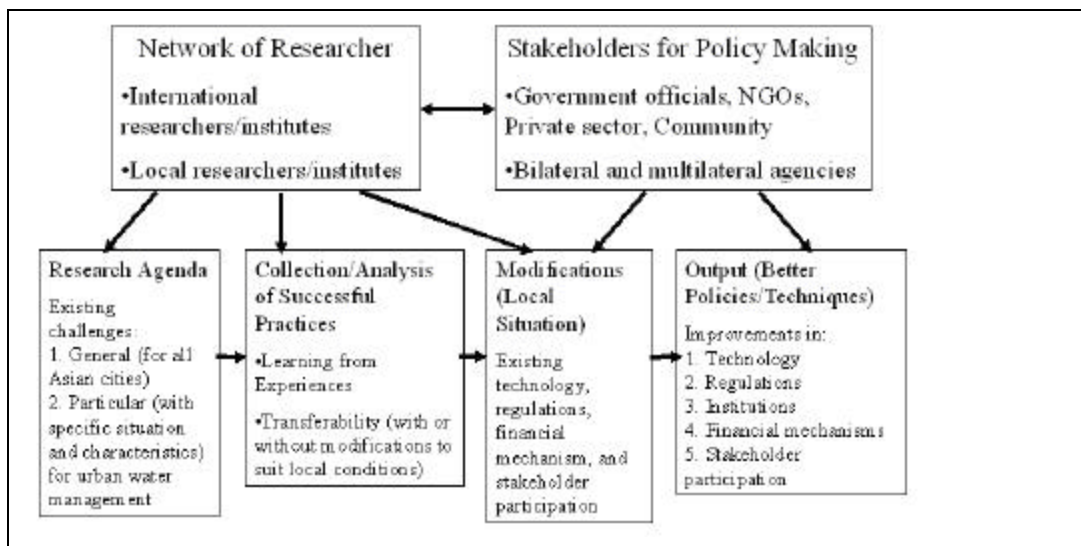


4. The compilation of portfolio was carried out using various sources. The cities were encouraged to document the successful practices with the help of local researchers from local academia and NGOs, and researchers from Institute for Global Environmental Strategies (IGES). To avoid the redundancy of efforts and to optimize the impact of already compiled successful practices by the other networks and sources, some of the appropriate successful practices were collected from secondary sources. The portfolio has been compiled in digital form and is available at the website of Kitakyushu Initiative (http://host-3.iges.or.jp/kitakyushu/practices_outline.htm). The printouts are also dispatched to the member cities and other interested groups on their request. These are classified in two systems. One relate to their specific physical environmental target viz.: air, water, solid waste, and overall urban environment. The other relates to their classification by country and up until now, these cover 16 UN/ESCAP member countries and 2 non-member countries.

5. The analysis of successful practices was undertaken in cooperation with the policy makers, academia, and other stakeholders. Different approaches were followed to analyze these practices. Most of these were discussed during the thematic seminars, which were attended by the cities, academia, private sector, and international agencies. They were also analyzed with individual cities by promoting in-depth discussions with all the stakeholders. The third way of analysis adopted was to collect the analytical information from the

secondary sources and compile it in a systematic way. The analysis of each successful practice has been documented in a uniformed manner, so it can be easily understood by the readers. Figure 2 elaborates the process:

Figure 2 Process for compilation and analysis of successful practices



III. Scope of best practices collected for the portfolio

6. This part is divided into three sections. The first section briefly highlights the scope of successful practices in terms of their geographical (city, country) and technical/sectoral coverage (air, water and wastewater, solid waste, and overall urban environment) while the second section discusses the important outcomes or lessons learnt from these successful practices.

A. Technical and geographical coverage

7. Sector-wide scope and coverage of successful practices have been summarized in Table 1 to 4. For urban air quality, a wide range of geographical areas have been covered. Bangkok's case is a good example of integrating various air quality challenges, including leaded gasoline, public transport, regulations, monitoring, public awareness, and involvement of various stakeholders to plan and implement various actions. Kitakyushu and Chongqing show different approaches to address same challenge for SO₂ pollution management. Case studies of Kathmandu, a developing city, and Singapore, a developed city, focus on improvements in transportation system to address urban air quality. UK study focused on the role of local governments to formulate action plans to address local air

quality issues. In urban water and wastewater areas, most of the successful practices demonstrate various forms of public-private partnerships to improve the efficiency of the services as well as to arrange investments to broaden the coverage of the services. Case studies from China are focused on the urban planning and infrastructure development. The prediction of future demand for urban water and wastewater services and the relevant investment decisions are also the focal areas in the later studies.

