

"Collection Of Domestic Secondary Fiber" An Initiative As Corporate Social Responsibility

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ABSTRACT

Increased use of recycled fiber is the current trend in the paper industry globally as it is one of the survival routes for the paper industry against dwindling fiber resources and environment related issues. Waste paper collection system in India is unorganised and unplanned. As a result, large quantities of waste paper get diverted for cheaper packaging and other uses or get destroyed as rubbish. Bulk of waste paper collected by street collectors in metropolitan cities goes to household paper bag manufacturers. ITC, as a part of its Corporate Social Responsibility, has taken up "**WEALTH OUT OF WASTE**" (WOW), as a green initiative to increase the awareness among the Schools, Corporates, Residential localities and Public at large, about the necessity of recycling paper and board, and reducing the land fill. This revolutionary initiative is meant to protect the Environment, Public Health and Hygiene. This type of activity helps in proper collection and availability of sustainable better fibrous material for Indian Paper Industry at a competitive price and also generates employment to the masses. This initiative has helped ITC-PSPD in meeting its secondary fiber requirement.

Introduction

Increased use of recycled fiber or in common terms waste / recovered paper is the current trend in the paper industry globally as it is one of the survival routes for the paper industry against dwindling fiber resources and environment related issues. Recycling has economic benefits too as it facilitates in meeting the paper / paper product demand without an equivalent increase in the demand of wood. In tune with the global trends, the recovered paper is being used by all segments of the Indian paper industry which accounts for around 40% of the total paper production. Recent MOEF report on paper industry's raw material consumption data as shown in Table-1, also confirms the same. However this production figure is mostly met through more than 70% of imported substitute as

Table -1
Shift In Raw Material Consumption Pattern In India

	WOOD	AGRO.RES.	WASTE PAPER
1970	8.4	9	7
2000	39	31	30
2011	31	22	47

Source : MOEF

Table - 2

HOW DOES WE FARE IN WASTE PAPER RECYCLING		
USA	Recycling rate	65%
EUROPE	Recycling rate	+ 70%
U K	Recycling rate	40%
CHINA	Recycling rate	30%
INDIA	Recycling rate	20%

the recovery rate of waste paper in India is substantially low as shown in Table-2, with no appreciable rise in recovery rate witnessed in the last two decades.

Availability Of Domestic Waste Paper

One of the best ways to secure raw material for the Indian paper industry is to develop moves to socially and culturally change the mind-set of the people to help improve collection of waste paper for recycling it back to paper making (1). Waste paper recovery system in India is very unorganized and unplanned. As a result, large quantities of waste paper get diverted for cheaper packaging and other uses or get destroyed as rubbish. Bulk of waste paper collected by street collectors in metropolitan cities goes to household paper bag manufacturers.

Due to lack of any grading/ classification system in context of waste paper, no sorting or segregation is done at source and so most of the waste paper varieties are collected in commingled form. The potential sources of Domestic waste paper is shown in Table-3. Latest technology such as use of Drum Pulper can

the latest MOEF data on current waste paper collection mechanism existing in India. Where it can be seen that the waste paper collections are very very meager.

Urbanisation And Municipal Bye Laws On Solid Waste Paper

Table -3
The Potential Source Of Domestic Waste Paper

Domestic refuse	Newspaper, magazines, board cartons.
Industrial refuse	Corrugated boards, duplex & other packaging board, paper sacks etc.
Office refuse	Ledger files and papers from Govt. offices, Universities & large business organizations.
Trade refuse	Boards trimmings from converters & packaging manufactures, paper savings from printers

In India, at present the urban population is about 25% of the total Nations` Population and is estimated to touch 60% by the year 2025. The United Nation experts predict that this may touch as high as 75% by next one or two decades. In India, health and sanitation fall within the purview of the state laws. Collection and disposal of solid waste is of local nature and is entrusted to local civic authorities. The municipal laws lay down detailed list of obligatory and discretionary duties. In urban areas, waste generated in residential and commercial areas are termed as Municipal solid waste (3). From this , one

Table - 5
Recovery Potential For Waste Paper

P			TYPE OF WASTE	
WRITING/PRINTING				
Copier Paper	Offices	50	Post	2 0
	Business Est.	40	Consumer	
	Others	10		
Cream wove	Printing House	20	Pre	100
	Paper traders	5	Consumer	
	House holds	20	Post	2 0
	Schools/colleges	10	Consumer	
	Offices	25		
	Business Est.	10		
Others	10			
PACKING PAPER				
	Converting House	15	Pre	100
			Consumer	
	House holds	20	Post	5 0
	Offices	5	Consumer	
Business Est.	50			
others	10			
NEWS PAPER				
	Publishing House	20	Pre	100
	Distributors	5	Consumers	
	House holds	40	Post	3 0
	Offices	10	Consumer	
	Business Est.	15		
	Others	10		

retain the fiber quality and also separates the fiber from unwanted materials.

