ENVIS

MANAGEMENT OF PLASTICS, POLYMER WASTES AND BIO-POLYMERS AND IMPACT OF PLASTICS ON THE ECO-SYSTEM

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INDIAN CENTRE FOR PLASTICS IN THE ENVIRONMENT

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Plastics Recycling – Economic & Ecological Options

Recycling of plastics is known to be in practice since the initial days when the industry started more than 100 years ago. The main driving force in the initial stage was mainly economics. The plastics waste was too valuable a product those days to throw away as the basic raw material was too expensive.

The situation has since changed. All round benefits of plastics materials made it a first, or sometimes, the only choice for designing various products of short or long time application. This has led to phenomenal increase in the consumption of plastics worldwide in the recent years.

The increased use of plastics products, about 50% of which go for packaging applications alone and hence are discarded immediately after using the content has increased the quantity of plastics in the solid waste stream to a great extent. Recycling has now assumed great importance in the context of solid waste management. Of course, the point about not throwing away value in plastics waste is still relevant.

Recycling of plastics, unlike in the initial days, has the option of selecting its input leaving a large chunk of plastics waste, which are difficult for recycling, for disposal in the landfills or simply allowed to remain in the surroundings, especially in the third world or developing countries.

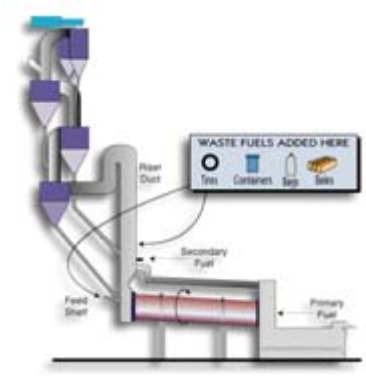
The new technologies and economics have come to play an important role in plastics recycling. When we talk about recycling, it principally refers to Recovery, which is divided into Material Recycling and Energy Recovery. Material Recycling is again divided into Mechanical and Feedstock Recycling. The choice between Mechanical Recycling, Feedstock Recycling or Energy Recovery will depend on the types of plastics waste and the relative ease / difficulty in total or partial segregation from other plastics and / or other waste materials.

When there is no State intervention, plastics are recycled only when the sum of all the costs for collection, sorting and treatment does not exceed the marginal profit. If, however, the State or the Society sets ecological priorities, for example conservation of resource or space in landfills, this may mean dealing with volume of waste that is uneconomical from the commercial point of view of a single operator. This may make it necessary to levy waste disposal charges, which have to be charged either collectively or individually. In principle, the system corresponds to a situation in which disposal charges have to be paid both for landfill and incineration.

While determining economic boundary conditions of plastics recycling, it is necessary to make a distinction between:

- Mechanical Recycling to the same or similar applications
- Mechanical Recycling to new areas of applications
- Feedstock Recycling to form different products
  - conversion to monomer
  - fuel
  - reducing agent in blast furnace for the production of iron
  - gasification
  - liquefaction

- Incineration and energy recovery
  – cement kilns
  – incineration for power generation



Cost of Mechanical Recycling

Mechanical Recycling includes a wide variety of processing techniques and a broad range of processing methods. Since recycled plastics materials return to the plastics market, where they partly replace virgin material, the price of recycled plastics is oriented to the price of primary material, with a certain reduction due to quality standard. The reduction is normally around 50% to 60% of virgin material. Mechanical Recycling is worthwhile lower the necessary technical input. Pure grade production scrap may only have to be reground and recompounded, mixed plastics have to be mechanically separated and, if contaminated, also elaborately washed and cleaned. All these steps increase the cost depending on the degree of contamination. A comparison of cost variation in Mechanical Recycling has been put as:

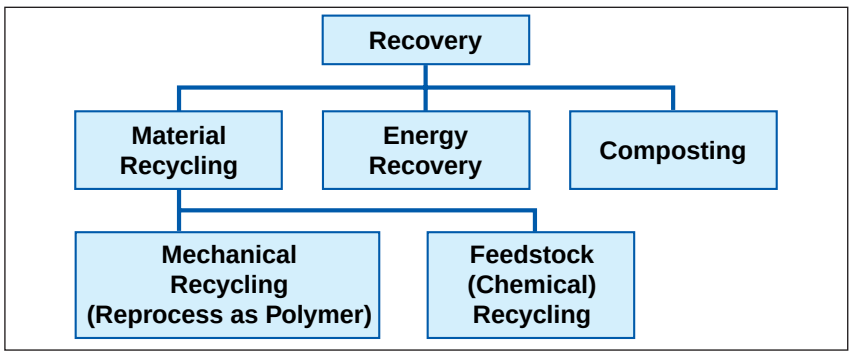
- 0.50 point scale for homogeneous clean waste.
- 1.00 point scale for homogeneous contaminated waste, and
- 1.50 point scale for heterogeneous contaminated waste.