8. In solid waste management, the focus is on the community based initiatives and their integration within broader framework to achieve the holistic solution. Nonthaburi study is focused on promotion of recycling through segregation at source with the help of political will and public awareness. Dhaka study is focused on integrating composting activity with national fertilizer production and marketing. In practices addressing overall urban environmental management, the focus is on the cleaning and restoration of polluted waters, relocation of polluter industry, and integrated approaches to create win-win situation for environment and economy. Two case studies from China focus on institutional structure and information disclosure.

Table 1 Successful practices in urban air quality management

City/Country	Area covered
Bangkok (Thailand)	Integrated urban air quality management
Kathmandu (Nepal)	Role of Government, private sector and civic society in promoting battery operated electric three-wheelers in Kathmandu, Nepal
Kitakyushu (Japan)	Coexistence of industry and community
Singapore	De-coupling of urban mobility need from environmental degradation in Singapore
Singapore	Successful experiences in containing environmental problems from transportation
Chongqing (China)	SO ₂ pollution control
Guiyang (China)	Strategies for air pollution control
Lanzhou (China)	Special program on air pollution
United Kingdom	Local air quality management

Table 2 Successful practices in urban water and wastewater management

City/Country	Area covered
Cartagena (Colombia)	Public-Private Partnerships in Water and Sanitation
Cordoba (Argentina)	Public-Private Partnerships in Urban Water (Concession Contracts)
Johor Bahru (Malaysia)	Public-Private Partnerships in Bulk Water Supply
Manila (Philippines)	Public-Private Partnerships in Water Supply and Wastewater Treatment
Macao (China)	Public-Private Partnerships in Water Supply and Wastewater Treatment
Weihai (China)	Wastewater management
Rongcheng (China)	Water management models
Shenzhen (China)	Construction and operation of environmental infrastructure

Table 3 Successful practices in solid waste management

City/Country	Area covered
Nonthaburi (Thailand)	Community Awareness in Recycling and Solid Waste Management
Dhaka (Bangladesh)	Innovation in community-driven composting
Surabaya (Indonesia)	Integrated sustainable approach to waste management

Table 4 Successful practices in overall urban environmental management

City/Country	Area covered
Jeju	Restoration of severely polluted and damaged streams
Daegu	Tearing-Down-Walls Campaign
Dalian (China)	Removal and modification of polluting industries
Ho Chi Minh (Vietnam)	Promotion of cleaner production
Jiangyin (China)	Structural adjustment in urban environmental management
Ningbo (China)	Integrated urban environmental policies
Surabaya (Indonesia)	Comprehensive Kampung Improvement (Model for community participation)
Taiyuan (China)	Cleaner production
Yantai (China)	National Model City for Environmental Protection
Zhang Jiagan (China)	Integrating environment and economy (Three First System)
Zhenjiang (China)	Environmental information disclosure system

B. Important lessons /outcomes

9. The analysis of the successful practices assembled so far, has some interesting outcomes and lessons for the policy makers. These are divided under two categories. The first category highlights the outcomes and lessons by individual sectors, viz.: air, water, solid waste, and overall urban environment. The second category addresses policies on the urban environmental management.

1. Sector related cases

10. In the wake of ever increasing economic activities, growing mobility, and rising living standards the consumption of fossil fuels has multiplied resulting into deterioration of urban air quality. In most of the cities in Asia, the health damages due to air pollution are becoming severe. The exact types of pollution vary across the cities, mainly depending on their socio-economic growth rates and response measures. Leaded gasoline phase out is still a major challenge in many Asian cities although political will and sustained economic growth has led to phasing out leaded gasoline from the cities of countries like Thailand and Vietnam. SO_x pollution is also increasing with industrialization and public transport using diesel. The experiences of Kitakyushu City, which was facing similar situation in 1960s, and the experiences of Chongqing could help the cities in the region to formulate policies on SO_x control.

