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ESD/MG/KIN2/2
6 October 2003

ENGLISH ONLY

UNITED NATIONS
ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC
(in cooperation with the Institute for Global Environment Strategies, Japan)

Second Meeting of the Kitakyushu Initiative Network
15-17 October 2003
Weihai, China

IMPLEMENTATION OF PLOT ACTIVITIES

(Item 4(b) of the provisional agenda)

Note by the secretariat

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I. Introduction

1. The Kitakyushu Initiative is a mechanism to improve the urban environment in cities in the Asia-Pacific Region through capacity building of local governments to meet urban environmental challenges. As a means to achieve this end, pilot activities/demonstration projects form a core aspect of the Kitakyushu Initiative. They have been developed to identify and implement different approaches in urban environmental improvements. The implementation of activities/projects are closely monitored to gauge the effectiveness of specific approaches and develop models to enable their transfer to other cities in the region. Pilot activities essentially involve: (i) actions aiming towards tangible improvements in environmental quality and human health and other co-benefits; (ii) progress to be quantitatively monitored using appropriate indicators; (iii) enhanced participation by local stakeholders; and (iv) encourages a replication approach. In some cases the objective is to develop demonstration project which could be transformed later into large investment projects.

2. Demonstration projects/pilot activities are currently in operation in five cities in the Region with partial financial sponsorship of UNESCAP. In addition, five pilot activities are in operation with funding from other sources. More pilot activities are in planning phases in close consultation with Institute of Global Environmental Strategies (IGES) and other collaborating institutions.

3. The demonstration projects/pilot activities are usually identified by a local government or one of the stakeholders in the city in close collaboration with the local government, and it is planned, developed and implemented in close collaboration with ESCAP and IGES. Although the majority of pilot activities are in the form of project implementation, there are also intermediate type activities that are akin to feasibility studies or surveys. All pilot projects are implemented with the purpose of verifying various targets, approaches, and concrete measures in urban environmental management.

4. Quantitative indicators has become an essential element in the implementation of pilot activities. (Detailed information regarding indicators and their practical application is outlined in a separate document, "Verification and improvement to quantitative indicators for evaluation of urban environmental improvement" to this meeting)

5. Currently a number of pilot activities/demonstration projects are under implementation or are being planned in the following areas: solid waste management, urban water conservation, urban air quality management, industrial pollution control and promotion of information/communication tools (ICT) in urban environmental management. The activities are carried out through the designation of a community as a model area, where the effects of input and output are visible to the local residents; in other words, where it is clear to determine how the actions of stakeholders directly contributed to the achievement of the target.

II. Pilot Activities/Demonstration Projects: In progress

6. There are seven projects that are in progress under the Kitakyushu Initiative as follows:

A. Solid waste management: Nonthaburi (Thailand)

Status: Completed

7. Nonthaburi is located on the outskirts of Bangkok and is an economically prosperous city with significant level of environmental awareness. With the rapid expansion in consumption came increases in waste generation which led to numerous problems, the shortage of final disposal sites, high cost of treatment and disposal, and deterioration in environmental hygiene due to imperfect collection and refuse scattering. Nonthaburi carried out a pilot activity to reduce waste and promote recycling in two villages (539 households and 120 households, respectively), which were designated as model areas. As public cooperation was essential in raising recycling rates, the city directed its efforts towards publicity and education, including the organization of seminars for each area.

8. The overall strategies used included:

- Mass media campaigns, brochures preparation and distribution, community meetings;
- Provision of two recycling trucks instead of waste collection trucks;
- Subsidies to provide recycling waste plastic bags by the municipality until residents became accustomed to the system;
- Enhancing local government staffs' knowledge and experience in recycling of waste for providing extension to the residents; and
- Communication and good public relations between the local government and community in addition to enforcement of laws and regulation.

9. Quantitative indicators in this project include increase in recycling rates (20 percent) and reduction in the amount of waste generated (30 percent) over the period of the pilot project. A preliminary analysis of the achievements for Nonthaburi has been conducted which showed recycling rates envisaged were exceeded. Further the recyclable material increased from 90.3 kg. per day in January to 174.2 kg. per day in June and to 253.3 kg. Per day in December. The project has been accepted for inclusion in the Good Practices Inventory of the Research on Innovative and Strategic Policy Options (RISPO) project; a final analysis is currently being conducted on the basis of the final report.