Worldwide, Mechanical Recycling is the most preferred and accepted method of Plastics Recycling.

Cost of Feedstock Recycling

The quality of waste, which can be used in this recycling system, is different from that required by Mechanical Recycling. Whereas Mechanical Recycling requires homogeneous, clean and dry waste before processing stage (mostly extrusion), complicated mixtures of plastics waste can be recovered by Feedstock Recycling without problem as long as the waste can be mechanically fed to the system and the waste is free from some contamination / hazardous substances, to avoid complications in specific systems. The cost of Feedstock Recycling even in the best case of large-scale plants may be similar (as high as) to the cost for incineration and energy recovery.

Successful examples are available today utilizing waste plastics as a reducing agent in the blast furnaces. NKK Keihin Works in Japan are already using 40,000 tons of plastics waste in blast furnace along with coal as reducing agent to manufacture pig iron. As per report, the company has plan to use 1 million tons of plastics waste annually as raw material for blast furnace by 2010. Stahlwerke Bremen, Germany also used plastics waste for steel production. Though some additional cost is incurred for preparing the plastics waste for injecting into the blast furnace, there is a benefit of lesser use of carbon for the reduction reaction due to the hydrogen available in the plastics waste (apart from carbon). This is important today from the Global Warming point of view and the operator in a developing country is able to cash on the Carbon Credit. ICPE is discussing the option with major steel manufacturers in India.



The recovery of plastics for use as fuel is an attractive option. This has been suggested as a means of disposing of plastics waste especially the mixed and multilayered / laminated plastics waste, which are normally difficult or costlier for Mechanical Recycling. In principle the calorific value of plastics, which in the case of polyethylene is as high as that of crude oil, can be fully recovered by burning. However, the useful energy that can be used is limited by several factors and is much less than its calorific value. Studies have shown that if polyethylene is burnt in an incinerator and the heat energy generated is used to produce steam for further use for central heating system or for other purpose, from the original 45 MJ of energy in the input polymer, only 15 MJ or 33% is available for heating, whereas 80% recovery has been reported in the case of fuel.

An Indian scientist of Nagpur has successfully demonstrated the production of industrial fuel from plastics waste including commingled plastics waste in commercial scale. The company is doing well as per the financial report available from the banker, which financed the project.

Cost of Incineration and Energy Recovery

After collection of the portions that can be recycled by mechanical recycling, there remains numerous very small, heavily contaminated articles or cross-linked products or products contaminated with hazardous substances. The best way of reutilizing these portions is to incinerate them instead of dumping them diffusely on landfills. This recovers their calorific values. Separate incineration in high-efficiency plants is possible if sufficient amounts are produced or collected separately. Incineration plants to handle hazardous substances / plastics waste contaminated with hazardous substances are designed separately, mainly for disposal purpose. Heavily contaminated plastics waste collected from domestic waste stream can be utilized by energy recovery from waste incineration plants. Cost of this system of recovery is considered highest among all the alternatives.

When considering incineration as an option, it is to be remembered that waste incineration plants are not operated with the aim of producing energy. The main purpose is and remains to reduce the volume of waste to a considerable degree by means of incineration in an environmentally-friendly manner. It is, however, logical to combine energy recovery with incineration whenever possible consistent with environmental requirements. Plastics waste contains calorific value equivalent to fuel. The waste incineration plant Frankfurt / Main uses about 6-7% plastics waste along with normal MSW, generating 27 MW of electricity.

Incinerator design and operation depends upon the type of waste to be incinerated. Non-adherence to these two basic principles caused serious failures of various incineration activities in the 80's raising doubt about the effectiveness of this process itself. However, subsequent adoption of proper design and appropriate operation after careful analysis of the waste, have again brought back the reliability of incineration as one of the best options of hazardous waste treatment.

Whichever form of recycling is chosen the whole process can succeed only if an efficient solid waste collection mechanism is put in place at the first instance. The task again becomes much easier with segregation of waste at source. Massive public awareness programmes with the help of NGOs and concerned citizen groups backed by a sound municipal waste collection and transportation mechanism is of urgent necessity. The plastics industry particularly the users of plastics materials such as retailers and packers will have to share part of the burden in creating such sound solid waste collection and disposal infrastructure. The citizens' co-operation is vital in the success of this whole programme of solid waste management. We need to re-emphasise the virtues of the 4 R's, viz., Reduce, Reuse, Recycle and Recover.

