



**EXECUTIVE SUMMARY ON
ENGAGING GOVERNMENTS
AND INDUSTRY IN
DEMONSTRATING 3R
PRINCIPLES THROUGH
INTEGRATED WASTE
MANAGEMENT**

EXECUTIVE SUMMARY

“Engaging Governments and Industry in Demonstrating 3R Principles through Integrated Waste Management”

**Supported by: Government of Norway,
Japan Trust Fund & Environment Fund (UNEP)**

The International Environmental Technology Center (IETC) Branch of the Division of Technology, Industry and Economics (DTIE) has implemented the project “Engaging Governments and Industry in Demonstrating 3R Principles through Integrated Waste Management” within the programme of work 2006-07 and 2008-2009.

The project was developed with the objective of demonstrating the economic, environmental and social benefits as well as the applicability of Integrated Waste Solid Management (ISWM) approach in specific local situations and in order to accomplish: i) demonstration of 3R principles through integrated waste management in four cities which can serve as model for other cities in the region for replication and adoption; ii) enhancement of capacity of local government authorities, businesses and civil society organizations in dealing with waste issues; iii) achievement of resource augmentation through the application of 3R principle; vi) demonstration of Environmentally Sound Technologies (ESTs) for waste management and v) improvement of the management of waste in the target cities, thus improving the environmental condition and reducing health hazard in the local communities.

The project initially comprised of three main activities: i) development of guidelines and training materials on ISWM, ii) development of Integrated Solid Waste Management (ISWM) Plan for three cities (Wuxi New District in PR China, Pune in India and Maseru in Lesotho), and iii) development of a Waste Exchange Program within industries in Penang, Malaysia. However in the course of the project, the activities were expanded as lack of knowledge among stakeholders in specific areas where identified. The additional activities included i) development of manuals on Waste Electrical and Electronic Equipment (WEEE/ E-waste), ii) Regional training on ISWM in Africa and Asia-Pacific and iii) South-South Cooperation Workshop on Waste Management, Law and Governance.

The activities undertaken under this project have led to the following results:

1. The ISWM plans developed for the three target project cities prove the applicability of ISWM approach.
2. The potential for application of 3R approach has been also demonstrated.
3. Environmental, Economic and Social benefits of ISWM approach have been demonstrated.

For example, in Maseru it has been established that of the 210,000 tons per annum of waste that is estimated to be generated by 2020, implementing the actions defined in ISWM Plan could result in:

- a Avoiding 40,000 tons of waste through waste reduction measures
- b Reusing (as animal feed or composting) another 45,000 tons
- c Recycling 55,000 tons

Thus the 'real' waste which will have to be land filled will be only 70,000 tons or just 30%. Presently, land filling costs about USD 6.50 per ton, thus, the reduction in land filling quantity alone will give an economic benefit of about USD 0.90 million per year.

The Community Sorting Centres (CSC) scheme proposed at Pune, when implemented even in 50% of households, will provide jobs to 2,500 rag pickers with an average earning of USD 75 per month. Furthermore, even 50% recycling of dry waste (i.e. paper, plastic, metal, glass, etc.) will result in avoiding GHG emissions of 40,000 tons CO₂ E per year.

4. Extensive capacity building in partner institutions has taken place. These institutions are now expected to be capable of replicating the ISWM projects in other cities
5. Appropriate technologies for waste management have been identified which can be used in developing countries.
6. Significant interest on ISWM has been created in many countries. This is reflected by the fact that during the UNEP's Governing Council meeting, the G77 put forth an operative Decision (GC 25/8) on Waste Management, which specifically requests UNEP to upscale its work on waste management and particularly provide technical and capacity building support to countries in developing and implementing ISWM.

The key lessons learned from the project are as follow:

1. Upfront explicit political commitment is essential to ensure serious engagement of the partners. In all the projects, there was high level political commitment, which resulted in active involvement of partners.
2. Continuous Political and Policy Level Support – For example, change of focus in Wuxi and Pune thus relegating the ISWM project to secondary level, adversely affecting the project progress and implementation.
3. Difficulty in engagement of national government for local level project, except in the case of Maseru where national government was also involved. It was difficult to get the attention of national governments, which adversely affected the replication of the concept within the countries.
4. Selection of Partner Institutions is crucial and should consider:
 - that the subject is a key interest for the institutions
 - that there is availability of basic technical capacity and dedicated staff

5. Funds availability to move from planning to implementation is a major challenge. The impact of the project can be significantly enhanced if funds are available to support the implementation of various schemes identified in the project.
6. Need for on-going support for implementation – limitations imposed by need to close the project within certain time frame. New approaches like ISWM can pose unforeseen problems during implementation and thus require long-term ongoing support. Moreover, the limitation posed by the need to complete the project within a stipulated time frame restricts such support thus adversely affecting the implementation in the long-term.
7. Continuous involvement of partner institutions after UNEP support is phased out
8. The institutions where capacity has need built need to be involved in an on-going manner so as to keep capacity alive and also persuade/support them to replicate similar work.

The project has been able to prove the relevance and applicability of innovative Integrated Solid Waste Management approach in cities in developing countries. It has generated significant interest in other developing countries as is evident from number of request received by UNEP. Further support is required to expand and replicate the success of this project.