B. Public-private partnership in wastewater management: Weihai (China)

Status: Completed

10. Because rainfall is low and water resources are scarce, Weihai is susceptible to marine pollution, which has an impact on the main industries. In response to these issues, Weihai has actively been involved in wastewater treatment and recycling of water for many years. The pilot activity carried out in Weihai was a feasibility study on the development of public-private partnerships for the construction and operation of a wastewater treatment facility.

11. The municipal wastewater treatment facility had reached capacity and is unable to accept wastewater from heavily polluting industries. One such industry, a tannery, is currently paying high user fees to the city in order to have its wastewater treated at the central wastewater treatment plant. Through negotiation, the local government, the sewage treatment plant, and the tannery reached a consensus, as follows: (1) Establishment of a joint venture by the sewage treatment plant and tannery to construct the second phase of the sewage treatment plant; (2) Total investment for the plant will be approximately 40 million yuan, with the sewage treatment plant investing in the land and the tannery would be responsible for construction and equipment investment; (3) Joint establishment of treatment fee collection methods and levels by the government, joint venture, public and other stakeholders; and (4) Transfer of the second phase of the sewage treatment plant to the sewage treatment plant after 15 years.

12. Issues in the implementation of this project include basic background information such as the application of appropriate technology, regulations for the treatment plant, and user fees, as well as investment rates, improvement of technology and efficiency, treatment fees when accepting industrial wastewater from other industries, and risk management.

13. In principle, industries are responsible for the treatment of industrial wastewater however, when there are a large number of small and mid-sized enterprises (SMEs), a centralised treatment plant is a rational choice. In developed countries, financial support from the national and local government, as well as related foundations and financial institutions is carried out in the construction of centralised treatment plants, however, for cities in developing countries, where lack of capital is an issue, the issue of inviting private funds in the construction and improvement of environmental infrastructure has become a topic of negotiation.

14. This project has developed a comprehensive wastewater management plan, including the establishment of a long-term vision for wastewater management, introduction of methods to decrease pollutant load, developed elements of a proposal for the construction and management of a wastewater treatment plant through public-private partnerships, and public participation, local governmental coordination, and capacity building.

C. Air quality management: Puerto Princesa (Philippines)

Status: Completed

15. This pilot activity, conducted by The International Council for Local Environmental Initiatives (ICLEI) under joint sponsorship of the Kitakyushu Initiative and the Cities for Climate Protection Campaign, targeted decreases in CO₂ emissions and the development of air pollution countermeasures. The main source of GHG emissions identified in both the community and business sectors was as transportation. The three-wheeled taxi is the main vehicle of urban transport. Many of the three-wheeled taxis run on two-stroke engines, which is a major source of air pollution. Often, combined with shoddy maintenance practices, these vehicles are major causes of urban air pollution and noise problems. Congestion and traffic accidents are also contributors to this problem. Countermeasures taken by the city included rezoning to reduce

congestion and provision of one day rest for tricycle drivers. Through these countermeasures there has been a decrease in traffic congestion in the urban area, and a 650kg decrease in CO₂, as well as 16 percent reduction of PM10, CO, and NOx. The pilot study identified the changes in legislation and enforcement of local transportation policies for vehicles. A follow-up project is being considered by ICLEI Climate Change programme in the Philippines.

16. Quantitative measurements were taken in (1) fuel consumption and cost reduction, (2) pollution emissions, and (3) government cost. In all these areas, it was assessed that beneficial effects were achieved vis-à-vis restrictions. The beneficial effects were accrued not only by residents but also by the taxi operators, the local government and other local actors overall. In the wake of this success, a pilot project is now being proposed, based on the assumption that there will be much more significant results if additional measures were introduced such as the restriction to inner-city taxi operation, reduction in the number of three-wheeled taxis, restriction in the area of operation, ban on two-stroke vehicles and vehicle use restriction based on emission tests. In view of the potential reduction in greenhouse gas emission, it has been suggested that this is a promising area as a future CDM project.