From the overall environmental benefit point of view, recycling, in spite of its costs, is preferable to other disposal methods like landfill. There is a need for Government intervention / support for encouraging recycling. This may include:

- Providing basic infrastructure like Land, Power and Water at subsidized rate at identified areas, which may be called Recycling Parks in each big city. Bigger cities may have more than one such park.
- Common Effluent Treatment Plants in such parks.
- Tax benefits to recycling units.
- Duty relief for import of high technology recycling plant.
- Mandate for purchase of recycled products for specific non-critical applications in Government Departments, Educational Institutes, etc.
- Subsidy for purchase of specific recycled products like school benches, railway platform benches, etc.

From the part of industry, more efforts are needed for developing better machines and technology for recycling in the similar fashion as it is done for the development of virgin plastics processing machines. Product designers of many plastics products can assist in designing the product in such a way that it can be dismantled for ease of recycling. Automobile Battery, Hybrid Steering Wheel and many other automobile components are examples of such products. It is thus desired that the first time to think of recycling is not when waste product accumulates, but right at the start of the designing / development process.

Investment in this sector will yield rich dividends in the coming days. Worldwide, Recycling Industry is attaining more and more attention from the entrepreneurs and investors. It is reported that world's richest woman is a recycler from China (US $ 3.4 billions). This sets the future trends in Plastics Recycling as an Industry.

A sincere and scientific approach to plastics waste management and recycling by all the stakeholders, viz., industry, consumers and the Government can achieve the goal of sustainable growth without damaging environment.

(Based on studies by ICPE and published material by various international institutions/organizations.)

Record of Hits of ICPE-ENVIS Website:

(www.envis-icpe.com and www.icpeenvis.nic.in)

ICPE website continues to attract the visitors in large numbers.

'Hits' record of the website from April-December, 2006 is given below:

Website hits for April-December, 2006

Months		Hits
April	:	N.A.
May	:	44,488
June	:	54,265
July	:	43,590
August	:	55,239
September	:	58,141
October	:	72,791
November	:	48,351
December	:	44,541

The statistical analysis of the visitor activities is available both from Web Stat and from NIC Server for reference.The analysis shows that the majority of the visitors are serious in nature and spend more than half an hour on the website. Details of the statistics are available for study and reference.

Hours Accessed

Time period	Hits
5:00 p.m. to 6:00 p.m.	6,452
6:00 p.m. to 7:00 p.m.	5,652
4:00 p.m. to 5:00 p.m.	5,605
7:00 p.m. to 8:00 p.m.	5,175
12:00 p.m. to 1:00 p.m.	4,533
11:00 a.m. to 12:00 a.m.	4,248
3:00 p.m. to 4:00 p.m.	4,240
1:00 p.m. to 2:00 p.m.	4,101
2:00 p.m. to 3:00 p.m.	3,444
10:00 a.m. to 11:00 a.m.	3,260
12:00 a.m. to 1:00 a.m.★	3,066
10:00 p.m. to 11:00 p.m.	2,963
9:00 p.m. to 10:00 p.m.	2,709
8:00 a.m. to 9:00 a.m.	2,591
8:00 p.m. to 9:00 p.m.	2,550
11:00 p.m. to 12:00 p.m.	2,362
9:00 a.m. to 10:00 a.m.	2,102
1:00 a.m. to 2:00 a.m.★	1,565
5:00 a.m. to 6:00 a.m.★	1,281
2:00 a.m. to 3:00 a.m.★	1,222
4:00 a.m. to 5:00 a.m.★	1,046
3:00 a.m. to 4:00 a.m.★	1,044
7:00 a.m. to 8:00 a.m.	1,040
6:00 a.m. to 7:00 a.m.	814

★ Indicate overseas Hits

Day	Hits
Monday	14,733
Tuesday	14,309
Thursday	10,897
Wednesday	9,802
Sunday	9,029
Friday	7,731
Saturday	6,564

Weekend (21.3%),Weekdays (78.7%)

Most Accessed Pages

Document	Views
/index.html	399
/biodegradable_plastics.htm	265
/lifecycle.html	258
/recyclingprojects.html	242
/newsbank.htm	215
/wastemanagement.html	175
/resourceconservation.html	165
/polyvinyl_Chloride.htm	155
/Overview_plastics.htm	155
/mythsnrealities.html	151

Proactive Campaign on Plastic Recycling

A multinational advertising agency TBWA India had approached ICPE with a proposal for a joint Ad Campaign in print media to propagate awareness on Plastics Recycling. It was clarified by the ad agency that they required ICPE's association as a responsible leader in the subject area and they sought ICPE's technical help for the preparation of the ad matter. It was further clarified by the agency that there was no financial implication to ICPE as the agency, as a part of their corporate responsibility, would bear all the cost for the Awareness Advertisement.