11. Urban water and wastewater has remained a major challenge in most developing cities of the region. The coverage rates are still quite low despite the pledges made during international decade for water and sanitation in 1980s, and the pledges under Millennium Development Goals for the year 2015. Most of the wastewater is being discharged without proper treatment. Control of water related health damages and pollution of fresh water sources due to discharge of wastewater is therefore a critical problem. Lack of private investment in water supply and sanitation compounds the situation. The low efficiency, in terms of cost per unit of production and the losses due to un-accounted for water (theft and system losses), have increased the burden on the public exchequer. Water supply and sanitation services are very much under-priced and fail to generate sufficient finances to cover even part of operation and maintenance services. The case studies in the portfolio show that some cities are overcoming these problems by inviting private sector participation and by prioritizing urban water supply in future issues for infrastructure planning.

12. Solid waste management also poses an extremely serious challenge for local governments particularly because the users (households, commercial sector including vegetable and meat markets, and industries and hospitals) do not dispose off their solid waste properly and safely. The segregation at source is very rare and incineration of hazardous waste is also uncommon in most cities of the region. The financially strapped local governments also have difficulty in providing resources to provide these services resulting in lack of or improper collection and final disposal of solid waste and causing serious environmental and health problems. With in this area, the portfolio contains practices that achieved success through community related actions and as such relieved the pressure on local government resources.

13. There are other environmental challenges for the cities, which are multisectoral covering more than one sector. The restoration of the water sheds and brownfields redevelopment are some examples, which are in contrast with the pollution cases, where polluters can be identified and regulated. Here, the damage has already occurred and the restoration costs are to be met from public exchequer. Nevertheless, if those environmental improvements could be linked with the economic development, then it would be worth the investment in these endeavours. One can see from some collected successful case studies in the portfolio that integration of socio-economic policies with environmental goals will also boost sustainable development. This integration can be more effective if all the stakeholders are also involved in decision-making and implementation process.

2. Policy related cases

14. The case studies show that political will and public awareness are the most crucial elements in the development and implementation of policies related to urban environmental management. Hard decisions are unavoidable to improve the situation. Those decisions could involve implementing command and control (regulatory) measures or market based instruments (in terms of pricing the environmental goods and services). Regulations on the pollution sources may create some temporary hardships but these are compensated by future health related and socioeconomic benefits. Additionally, pricing helps generate resources for protecting the environment and providing environmental services. It also contributes to changing the attitudes towards valuing the environmental resources. Experiences show that if public goods are provided freely, these are exploited beyond their regeneration capacity.

15. Public awareness, as one can gauge from the successful practices, help reduce the impact of socio-economic backlash for hard political decisions. Furthermore public awareness helps in improving the understanding of all stakeholders in sharing the responsibilities and becoming part of the process. It is also evident that public awareness campaigns work well if these are initiated or actively backed by the government. Likewise, stakeholders active involvement builds the trust among government, private sector, and the community, which leads to build stronger partnerships for urban environmental management.

16. The case studies in portfolio also show that communities can put enormous pressure on the local government to prioritize the environmental issues. If the environmental issues can be put on the election agenda, then the commitments are even stronger. In this regard, the role of women is very important, who could not only campaign for environmental agenda but may also successfully manage to mobilize support for it. Women also play a major role in helping to manage various environmental services, such as solid waste management (particularly recycling through segregation at source), wastewater management so that hazardous chemicals and oils may not be mixed with drainage water, and adoption of household energy conservation techniques.

17. Case studies on zoning and infrastructure development policies also provide very important elements in overcoming current and future urban environmental challenges. Proper zoning for various urban activities and living is important to optimize the infrastructure development. Lesser distances to work reduce the demand for transportation, and concentration of polluted industry in one place helps tackle pollution control better through common industrial wastewater treatment plants. Titling is essential to lay down various environmental services including water and wastewater pipes, mass transit systems, solid waste disposal/collection centers, and so on.

18. Infrastructure development is hindered by the lack of investment. Enhancement of public-private partnership is becoming a well-established process to overcome this. Private sector is investing in public transport including in sky trains and underground trains, in water and wastewater services, and to some extent in solid waste management services. To accelerate the pace of public-private partnerships, various decisions need to be taken and implemented. The most important step to be taken in promoting this partnership is to have an impartial regulatory body in place prior to the start of the process. Successful practices in this arena therefore are not only helpful in promoting such partnerships but also on planning in advance and to have a better foresight for future development patterns.

