Country Questionnaire Prior to the Senior Officials Meeting on the 3R Initiative
- INDIA -

[Country Questionnaire Survey]

1. Major developments regarding the strategies, policies and activities on the 3Rs in INDIA since the Ministerial Conference on the 3Rs (April 2005)

1.1 National Environmental Policy

The National Environmental Policy (NEP) is under finalization after stakeholder consultations. NEP lays stress on adoption of cleaner technology [5.4], strengthening of the informal sector system of collection and recycling of various materials [5.2.7 (iii) (c&d)] and develop and implement strategies for recycle, reuse and final environmental benign disposal of plastic waste, [5.2.7 (iii)(f)]

1.2 Charter on Corporate Responsibility for Environment Protection

The Charter is a commitment for partnership and participatory action of the stakeholders to not only comply with the regulatory norms but to go beyond compliance and to reduce pollution in the 17 identified highly polluting sectors.

1.3 Increased recycling rate

Government of India has undertaken several initiatives at the state and national level to promote recycling of waste in the country. In addition to the Solid Waste (Management & Handling) Rules, 2000 specific legislation viz. the Plastic Manufacture and Use Rules, 1999 amended 2003 and the Batteries (management and Handling) Rules, 2001 to enable environment friendly recycling in the country have been notified. A set of rules to promote classification, labeling and collection and recycling of containers and packaging has been drafted and is under discussion. As per the Indian Council for Plastics in the Environment (ICPE) the 1.2 million tones of plastics are recycled. In respect of recyclables like paper, glass, tin etc. which are sorted at homes, 13 to 20% of recyclables are again sorted from municipal solid waste collected by the concerned authorities.

[ ] refers to para's in draft NEP.

1.4 **Registration Scheme for recyclers :-**

A registration scheme with a aim to establish environmentally sound facilities for recycling of wastes has been established. The scheme is designed to register installations with environmental sound technology for recycling of waste oil non ferrous metallic wastes lead batteries etc. and ensure that industries generating these as waste auction them only to registered units in the country. Schemes are also being augmented to support financially waste to energy projects, and establishment of bio-gas projects from organic wastes. A separate ministry on non conventional energy sources has also been established to promote alternate energy sources and energy recovery from wastes.

1.5 **Promotion of cleaner technologies and waste minimization circles**

The policy statement for abatement of pollution released in 1992 categorically refers to pollution prevention. A scheme on Adoption of clean technology and promotion and establishment of waste minimization circles in small and medium scale industries is being implemented. An Indian centre for promotion of cleaner technology has also been established for waste reduction treatment and disposal and to identify and exchange potential recyclable waste.

2. Domestic 3R activities

2.1 Good practices on 3Rs

Please describe your successful activities in relation to the 3Rs, including those at the national level, the municipal level, with industries and NGOs/NPOs. What are the major elements for the success of the activity? What cooperation do you need from other countries for the more effective promotion of the 3Rs? If you need to establish certain alliances between related parties, or require certain technologies, describe these as well.

Successful activities

1. Reduction in volume of waste disposed and increased recycling of wastes as a consequence of legislation, schemes and voluntarily initiatives by the Government and industry.

2. Establishment of registration scheme to ensure environmentally sound recycling of waste.

2.2 3Rs and governance

To promote the 3Rs, it is necessary to develop a governance system that responds to the different situations and conditions of each country. Are there any specific issues related to the institutional arrangements for the implementation of the 3Rs and environmentally-sound management of wastes? For example, many countries will need to address the issue of how to treat the informal sector that is engaged in recycling and recovering activities. Do you have any such approach?

In addition to specific legislation with the following provisions strict enforcement is being ensured through the state authorities :-

1. A manifest system to track the waste from the point of generation to disposal.
2. A need for seeking authorization for handling of waste.
3. Registration of recyclers
4. Involvement and participation of the public in schemes such as the Battery depose scheme etc. Following are the recycling/reuse options adopted by the industrial sector in India.