D. Urban air quality management: Chongqing (China)

Status: Completed

17. In cooperation with the City's Environmental Protection Bureau, a pilot study was conducted by IGES focusing on the history of Chongqing's policy responses for urban air quality management from 1991 to 2000. The assessment demonstrated that significant improvement in SO₂ concentration and rain acidity, as well as frequency of acid rain events, had been achieved in that period. Major elements of successful policy intervention included (i) scientific approaches to environmental planning and pollution control, i.e. such as source assessment, regional prioritisation and integration of pollution control and energy efficiency improvement policies and measures; (ii) strict enforcement of laws through command-and-control measures and participatory approaches, and (iii) extensive access to external resources, including financial and technical assistance from the national government and international institutions, both bilateral and multi-lateral. Chongqing is also considering the submission of a proposal focusing on the possible improvement of solid waste management practices through inter-city cooperation with Kitakyushu.

E. Solid waste management: Dhaka (Bangladesh)

Status: On-going

18. Based on the previous JICA project, Dhaka proposed the development of a pilot activities for enhancing waste management at the community-level. Targets included the improvement of public awareness through local and mass media campaign, and improvement of the level of stakeholder participation in at-source separation, house-to-house collection and primary disposal of solid waste.

19. The city designated Rampura Residential Area (low-to-middle income households) as a model area to strengthen community waste management programmes through the organization of a public awareness-raising campaign for residents, which shall primarily cover health and environmental impacts of solid waste disposal, as well as the impacts of hazardous wastes from hospitals and other community activities. Also included in the project is the provision of financial, technical and advisory support to the community organization for enhancing their participation in the improvement of waste collection, separation and primary disposal systems in the pilot area. The project aims to bring changes in community behaviour and assist Dhaka City Corporation in reducing some burden for solid waste management.

20. Expected outcomes include (i) increase in awareness of general public in separation at source, proper disposal, and recycling; the awareness-building programme will mainly focus on the organization of training and discussion sessions, development of pamphlets, and education of conservancy workers in the proper handling of waste; (ii) improvement of quality of health of residents with improvement of the hygienic condition of the area, including drains and streets; (iii) facilitation of project personnel to take proper mitigation for toxic and industrial wastes through discussions and meetings with hospital and commercial industries; (iv) training sessions for Dhaka City Corporation workers, NGOs, and CBO staff to ensure efficient use of resources; (v) strengthening of linkages between CBOs, NGOs, and government agencies to increase overall capacity and efficiency; (vi) consideration of proposal for the development of a model mini-transfer station (MTS) to ensure proper waste disposal in the community (first of its kind in Bangladesh).

21. Monitoring teams will consist of community volunteers, NGO and governmental personnel.

F. Urban wastewater management: Korat (Thailand)

Status: On-going

22. The water pollution of Lam Ta Kong River, which flows through the centre of Korat, has become serious in recent years. According to a study conducted by the Environmental Research and Training Centre (ERTC) in Thailand, BOD was found to be 2 ppm upstream and 28 ppm downstream, and ammonia nitrogen was recorded as 0.78 ppm upstream and 11 ppm downstream. The main source of this pollution is wastewater from residences along the river. There are no other pollutant sources such as factories or livestock industry in the city centre. Domestic wastewater flows directly to the river through open drains. A sewage treatment plant is in operation in the southern half of the city, however, the northern section has low residential density and sewage facilities are not adequate.

23. The project envisages development of wastewater treatment facilities for two communities, as well as enhancement of community awareness and participation in water quality management of the canal.

24. In Korat, electric power is not used in wastewater treatment and anaerobic treatment methods that require little maintenance are used. However, after studying the successful practices of other cities and exchanging information with experts (technical proposal), noted that the location and capacity of the facilities as well as the use of anaerobic treatment methods needed reconsideration. Based on analysis of the amount of wastewater, Kitakyushu City specialists along with an IGES mission visited Korat in May 2002 and concluded that it would be beneficial to establish treatment facilities making use of aerobic treatment methods, as well as constructing one model plant which would enable a comparative analysis on the treatment performance between the existing and new model plants. The project also has additional activities to decrease the disposal of garbage directly into the river, as well as resident participation in clean-up activities and river eco-tours.

G. Industrial relocation: Ho Chi Minh City (Viet Nam)

Status: On-going

25. The pilot activity includes the conduct of industrial relocation to improve the urban environment of the city, through the acceleration of industrial relocation and application of cleaner production in one district of the city. Specific measures include the designation of a pilot area (District 4) where public awareness is to be enhanced through local seminars, posters, leaflets and media campaign. Stakeholder involvement is to be promoted through meetings for participatory planning and dialogues. Indicators to assess the success of the project include environmental load (air, water, solid waste) and land prices. At the First Meeting of the Kitakyushu Initiative Network in November 2001, a presentation by Dalian (China) on industrial relocation led to the regular exchange of information and experts between the two cities. The outcome of a recently organized seminar on industrial relocation in Ho Chi Minh in August 2003 will also feed into the project.