19. Regulations and institutions constitute the essential elements in providing solutions to urban environmental problems. Regulations may be replicated, however, these should be suitable for local socioeconomic and geo-climatic conditions. A mix of command and control and economic instruments, helps better than applying pure command and control regulations or purely depending on economic instruments. In this connection, the regulatory capacity of the institutions also needs to be enhanced and streamlined to reduce the redundancy of jurisdictions and to avoid conflicts. Proper institutional structures are necessary for the implementation of regulations. Institutional mechanisms also need improvements in order to bring all the stakeholders on board in the decision-making and implementation process. Information dissemination on the physical environment as well as on the new regulations is also extremely important to promote stakeholders participation.

20. Appropriate technology is another aspect covered by successful practices portfolio. In past, borrowing of high-tech from developed countries for environmental management did not work well. Moreover, in most of the existing slums in the cities, there is a lack of public services, which are vital to introduce modern technical equipments. Therefore, it is important to recognize that some old but reliable methods can still work well particularly in areas where there is no electricity or affordability is low. Further, new technology if introduced, may also require local capacity enhancement to operate and maintain that equipment. For example, if more environmental friendly cars are introduced then the existing capacity of workshops in the city, there would be a parallel need to enhance their capacity to meet the required level of performance by cars.

IV. Prospects and constraints in replication of successful practices

21. In terms of successful practices, there is no universal recipe, which can work, well for all the cities at one time or for one city at all the times. Hence it is imperative to conduct a proper analysis of successful practices with respect to local characteristics. This could be done well if the local and international researcher can work closely with each other. The process is shown in figure 2.

22. From the portfolio of compiled successful practices, there are quite a few good practices, which may be transferred without too much modification. For example in urban air quality management, phasing out of leaded gasoline would be easy to target as it has been established that it does not have any major socio-economic or technical implications. Public awareness is another way to involve stakeholders. Voluntary agreements can also be initiated with industries which can be converted into mandatory agreements after a few years. This could give industries breathing space to change their technology. Moreover, it

could also set the course towards reduction in the pollution levels. Integrated approach, involving various polluters and actors, is the best way to accelerate the pace of improving urban air quality. The planning and implementation of any policy option should also involve all the stakeholders. New technical innovations can also work well even in developing countries, if these can fit well into the economic systems. Natural gas fueled cars in Pakistan or electric battery operated cars in Nepal provide good examples.

23. Water and wastewater services have many common grounds across all the cities. The most viable transferable element is involvement of private sector. If the city is somewhat developed then concession model having private sector's role for even retail services can work well. For less developed cities, at least operation and maintenance of the services can go to the private sector to improve the efficiency. Nevertheless, the success of any type of private sector involvement depends on how good a regulatory body is in place.

24. For solid waste management, the transferability of two examples should not pose any problem. One involves the segregation of solid waste at source for recycling as in Nonthaburi while the other is composting of solid waste and its integration into overall solid waste management strategies. The proper incentive system for the households to segregate and municipal workers to collect and sell would, however, be essential. Integrating compost activity in national fertilizer production and marketing process, could help improve the quality of the compost and also increase the demand while providing incentive for carrying out composting.

25. It may be pointed out, however, that successful practices neither provide readymade solutions nor they address all the challenges. Therefore, their first limitation is the scope and level of transferability. The second limitation is lack of experience of the local partners in considering appropriate modifications. The current level of interaction is quite limited and use of digital forums is constrained due to technical and linguistic barriers. One of the ways to overcome this problem is to promote city-to-city cooperation through inter city visits and twinning of cities. For example, officials of Ho Chi Minh City visited Dalian to review its successful practice of industrial re location, for replication in Ho Chi Minh City. Kitakyushu Initiative may support this type of direct interaction. The second way could be to bring together the cities with similar type of challenges along with other experts, and donors to a forum where free dialogue could take place on the replication of successful practices. For example under Kitakyushu Initiative such dialogues are being promoted through thematic seminars.

V. Issues for consideration

26. The members of Kitakyushu Initiative Network may wish to examine the areas under which successful practice have been collected (Table 1 to 4) and suggest new areas for expansion of the portfolio of successful practices. They may also wish to identify mechanisms other than intercity visit and Forum for dialogue such as Thematic Seminars that may be used to encourage replication of successful practices among the cities of Kitakyushu Initiative Network. Further they may also wish to request member cities to assist the network by providing additional example of successful practices for inclusion in the existing portfolio.