Recycling and Reuse options increasingly adopted for certain industrial solid wastes

S. No.	Industrial solid waste	Physical state	Source	Non-environmental friendly option	Recycling/Reuse options
1	Fly ash	Powder/slurry	Coal based thermal power station	(i) Pumped to low lying areas in form of slurry in wet system of disposal (ii) In dry method fly ash is conveyed to dumps	- Road construction - Land reclamation - Dam/earthen Waste - Portland pozzolina cement -Lime fly ash bricks blocks and aggregates -Cellular concrete and construction industries
2.	Steel & Blast Furnace slag	Solid lumps (granulated/ ungranulated)	Iron & steel industries	Open dumping	-Blast furnace slag cement -As binding material -Road aggregate

3.	Lime sludge	Slurry/paste	Fertilizer sugar and paper industries	Settling pond	-Raw material for cement manufacture -Lime-pozzolina mixture
4.	Phospho Gypsum waste	Slurry/paste	Phosphatic fertilizer industries	Settling pond	-Manufacture of cement in place of mineral gypsum -Gypsum block board, partition panels ceiling tiles, fibre boards
5.	Red Mud	Slurry/paste	Aluminium industries	Open dumping	- Raw mix for cement industry -corrugated sheet, ties, building bricks manufacture -Light weight structural blocks
6.	Press mud	Filler cake	Sugar industries	Open dumping	-organic manure -biogas production, effluent slurry after biogas is useful as nutrient rich bio-fertilizer
7.	Bagasse	Solid waste	Sugar industries	Fuel	-cellulose for pulp and paper -cattle feed -Used in boilers as coal substitute

2.3 The 3Rs and environmentally-sound management of industrial waste

Since economic development tends to cause an increase in the amount of industrial waste generation, the environmentally-sound management of industrial waste is essential to promote the 3Rs. To decouple economic development and industrial waste generation, what kind of role is expected for the industrial waste emitter, national and local governments, including municipalities? Also, please give us your views on how to share the responsibilities for the construction and operation of the final disposal sites among the stakeholders?

A self organized chain of self employed individuals commonly known as Kabariwala have established a system of collection, segregation and recycling of papers, plastics, tin, glass etc. Recycling of lead from batteries and non ferrous

metallic waste has been organized under a registration scheme. Some of the technologies adopted especially of copper waste in the country results in over 90% recovery through solvents extraction technology.

3. International 3R policies and strategies

The international flow of recycled and remanufactured products contributes to both the efficient use of resources and the prevention of environmental pollution if the proper mechanisms are in place. On the other hand, however, it was also observed at the Ministerial Conference on the 3R Initiative that the transboundary movement of goods and materials for recycling and remanufacturing may entail contingent environmental pollution.

3.1 Situation of the transboundary movement of goods and materials for recycling and remanufacturing

Regarding the transboundary movement of goods and materials for recycling and remanufacturing, what are the major recyclable resources observed in exports from and imports to your country? Are there any specific problems in relation to exports and imports of these recyclable resources and remanufactured goods? What are the major reasons for any problems?

With the promotion of environmentally sound technology recycling of waste oil has also been streamlined. Non ferrous metallic waste like Zinc Ash, Zinc Skimming, copper dross, copper scrap etc. are being imported into the country for extraction of metals.

3.2 Prevention of environmental pollution caused by the transboundary movement of goods and materials for recycling and remanufacturing

To prevent environmental pollution caused by the transboundary movement of goods and materials for recycling and remanufacturing (illegal exports and imports of hazardous wastes, and inappropriate management in the recipient country), what kind of policies and measures (e.g., cooperation among national governments and other stakeholders) are expected? If your country has already launched such activities, please provide us with detailed information.

The import and export of both hazardous waste and non industrial waste stipulated for recycling are regulated and require licenses granted by the Ministry of Commerce. Composition of the waste permitted for imports have been laid down to ensure that non recyclable materials are not imported into the country of specific non ferrous metallic waste which have been permitted without a license.

3.3 Harmonization of economic and environmental benefits through the transboundary movement of goods and materials for recycling and remanufacturing

Please provide information on the positive and negative socio-economic impacts of the increase in the importation and exportation of goods and materials for recycling and remanufacturing in your country. What kinds of policies and measures have been implemented to support the positive effects and mitigate the negative effects of the trade in recyclable resources and remanufactured goods?

A scheme of registration of recyclers possessing environmentally sound technology and need for auctioning of waste generating to register recyclers have been introduced to enable trade in recyclable materials. Export and import of specific materials for recycling proved to more economically beneficial but are material specific. Unregulated imports might result in transboundary movements of materials which may not be fit for recycling for available technologies. Prior consent and import/ export materials on the laid down specifications would enable mitigating the negative effects of transboundary movements.