Technical assistance was provided to the agency and two such ad campaigns have already been published in the print media under the theme – 'Let's Recycle'.

School Programmes

Initiative

Lady Sri Ram (LSR) College, New Delhi

An awareness programme was conducted at Lady Sri Ram (LSR) College on November 1, 2006. The programme was conducted in the seminar hall of the "Prakriti" Eco-society.

The students were briefed on the various applications of plastics, its benefits and waste management and recycling of plastics. This was followed by screening of the film 'Living in the Age of Plastics'. Thereafter, a quiz contest was held and prizes were distributed for the top 3 entries. Mementos of ICPE were awarded to the best 10 entries. Copies of the booklets 'Point-Counter Point & Frequently Asked Questions' and some latest editions of Eco-Echoes newsletter were distributed.

ICPE officials with the prize winners at LSR College.

Modern School,
Vasant Vihar, New Delhi

ICPE participated and conducted an awareness programme in the Annual Green Fair 2006 organised by Modern School on the 22nd November, 2006.

The educational panels of ICPE and the banner were displayed. Copies of the awareness booklets 'It's My World' and 'Point-Counter Point & Frequently Asked Questions' were distributed among the school children. Copies of recent editions of newsletter – Eco-Echoes were displayed and handed over to the teachers, school faculty and interested parents. The film – 'Living in the Age of Plastics', Cartoon film for children of ICPE and the ICPE film on plastics recycling were being shown in continuous loop. Some of the publications of ICPE and folders made of recycled plastics were also displayed.

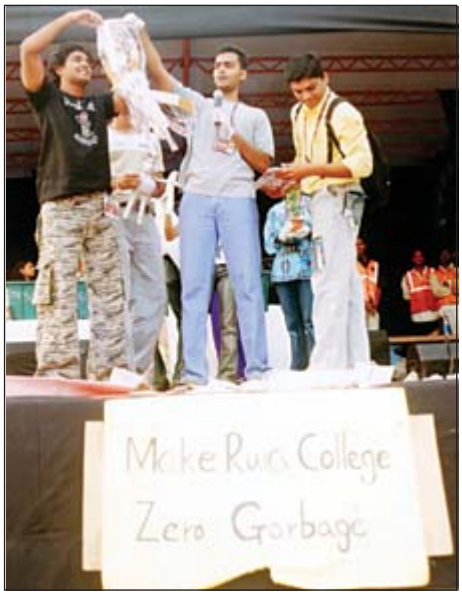
Students at the ICPE stall at Green Fair 2006.

The visitors were very appreciative of ICPE's efforts in waste management and anti-littering and the good display of educative material.

Ramnarain Ruia College,
Matunga, Mumbai

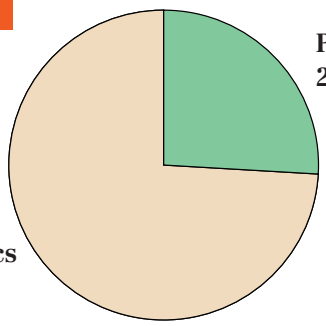
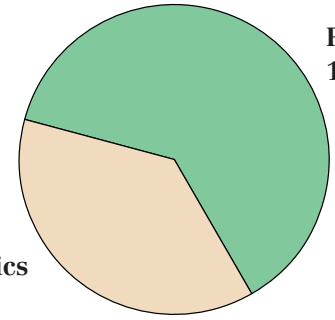
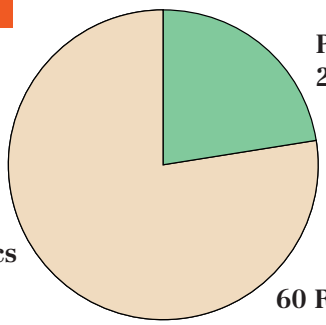
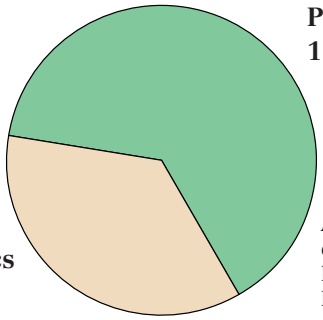
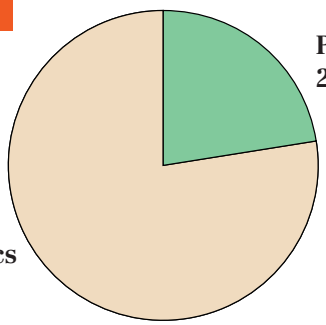
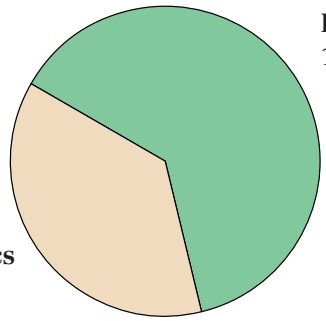
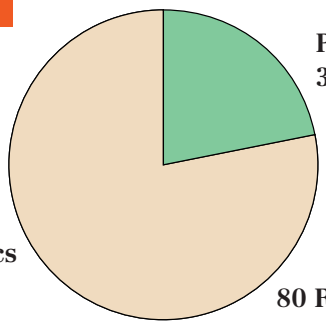
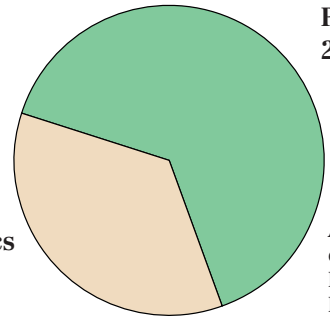
Centre for Slum Studies, a project run by the College, organized a 'Waste Day' on 22nd December, 2006 in collaboration with BMC and ICPE, where the students in different groups were encouraged to collect plastics waste from their houses and localities and deposit the same at a centralized place within the college premises. The prizes were distributed to top 3 groups who collected the most quantity of the waste. ICPE organized for waste dealer, who collected the Plastics Waste from the college for onward forwarding to the Recyclers.