26. Ho Chi Minh City's industrial relocation programme is the first of its kind in Vietnam. The purpose of the program is (i) to plan and reorganise the operation of polluting enterprises and reorganise the issuance of business licenses to new investment projects; (ii) combine the removal of small-scale and small production units to develop larger-scale units with stable operations and high competitiveness; (iii) development of industrial zones/parks which correspond to urban planning requirements.

27. Various measures have been applied, including the supervision and control of new buildings from an environmental standpoint from the initial stage. Basic requirements include compliance with urban planning, application of pollution treatment measures and installation of pollution control equipments to meet local and national standards. For existing enterprises, Ho Chi Minh City is considering or is carrying out removal to industrial parks, application of pollution treatment measures, installation of pollution control equipments, publication of a "black book" which lists all polluting industries in the city, implementation of cleaner production with the help of UNIDO, and setting up of a revolving fund to provide necessary assistance to relocating and polluting industries.

28. Ho Chi Minh City faces challenges in their programme due to lack of public awareness regarding cleaner production measures, lack of synchronised coordination with stakeholders, lack of effort by involved organizations, unstable markets, lack of regulations and policies to carry out the programme, as well as ineffective judicial procedure.

III. Projects/Pilot Activities under Preparation/Consideration

29. A number of pilot activities/demonstration projects are being prepared or considered as follows:

A. Pollution control: Cebu (Philippines)

Status: Under preparation

30. Cebu, together with various stakeholders (Department of Environment and Natural Resources (DENR), Region 7; Pollution Control Association of the Philippines (PCAPI), Region 7; Mandaue City; Lapu-Lapu City; Kitakyushu City; NGOs; academia and industry), has prepared a project entitled the "Metro Cebu Environmental Initiative", which aims to improve the overall urban environment of the cities of Cebu, Lapu-Lapu, and Mandaue, i.e. Metro Cebu.

31. The pilot project focuses on the rehabilitation of one river which flows through Metro Cebu (Guadalupe River), and pollution of which has been identified as a critical issue, due to lack of control of wastewater from industries and households, as well as solid waste collection and disposal. The project is to be implemented through the organization of workshops, expansion of the use of cleaner production, water quality monitoring technology, and improve solid waste management. Details of the project have been finalised by Cebu City Government and financial support has already been secured from the Japan Bank for International Cooperation and others, with technical support from local stakeholders such as the Kitakyushu International Techno-Cooperative Association and local cities in Japan, including Kitakyushu, Ube, and Minamata.

B. Urban air quality management: Surabaya (Indonesia)

Status: Under preparation

32. As presented at the 3rd Thematic Seminar on Urban Air Quality Management held in Bangkok in February 2003 and the national workshop on urban air quality management held at Surabaya in August 2003, the ambient air quality in Surabaya continues to deteriorate due to increasing emissions from both mobile and stationary sources. The identified causes for deterioration of air quality include the imbalance between the yearly increase of road capacity and the number of vehicles in operation, failure of vehicles to meet gas emission test requirements, lack of compliance mechanisms such as reward and punishment programme, insufficient urban forest/greenbelt area in comparison to the population, and lack of community development plans addressing ambient air quality management. Surabaya has launched a Blue Sky Programme to improve the situation through the introduction of integrated ambient air quality monitoring and index system, enhancement of environmental awareness in communities and their role in air pollution control, and development of coordination and partnership among stakeholders.

33. The project is to be undertaken with the intent of increasing awareness among relevant stakeholders on the various aspects of urban air quality issues. It is anticipated that with an increased appreciation of the dynamics of air quality management issues, the major stakeholders can then be mobilized to take active role in designing and implementing a comprehensive air quality management program for the city of Surabaya various components of which could be funded by different donors. Therefore, a project would hopefully serve as an integrated point for future initiatives. It is hoped that this approach to multi-stakeholder partnership for implementing pilot project on urban air quality management will encourage other cities to take similar initiatives.

