Improving Wastepaper Circularity for Pulp and Paper Sector

Shobhit Srivastava
Deputy Programme Manager
Industrial Pollution Team, CSE

This article is based on CSE's recent report on recycling of wastepaper in India. The report is available for free download.

The Indian pulp and paper industry has grown from a production of 1.7 million tonne (MT) per annum in 1980 to about 21.68 MT per annum in 2020, accounting for 5 per cent of global production. Paper in India is manufactured using wood or bamboo, agriculture waste (bagasse, wheat straw) and waste paper also known as recycled fibre (RCF) when used as raw material in paper industries. In India, about 76 per cent of the production of paper is RCF-based. RCF-based paper manufacturing is environment friendly as it doesn't involve high use of chemicals (like wood-based industries, which affects the environment adversely if not managed properly) also it helps in conserving resources as it requires less power and water to manufacture paper from RCF.

Wastepaper is collected from different sources (household, offices, schools, hospitals etc) and goes through the supply chain which is largely informal in nature. Even though the collection rates of newspaper and packaging paper are high at 70 and 60 per cent respectively, the collection rate of virgin paper is only 40 per cent due to the fact that virgin paper is stored for record keeping purpose in offices. The overall collection of wastepaper in India at present is at par with world's average figure of 58 per cent.

CSE's first report on waste circularity in industries is with regard to wastepaper-based industries of the Pulp and Paper sector. It covers the status of wastepaper recycling in the country, its supply chain, cost economics, quantification. and estimation of the wastepaper used as raw material in paper industries, wastepaper-based production in the sector and other secondary applications.

CSE has estimated the recovery rate using the figures of production of paper in India, import and export of finished paper, wastepaper imports etc. Data for last four years have been considered for estimation purpose and recovery rate is calculated. As per CSE estimates, the present recovery and utilization of wastepaper by mills in India is about 12 million tonnes per annum, which translates to a recovery rate of 57 percent. This brings India close to many developed countries, however there is still ample scope to improve upon the recovery, as Europe at present recover about 70%. The highest recovery rate is of Japan which is about 80 percent.

There are some secondary applications of wastepaper apart from its use as raw material for paper industries, where it gets diverted before reaching the industries. CSE identified various secondary applications of wastepaper with inputs from experts, on-ground surveys and discussions with sector representatives, namely use of wastepaper is used by hawkers, by roadside eateries, in packaging of fruits, as egg/apple trays and in similar moulded items. Other applications include handmade paper units, record keeping, envelope making, as filling in leather bags, etc. As per CSE's analysis, about 9 million tonnes of wastepaper is used in secondary applications. That is about 43 per cent of the total domestic consumption of paper. Most of the share of this diverted quantity doesn't come back into the supply chain and finally ends up at the dumpsite.

To understand the scenario of wastepaper circularity and supply chain of raw material, CSE team visited various pulp and paper industries and wastepaper collection facilities. Out of the visited facilities few of the good practices have been highlighted as there is a need to replicate such models in India. Both case studies mentioned can be regarded as models which can be replicated by agencies involved in wastepaper recycling to increase recovery of wastepaper to Indian paper industry thus increasing circularity.

In most developed countries, there is wide range of legislation specifically been developed only for packaging waste, but it doesn't include other grades of paper. In India too, there is no legislation or policy on wastepaper specifically. At present there is an existing legal framework for solid waste management. All the issues relating to solid waste management are not adequately addressed therein, as there is no specific mention of the management of recyclables like paper, glass, etc.

The recommendations include various pathways to further improve the recovery to the paper industries, usage of domestically available raw material and reduce the import of wastepaper in India.

Import of wastepaper is necessary to be highlighted as it is one of the reasons of unavailability of domestic wastepaper which is mainly due to low wastepaper recovery. However, it is not the only reason for significant quantity of wastepaper import and fibre strength of the wastepaper, specific requirement of the product are some of the factors driving import of wastepaper. We have talked about the quantity and value of import of wastepaper in last 10 years.

Recommendations

Though the estimated recovery rate for industries has reached up to 57 per cent, there is still a lot of scope for improving the collection of wastepaper and its circularity to industries. Access to and sourcing of raw materials, including the collection and sorting of wastepaper, needs improvement. Waste collectors and recyclers are all part of the supply chain. However, since there is no formally developed system to channelize the waste collected, it is getting lost to the informal sector at various levels of the supply chain. In this regard, we need a well-designed and aggressive system for collection, sorting, grading and utilization of recyclable wastepaper. This is the only way to contain imports and cut the increasing cost of raw materials for the industries. A sustainable model must be developed so that most of the collected paper can be channelized to the paper industry.

Also, there is no data available on the consumption of wastepaper in secondary applications. CSE, through its recommendations, also intends to initiate the documentation and recording of wastepaper movement in the supply chain.

The recommendations of the report include:

1. Integrated system for wastepaper recycling including formal and informal sector
2. Development of Extended Producer Responsibility (EPR) guidelines for wastepaper management
3. Exemption in GST rates for industries meeting the targets for wastepaper recovery
4. Introduction of quality standards for the raw material
5. Restriction on usage of imported finished paper
6. Alternatives for secondary applications
7. Consideration of pulp and paper sector under the green credit programme.