The exercise created awareness among the students who realized the value of the plastics waste. ICPE sponsored the project by donating Rs.5000 to the college.



Solid Waste Management (Segregation) Projects in Mumbai Wards

A comparative assessment of the segregation activities in selected Mumbai Wards for the last 3 years was provided in the Activity Report submitted during last EC/GC Meeting held on 2nd September, 2006. The segregation figure for the year 2006 is given below:

	Weight (kg)	*Value (Rs.)*
2003	 Plastics 2,17,161 Non-Plastics 4,06,483	 Plastics 14,19,759 Non-Plastics 9,40,766
2004	 Plastics 2,46,323 Non-Plastics 6,15,803 60 Rag Pickers	 Plastics 18,39,997 Non-Plastics 14,59,680 Average earning per Rag Picker Rs. 4,582/- p.m.
2005	 Plastics 2,47,606 Non-Plastics 6,08,189	 Plastics 18,67,152 Non-Plastics 13,10,823
2006	 Plastics 3,54,083 Non-Plastics 9,13,668 80 Rag Pickers	 Plastics 26,81,733 Non-Plastics 21,81,697 Average earning per Rag Picker Rs. 5,066/- p.m.

ICPE Participation in Indplas '06

Kolkata – November 24-27, 2006

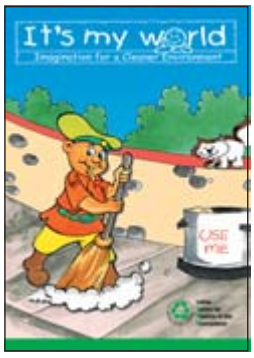
Indplas '06 – International Exhibition on Plastics was held from 24th to 27th November, 2006 at Kolkata.

The exhibition was jointly organized by Indian Plastics Federation (IPF) and Plastindia Foundation (PIF) and was supported by plastic industries at the local and national level.

ICPE was allotted a Covered Space of around 2800 sq.ft. free of cost. A special enclosure was created within the stall by ICPE for screening Awareness Films. This became the main attraction of ICPE Stall. ICPE Stall emphasized the importance of Recycling of Plastics depicting selected panels of Recycling Pavilion of Plastindia 2006. Various samples of recycled plastics were also displayed.

The organizers arranged for visits of school children especially to ICPE Stall in an organized manner. More than 2500 school children from about 20 local schools visited ICPE Stall and viewed the film – 'Living in the Age of Plastics'. Teachers who led the school children appreciated the film and admitted that they could realize many facts about plastics and the real problems of Municipality Solid Waste Management and its solution. Each student was given the following Awareness Booklets:

- It's My World- Imagination for a Cleaner Environment
- Point-Counter Point & Frequently Asked Questions, mostly in Bengali and English
- One page pamphlet on Two-Bin Culture



Adult visitors also viewed the ICPE Film keenly and collected ICPE booklets. There was good response from the business community, who wanted to take plastics recycling as business activity.

The 'Point-Counter Point' booklets were printed in local language. It was also assured that arrangement would be made to translate the content of each panel in the local language at the place of exhibition.

