Chapter 6. Recycling and trade of waste paper in India

6.1 Introduction

The paper industry in India is more than a century old. Commercial production of paper started as early as 1879. Limitations with respect to forest-based raw materials forced the Indian paper industry, in these early stages of its development, to utilise non-conventional materials, such as straw, bagasse, and textile material. India was the first country in the world to have a paper mill relying entirely on bamboo as its primary fibre. The use of non-conventional raw materials was strongly supported by the Indian government (RAO 1989). Around 1950 waste paper was also introduced as a raw material for the production of paper.

Originally, waste paper was only retrieved from the local market. A comprehensive network of collectors and traders became established in urban areas. Soon, additional supplies were imported from abroad. Over the years, imported waste paper developed into a substantial source for the Indian paper and pulp industry. At present, more than half of the recycled waste paper in India is of foreign origin. After the Philippines, this level of import dependency on waste paper is the second highest in the world (van Beukering and Sharma, 1996). The growth of imported waste paper led Indian waste-paper recoverers to complain about the crowding-out of the local waste-paper recovery sector. In the early 1990s, the Indian government responded by imposing a levy of more than 100 percent on the import of waste paper. As a result, the Indian paper industry faced a sudden shortage of inputs and importers of waste paper went through difficult times. Faced by the negative results of the import levy, the Indian government withdrew the protective measure after only a few months. This event demonstrates that the responsible authorities do not fully understand the exact role of international trade in secondary materials. Rather than considering the benefits of waste-paper imports, the Indian government focused only on the potential negative impacts.

The main objective of this case study is to address the economic and environmental costs and benefits to India that arise from international trade in waste paper. This is done in both a qualitative and a quantitative manner. First, trends and issues are discussed in Section 6.2. Then, Section 6.3 details the complete MPC of paper. Next, a description of the model of the Indian lifecycle of paper is provided in Section 6.4. The results of various scenarios are presented in Section 6.5. Finally, conclusions are drawn in Section 6.6.

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2 The Indian wastepaper market is not really notable from an international perspective. In 1997, India imported only 375 000 tons of the 17.5 million tons traded internationally. In the same year China, for example, imported more than 3 million tons (FAO, 1999).
6.2 Trends and issues

To comprehend the impact of waste-paper import on the Indian paper cycle, it is important to be aware of the context in which foreign supplies of waste paper to India occur. Therefore, trends and issues in the Indian paper cycle are explained. These include developments in consumption, government policies, raw materials, trade, and waste management. To highlight the typical features of the Indian paper cycle, a comparison will be made with the paper sector in developed countries.

6.2.1 Paper consumption growth

Indian citizens consume on average approximately 3 kilograms (kg) of paper each year. This is low compared with the annual per capita consumption of paper in Japan and the United States, which is 234 kg and 298 kg, respectively (FAO 1993a). The official statistics do not account for the consumption of reused paper. Therefore, the actual per capita consumption in India is slightly higher than the official figure of 3 kg. In this study, reuse is assumed to account for 10 percent of the total consumption. With the prospect of growing urbanisation, increasing literacy rates and general increasing economic growth, the consumption of paper and paperboard products in India is expected to grow considerably in the coming years. With an expected growth rate of 5 percent, per capita consumption will exceed 4 kg by the end of this century (Khanolkar 1995). The average global growth rate of paper consumption is approximately 2 percent (FAO 1993a).

6.2.2 Poor performance of paper industry

In the 1960s and 1970s the Indian government followed the model of import substitution in various sectors (Mani 1992). Throughout the years, import dependency decreased for most types of paper and pulp. Today, only the demand for newsprint is still largely dependent on foreign supplies. On the one hand, import substitution was achieved by imposing import constraints on final paper products and raw materials. On the other hand, various incentives were provided to the paper industry to increase production. As a result, India accounts for the second largest number of paper mills in the world. Paper is produced on different scales in India, varying from handmade paper units to large-scale integrated mills. Still, on average the scale of operation is much smaller than in the main pulp producing countries. While the average annual capacity of a paper mill in Scandinavia and the US is in the order of 100 000 tonnes, for India, this average is much lower (Ewing 1985).

Despite government protection the overall performance of the industry is low with a declining trend in capacity utilisation (see Table 6.1). For example, of the 345 mills registered in 1993, over 100 mills were not operating, representing a total capacity of 700 kilo-tonnes (Kt) (Khanolkar 1995). In the last decade, the Indian government adopted a number of measures to improve efficiency. Various import constraints, such as the import tariffs for pulp, paper and paperboard, have been reduced, allowing foreign producers to freely supply the Indian consumers’ market. Moreover, foreign producers could actually establish factories for the production of paper in India itself.