C. Urban air quality management: Ulaanbaatar (Mongolia)

Status: under consideration

34. Air pollution has become a serious problem in Ulaanbaatar, due to the low quality of fuel used in heating stoves in large number of *gers* (nomadic residences). In view of tackling the city's serious problem of indoor and outdoor air pollution, a project for the introduction of "bio-briquettes" (environmentally-friendly coal briquettes containing organic desulfurising agents) is being investigated. The project would aim to transfer the experiences of Chinese cities, such as Chongqing and Shenyang to Mongolia and replicate them in model areas in Ulaanbaatar.

D. Water pollution control: Semarang (Indonesia)

Status: under consideration

35. In the city of Semarang, a pilot project for water quality improvement in Bajak river basin has been ongoing since October 2001, under the joint initiative by the municipality, a local NGO and Diponegoro University; financial support is being provided by the Japan International Cooperation Agency (JICA) through its Partnership Programme, and technical support is provided by the Kitakyushu International Techno-cooperative Association (KITA) of Japan. The project targets several stakeholders including local administration for enhancement of their capacity in water quality monitoring and river management, a group of small bean curd factories for promotion of cleaner technologies for production as well as for effluent treatment, and resident community for environmental awareness-raising. The activities include the conduct of joint survey and analysis of river water quality by Japanese experts and local personnel, seminar and demonstration on cleaner and more efficient ("low-waste") technologies for bean curd production, and experimental design of a collective treatment facility for effluents from bean curd factories. In addition, grass roots activities on environmental education have been introduced to local communities in Semarang. Currently, environmental education software is developed by the Environmental Research Centre of Diponegoro University, to assist the environmental awareness-raising in local residents and facilitate their participation and involvement in the river clean-up activities. Semarang is interested in becoming a member of the Kitakyushu Initiative Network for undertaking a component of the above project as a pilot project under the Initiative.

E. Water conservation - Quetta (Pakistan)

Status: under preparation

36. In the wake of big transmission losses and scarcity of urban water supply, a project has been proposed on conservation of urban water through monitoring of water flow pressure in the pipelines and promoting awareness on water conservation through community mobilization. The project is to be implemented in a selected neighbourhood in the city.

F. ICT in urban management

Status: under preparation

37. A pilot project is being considered in the use of information and communication technology in urban management. The project is to promote use of such technology in the planning and management of cities.

G. Conservation of heritage sites – Siem Reap

Status: under consideration

38. In recent years, the rapid development of Siem Reap City and its tourism industry have put increasing pressure on the Angkor ecosystem carrying capacity, in particular on the forest and decreasing water resources. In addition, Siem Reap province records one of the highest rates of poverty in Cambodia, with some 54 percent of its population below the poverty line.

39. While international conservation efforts have mainly focused on archaeological restoration work, there has been a crucial lack of donor-led intervention to protect and rehabilitate the ecosystems of the park in a holistic and integrated manner.

40. This proposed project will help stabilise and restore ecosystem functions and services and improve the livelihoods of local people through community-driven rehabilitation of degraded land within the Angkor World Heritage site and would address the issues of land degradation, deforestation and desertification in the area in a holistic and integrated ecosystem approach. In addition to the benefits to the local communities of the World Heritage site, the project will also bring global benefits, including prevention of land degradation, restoration of ecosystem functions, biodiversity conservation, carbon sequestration and world heritage preservation.

H. Energy efficiency

Status: under consideration

41. Energy consumption patterns have a great influence on the cleanliness of cities. Inefficient energy usage in public/commercial buildings, industries in particular and transport directly or indirectly affect the air quality. City administration through the Kitakyushu initiative can play an important role in identifying and addressing this issue for the economic benefit and cleanliness of their cities.

42. As a first step, it is required to identify energy savings potentials in energy intensive establishments through energy audits followed by one or two pilot projects to demonstrate the viability of energy efficiency improvement. Within the Kitakyushu Initiative, it is proposed to conduct an energy audit of one or more industries as a demonstration project.

IV. Issues for Consideration

43. Pilot activities/demonstration projects constitute a very important part of the work programme of Kitakyushu Initiative Network. The main areas in which these activities have been undertaken so far include solid waste management, pollution control, urban water supply and sanitation, industrial relocation and urban air quality management. The new projects are being proposed in the areas of water conservation, conserving ecosystem and use of ICT in urban management and energy conservation. The meeting may wish to review the ongoing and proposed projects and suggest areas, in which future projects need to focus. They may also wish to propose steps through which involvement of stakeholders in general and local governments in particular could be enhanced in identifying and implementing new pilot activities/demonstration projects.