ICPE Participation in Plasto 2006

Pimpri, Pune
December 21- 24, 2006

The Exhibition was organized by Association for the Promotion of Plastics (APP) and Pimpri – Chinchwad Plastics Association, supported by the All India Plastic Manufacturers' Association, (AIPMA) and Maharashtra Plastic Manufacturers Association, (MPMA).

Ms. Mangala Kadam, Mayor of Pimpri & Chinchwad Municipal Corporation, inaugurating Plasto 2006. Mr. Ajay Desai, AIPMA President is seen extreme left, Mr. Sujit Banerji is seen to her right along with others.

ICPE had demonstrated the panels on Recycling and distributed the awareness books and newsletters. ICPE procured pencils made out of recycled polystyrene by a Pune-based company, Galaxy Pencils and distributed those among the school children and other visitors.

ICPE's Awareness Films were screened in continuous loop in a specially made hall with a seating capacity of around 100 persons. Large number of visitors viewed the films with keen interest.

ICPE had also sponsored a live demonstration of Recycling of Expanded Polystyrene (EPS) by a local processor, Mane Electrical. The live demonstration created awareness about the recyclability of EPS among the visitors.

ICPE official explaining the benefits of plastics recycling to the Municipal Commissioner, Pimpri & Chinchwad.

Mr. Sujit Banerji delivering the keynote address at the inaugural ceremony.

Mr. Sujit Banerji, President, Polymers and Olefins and Head-Integrated Research & Technology, RIL and Executive Secretary / Member, Executive Committee, ICPE, was present during the inaugural ceremony of the exhibition and delivered the keynote address.

Excerpts of Mr. Sujit Banerji's speech at the Inaugural Ceremony of Plasto 2006

Average consumption of plastic per person in India is hardly 4 kg as compared to 20 kg in the Western countries. In India, there is an increasing demand for plastic in automobile sector, agricultural sector, etc. Currently there is about 7 million tonnes of production of plastic goods in India which will grow up to 12 to 14 million tonnes in next 5 years and will generate employment for 18 million youngsters in the allied industries.

The new generation should take the maximum advantage of the growing opportunities in the Plastic sector.

Right now, USA and China have the maximum consumption of plastic in the world. However, in the next few years, India too will consume plastic on a large scale.

With the development of technology for recycling of waste plastics, there will be maximum use of plastics in all sectors in the next 15 years.

With systematic planning, there will be market for 27 million tonnes of plastic and polymers within our country itself.

Pune Municipal Corporation have developed a road on experimental basis by using geotextile fabric on Pune-Daund Road and since last four years, there has not been any damage to this road. Taking this into account, this experiment may be carried on at Pimpri-Chinchwad area also.

Recycling of Plastics – Initiatives in New Zealand

International News

Concern about plastics rubbish going to landfills is based on the fact that they degrade very slowly. A more fundamental issue is that plastics disposal represents a waste of a valuable, non-renewable petrochemical resource.

There are four options available at the end of a plastic product's life: mechanical recycling, chemical recycling, energy recovery and landfill. In New Zealand, landfill is the prevalent destination for plastic products, with 18% of plastic packaging now being diverted through private and public recycling operations.

Why Bother to Recycle?

- resources, including non-renewable raw materials, are conserved,
- it reduces landfill requirements and costs,
- the use of recycled material usually means less energy is needed than that used to produce virgin plastic,
- it provides new opportunities and new products,
- it increases employment opportunities.

There are three main streams of plastic recycling in New Zealand:

1. kerbside PET (1) and HDPE (2) collections of household waste,
2. commercial collection of commercial films (shrink and shroud wrap),
3. in-house plastics recycling by manufacturers.

How are plastics recycled in New Zealand?

The material collected by territorial authorities and recycling companies is used for mechanical recycling. This process involves:

- material collection – the plastics destined for recycling need to be collected; this may be from a manufacturing site, a commercial operation seeking to dispose of bulk packaging, such as pallet wrap, "drop off" points at schools, or from houses, from a kerbside collection,
- transport to the recycling centre,
- sorting into types that can be re-processed together, and either,
- baling for export, or
- cleaning to remove dirt and other contaminants. Normally this is done by cutting the plastics into small flakes and putting these flakes through a washing and drying process,
- the flakes are then melted and extruded (squirted) into thin lines and then chopped into granules,
- reuse – the granules, or pellets, can then be used to make new plastic products.

PET (1) is exported in bales to be reprocessed to Australia, China and Asia. Most HDPE (2) and commercial film is being reprocessed here.

To increase plastic recycling here, Plastics New Zealand encourages:

- advanced design to facilitate recycling,
- labelling products with the Plastic Identification Code to aid sorting and collecting,
- selecting packaging materials able to be recycled,
- using recovered recycled material in their products,
- promoting and educating their customers and the public about the environmental and social benefits of plastic and plastic recycling,
- stimulation of new markets to ensure an end-use for recyclate,
- investment in new technologies to support material recycling and new techniques.