Existing System In India For Collecting Domestic Waste Paper

The instrument of waste-paper recycling in India is provided by the unorganised and informal sector, comprising Scavengers, Scrap vendors (kabaadi wala), Middlemen and the big business houses. Not only the material is sold from one of these levels to another, it is stored and segregated for the materials of diverse nature such as glass, plastic, paper and metals to supply for actual process of recycling that would finally undergo. Thus, the waste-paper, which is collected from domestic sources, business houses, offices, academic institutions and industries at a rate of hardly Rs.2.00 to Rs.5.00 per Kg is sold as a Mixed Record to Paper Mills at an exorbitant average price of Rs.12/Kg. When there are legislations in the developed countries on compulsory use of recycling of paper, no such stipulation so far exists in India (2). Table-4, shows

Table - 4
Current Waste Paper Collection Mechanism In India

	ITEMS COLLECTED		
Collection from House hold	Old newspaper & Magazines	WEEK END hawkers	1. 5
	Note books & Text books		0. 5
Annual scrap contracts of printers. Publishers & Other converters.	Paper trimmings, print rejects, over print/miss prints.	CONTRACTORS	0. 25
Scrap contractors with Industries, Offices & Lib.	Old corrugated cartons, examination answer sheets, old office & Lib.records	CONTRACTORS	0. 5
TOTAL			2. 75

can predict that the potential source of waste paper availability to the paper industry will be from increased urbanization and from Municipal collections. Table-5, shows the existing recovery potential of various grades of waste papers in India.

1. Issues Related To Waste Paper Based Mills

In spite of the fact that waste paper processing for paper making is considered to be an eco friendly process , there are certain technological & environmental issues still associated with waste paper based mills which need to be addressed to improve its environmental compatibility.

Source : MOEF

Table - 6
What In Our Garbage?

	%
Paper	29.4
Food Waste	15.6
Mis. Inorganic	9.7
Yard Debris	8.2
Wood	7.9
Plastics	5.2
Mis. Organic	6.7
Metals	8.2
Glass	2.8

1.1. Technological Issues

The main objective of recycled fiber processing is the removal of contaminants and elimination of their effects as much as necessary to meet quality requirements. Removal of contaminants makes recycled fiber processing systems significantly more complex than systems for virgin fibers. There are several unit operations / stages viz. slushing, screening, cleaning, flotation, disperger etc. to remove the contaminants from recycled fiber stock. The technology is well established to produce newsprint, packaging grades and fine papers and most of the mills in USA, Europe have state-of-art technology for processing of recycled fiber. In India, however, most of the recycled fiber based mills do not have appropriate system configuration for efficient processing, as a result the quality of finished paper is low. The level of technology in majority of mills is obsolete. The operational efficiency of equipments and machines are also considerably below the optimum level. Due to lack of appropriate configurations, the amount of rejects generated are also high and is a major source of solid waste generated in such mills.

1.2. Environmental Issues

Among the environmental issues associated with recycled fiber mills, solid waste disposal and management is the subject of main concern. Deinked sludge generated from deinking plants in mills using printed waste paper for producing writing & printing grade of paper, consists of mainly fillers and coating pigments, fibers, fiber fines, printing inks and adhesive components. A characteristic feature of the deinking sludge is its high ash content in the range of 40% - 70%. Traces of heavy metals may also be present in some cases. In most of the cases the heavy metal content is insignificant and sometimes even below the detection limit.

Steps For Effective Recovery Of Recycled Fiber In India

Every individual paper mill is leaving the responsibility of procuring the domestic waste paper to its suppliers. Thinking that, they have solved the problem. Unless other wise the paper mills them selves take initiatives, the waste paper collection problem will not be solved. A responsible and enthusiastic recycling **coordinator** is crucial to success.

The following steps are suggested for effective domestic waste paper collection

Step - 1. Make commitment to recycling

Top level paper mill management must support the recycling programme.

Step - 2. Appoint a recycling coordinator

A responsible and enthusiastic recycling coordinator is crucial to success. The time needed by the coordinator is usually minimal and occurs primarily at the beginning of the programme.

Step - 3. Carry out a waste paper Audit

Knowing what is in your stream is essential in designing a recycling programme. An audit will help you determine the composition of your paper/board stream, including the type and amount of waste paper generated by your organization.

Step - 4. Research market for your paper/ board made with recycled paper

Make sure that you will have place to make your recyclable paper before starting the programme. Small companies need to make recycling more efficient. Check with Local Municipalities, about the possibility of providing the waste paper. Combine forces with other firms / NGO's in your area to increase volumes.

Step - 5. Decide what type of waste paper to collect

After evaluating the types of paper in your waste stream and finding out what kinds will be accepted waste paper collectors, determine the types of waste paper you want to collect. Focus on the higher value waste papers and those which make up the bulk of your waste paper stream.

Step - 6. Establish an efficient waste paper collection system

Prior to initiating new recycling programme, set up a formal collection system. Existing trash collection system should provide the foundation for the recycling programme. Always involve custodial personnel in the design of the collection system as they will be the responsible for its implementation.