Other Types of Recycling

Innovative techniques in the energy recovery and materials recovery areas are beginning to appear in Europe, the US and Japan. While the relatively small volumes of recyclable material available in this country may make such developments too expensive to establish here, the local industry continues to monitor, investigate and commit resources to seeking a technology, or technologies, that would be applicable to the New Zealand situation.

(Source: Plastics New Zealand, www.plastics.org.nz)

National Workshop of ENVIS Centres

Simla, Himachal Pradesh, October 12-14, 2006

News Item

The second National Workshop of all the ENVIS Centres was organized by the ENVIS Directorate of Ministry of Environment and Forests (MoEF) at Simla during October 12-14, 2006, in association with the Himachal Pradesh State Council of Science, Technology & Environment. The panel of experts, appointed by the Ministry evaluated the performance of each of the 75 ENVIS Centres of the country, 30 of which were of Government Departments/Regulatory bodies. ICPE ENVIS Centre team comprising Mr. T. K. Bandopadhyay, Coordinator and Mr. Sanjay Punjabi, Senior Programme Officer, made presentation to the Expert Panel. The Members of the expert panel were satisfied with the progress made by ICPE ENVIS Centre. They were specifically impressed with the number of 'Hits' recorded and 'Queries' attended by ICPE ENVIS Centre. However, there is a need for improvement in the overall design of the website to match the quality of the technical information contained in the site. MoEF Directorate were informed that ICPE ENVIS Centre was on the job for redesigning of the website.

Anti-littering Awareness & Demonstration Campaign

Kolkata – November 20th-26th, 2006

Week-long city-wide "Anti-Littering Awareness & Demonstration Campaign, first in Kolkata, was organised by Centre for Quality Management System, Jadavpur University, jointly with Indian Plastics Federation (IPF) and Paschim Banga Viggan Mancha (PBVM).

Awareness campaign was launched by Hon'ble Mayor Mr. Bikas Ranjan Bhattacharyya, Mr. Sudeep Banerjee, Chairman, WBPCB, Mr. Faiz Ahmed Khan, MIC, Solid Waste Management, KMC, are also on the dais.

ICPE participated in the week-long Anti-littering Awareness & Demonstration Campaign in Kolkata from 20th-26th November, 2006. ICPE had provided the basic designs and text materials for the Hoardings and Panels showcased during the campaign.

In his address, the Hon'ble Mayor of Kolkata emphasised the responsibility of the citizens and civic bodies for proper Waste Management. There was no untoward comment against plastics in general. However, in an answer to the press, he admitted that the Authorities could not effectively implement the 20-micron rule for the plastics carry bags.

Our 'Wealth from Waste' Campaign.

Awareness Programme.

In a conversation with the Mayor, he was made aware of the ICPE's proposed trial for use of all types of low-end plastics waste in Cement Kilns and Blast Furnace and the opportunity of cleaning up of all plastics waste, which was not picked up by the rag pickers. It was mentioned to him that ICPE was finding it difficult to collect about 200 MTs plastics waste (low-end) required for the trial. He offered his cooperation in such a drive for the collection of low-end plastics waste.

Questions & Answers in the Rajya Sabha and Lok Sabha of Indian Parliament on Plastics and the Environment

RAJYA SABHA

Power Generation from Urban Waste

Unstarred Question No. 2038
Answered on 11.12.2006

Shri Dharam Pal Sabharwal :

Will the Minister of New and Renewable Energy be pleased to state:

(a) Whether it is a fact that the drains falling in towns and rural areas are filled up with plastic fuel, polythene wastages and they create problems to the drainage system;
(b) Whether the Government are considering to develop hi-tech technology for generation of energy from these wastages on national level;
(c) If so, whether Government undertakings, and private multinational companies have taken initiatives in this regard; and
(d) If so, the details thereof and what is the progress in this regard?

Answer:

Shri Vilas Muttemwar, Minister of State for the Ministry of New and Renewable Energy:

(a) Indiscriminate littering of plastic material along with other garbage and the absence of organised segregation creates problems for the drainage systems in towns and rural areas. Several initiatives have been taken by the Ministry of Environment & Forest to discourage littering and to promote proper collection, segregation, reuse and recycling of plastics, including notification of Recycled Plastics Manufacturer and Usages (Amendment) Rule, 2003, and Hazardous Wastes (Management & Handling) Amendment Rules, 2003.
(b), (c) & (d)
No, Sir. However, a Nagpur-based Professor claims to have a catalytic process for conversion of plastic waste into liquid fuel. On the basis of a detailed scrutiny carried out by the Scientific Advisory Committee of the Ministry of Petroleum and Natural Gas, the proposal could not be recommended for further research and/or funding.