Step - 7. Educate your Employees

Employee education and cooperation is essential for a successful recycling programme. Plan on starting your educational campaign a week or so before the programme Kick off. The purpose of this campaign is to prepare your employees for participation in the recycling programme.

Step - 8. Kick off your recycling programme

This is the simplest step in implementing the programme. Just pick up a date, have celebration and start recycling.

Step - 9. Maintain your recycling programme

Maintenance and continued promotion are essential to ensure a lasting, successful recycling programme. Issue memos,

newsletters, articles and periodic announcements are essential. Monitor working of collection centers and prepare follow-up educational material to eliminate contamination problems (4).

2. Need For Responsible Business

CSR has gone through many phases in India. The ability to make a significant difference in the society and improve the overall quality of life has clearly been proven by corporates. Not one but all corporates should try and bring about a change in the current social situation in India in order to have an effective and lasting solution to the social woes. Partnerships between companies, NGOs and the Govt. should be facilitated so that a combination of their skills such as expertise, strategic thinking, manpower and money to initiate extensive social change will put the socio-economic development of India on a fast track.

2.1. Sustainable Efforts Made By ITC For Waste Paper Collection

ITC as a part of their Social Responsibility charter, has taken up “ **Wealth Out Of Waste (WOW)** ” as a green initiative to protect environment and reduce global warming. The objective of this initiative is to create awareness among general public , school children, NGOs`, house wives, corporate employees, and executives as well as industries and business enterprises about the growing concern for the environment and to inculcate the habit of source segregation and recycling. In the process of implementing WOW and improving the availability of cost effective raw material to paper, plastic, metal and glass industries, which is the primary objective, the other major gains envisaged are conserving natural resources, protecting the environment, reducing the land fill burden, reduction in garbage handling efforts and costs by various municipalities, improving health and hygiene, provide green and clean surroundings and reduce the impact on global warming.

i). Against this back drop, many schools, corporate, residential localities, commercial complexes have been approached in Hyderabad, Bangalore, Chennai, Madurai, Trivendrum and Coimbatore to help the recovery of waste paper. In the state of Andhra Pradesh, eleven Hubs cover ten cities and forty two towns. Details are shown in Fig (1).

ii). National Surveys show that about 30% of the waste generated in house holds consists of paper along with other contents as shown in Table - 3. Since the children are the best source of motivation, a pledge is administered by them in all schools Fig.(2).

FIGURE 1. W O W FOCUS	
<u>ANDHRA PRADESH</u> ,	<u>SOUTH INDAI</u>
▼ (11 Hubs Covering 10 Cities & 42 Towns)	▼ HYDERABAD
	▼ COIMBATORE
	▼ COCHINE
	▼ CHENNAI
	▼ MADURAI
	▼ TRIVENDRUM

Fig. 2.
Pledge Administered By School Children

- *Take up segregation of waste into dry and wet waste.*
- *Reduce, Reuse and Recycle.*
- *Use eco-friendly products made of recyclable materials.*
- *Avoid wastage.*
- *Conserve natural resources.*
- *Avoid stand by mode and switch off appliances.*
- *Use energy efficient appliances.*
- *Switch to renewable energy.*
- *Spread the message of recycling.*

iii). ITC has been trying to educate the public about the two bin system segregation of waste into two categories (recyclable and the rest) at the source.

iv). Ministry of Urban Development, Government of India, has approached ITC to propagate WOW across India and have agreed to support the initiative by instructing Municipal Commissioners suitably.

v). Administrative Staff College of India (ASCI) is keen on introducing WOW as a program in their institute so that people who join various courses in their institute can be taught about WOW and its positive impact on the environment .

NGOs across the country are showing keen interest in WOW and would like to adopt the same in their respective areas of operation by adopting WOW mechanism as shown in Fig.(3).

FIGURE – 3.
W O W MECHANISM



- Φ SOURCE SEGREGATION
- Φ EFFICIENT COLLECTION
- Φ SORTING & RECYCLING

2.2. Fruits Of The Mission

Initial hiccups and hardships are natural in every such initiatives, where the entire activity has to start from a zero base. However the WOW team stuck to its job with perseverance and determination. Situation improved as the idea of WOW started sinking in.

- The total waste paper collected through this programme amounted to 6000 tonnes during 2008-09. In the year 2010-11, the waste paper collection was around 30,000 tonnes. Have plans to increase it to 50,000 – 60,000 tonnes in a year or two.
- Self sufficient in meeting our waste paper requirement .
- Creation of employment opportunities and a heightened spirit of civic responsibility.

Conclusion

Use of recycled materials can reduce the load on production and reprocessing of primary natural resources on the environment. It can contribute significantly in preventing an impending global environmental crisis. Virtually all types of office paper can be recycled. Beyond reducing the amount of paper one uses, Schools/Colleges and offices can set up recycling programs to divert paper from the waste basket. Public participation in such activities will help in protecting the environment. It should be noted that, WOW is not the responsibility of just an individual or a few organizations. It is the need of the hour and all citizens of the country must adopt it wholeheartedly.

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