ICPE has since received a query from the Ministry of Fertilizers & Chemicals, Department of Chemicals and Petrochemicals for ICPE assessment of the development. ICPE has sent feedback of current activity of the unit to the Ministry, based on the informations already disseminated in ICPE Newsletters – ENVIS, Aug.-Dec. 2004 and Apr.-June 2005.

LOK SABHA

Effects of Plastic Bags

Starred Question No. 362
Answered on 18.12.2006

Smt. Jayaben B. Thakkar :

Will the Minister of Environment and Forests be pleased to state:

(a) Whether the government has assessed the adverse environmental effects of plastic bags;
(b) If so, the details thereof;
(c) Whether some States have put a ban on the use of certain types of plastic bags;
(d) If so, the details thereof and the extent of success achieved in this regard so far;
(e) The concrete steps proposed to be taken to ban the plastic bags all over the country; and
(f) The alternative that have been proposed / suggested for use in place of plastic bags?

Answer:

Shri Namo Narain Meena, Minister of State in the Ministry of Environment & Forests

(a) to (f):

A statement is laid on the Table of the House.

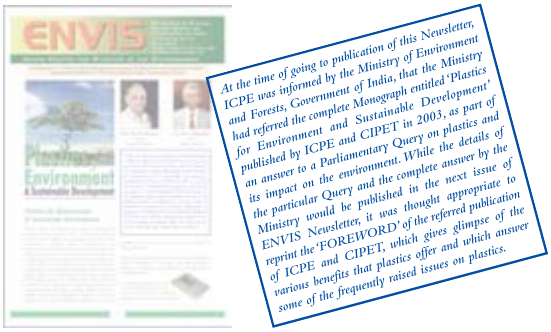
Statement Referred to in Reply to Part (a) to (f) of the Lok Sabha Starred Question No. 362 to be answered on Monday, the 18th December, 2006 regarding "Effects of Plastic Bags" by Smt. Jayaben B. Thakkar, M.P.

(a) & (b)

Plastic bags are made of polyethylene (long chain hydrocarbon). Plastics are generally chemically inert and so used for the manufacture of a large number of consumer items including bags, personal care products, in packaging food stuff, medicine, and child care products, etc. A monograph entitled "Plastics for Environment and Sustainable Development" was published in 2003 by the Indian Centre for Plastics in the Environment, Mumbai, and the Central Institute of Plastics Engineering & Technology, Chennai, an autonomous institution of the Ministry of Chemicals & Fertilizers, which comprehensively assesses issues concerning Sustainability of Plastics as materials and their impact on the Environment. However, the indiscriminate littering of plastics and environmentally unsound recycling practices have the potential to cause adverse impacts on environment and health.

(c) & (d)

The Government of India has notified the Plastics Manufacture and Usage Rules, 1999 amended 2003 under the Environment (Protection) Act, 1986. As per these rules, manufacture, stocking, distribution, or selling of carry bags made of virgin or recycled plastic which are less than 20 x 30 cms in size and 20 microns thickness is banned. These rules also prohibit use of recycled plastic bags for storing, carrying, dispensing or packaging of food stuffs. Further units manufacturing carry bags or containers made of virgin and recycled plastics are required to register with the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).



Please refer to the Box Item in the ENVIS Newsletter, July-September, 2006 in which this was mentioned. Details of query and complete answer is given here.

As per information made available by State Pollution Control Boards, the States like Maharashtra, Punjab, Chandigarh, Kerala, Meghalaya and Goa have laid down stricter norms that prescribed with regard to thickness of plastic bags, i.e., 50, 30, 30, 30, 40 and 40 microns respectively. The State of Himachal Pradesh has banned carry bags made of non-biodegradable material of thickness less than 70 microns and size less than 30 x 45 cms. Further the States of Gujarat, Orissa and Goa have banned use of plastic bags in certain religious and tourist places like Ambaji, Dakor, Somnath in Gujarat, municipal area of Puri and Konark in Orissa and some important tourist spots in Goa. The concerned State Governments and the Union Territory Administrations are monitoring the implementation.

(e) & (f)

There is no proposal with the Government of India, at present to ban use of plastic bags all over the country, considering the volume of plastics concerned, size of the plastic industry and non availability of cheaper substitutes. Cloths, jute and bags made of paper wherever applicable, are considered as alternatives in place of plastic bags. With a view to identify successful approaches followed by some of the States for the managements of plastics, the Central Government is closely watching the emerging situation.

Indian Centre for Plastics in the Environment

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