

Eco-friendly Products



The world — well, most part of it — observed Friendship Day only a few weeks ago. Indeed, what is required today is true and selfless friendship with one another. A friendship, not confined to humans alone, should carry with it the feeling of care, affection, togetherness and sacrifice. We should befriend other nations, animals and plants on the earth, clouds and mountains, valleys and crevices and everything seen and unseen. Come, this year let us tie a friendship band to the unseen and most selfless mother of all generations — the environment. Better late than never!

We felt that to start in 4000 B.C. when Egyptians started papyrus would be carrying it to far. Handmade paper (the origin in India formed part of the Swadeshi movement) could be made using cotton, linter, tailor cuttings, hosiery waste, bast fibers (jute/hemp etc.), wheat or rice straw, bagasse, cotton stalk, grasses, waste paper, etc. that are easily available especially in villages. The technology used is simple, cheap and easy to instal. Moreover, varieties of handmade paper can be manufactured using the same machinery. The Indian government has promoted this industry by allowing it to enjoy certain priviledges like exemption from excise duty, etc. and the use of electricity without restrictions. Obviously we are discussing handmade paper here for their eco-friendly nature.



How Handmade Paper is Made

- * First step for its manufacture is to collect cellulosic raw materials like waste banana stem, waste cotton, mat grass, palmarosa grass and other agricultural residues.
- * Mixed fibres raw material are sorted out to remove any non-fibrous and metallic portion. These are then cut into small pieces (1-3 cm) mostly using a handmade chaff cutter.
- * Beating these cut pieces by hand removes the dust and dirt in them. Washing and then cooking in caustic soda for 2-3 hours in mild steel vessel (also known as 'digester'). Washing again removes alkali and dissolved matter.
- * Strips so made are put into a treatment vessel and processed with microbes. The bio-treated strips are fed into a beater along with water and additives to form a pulp type mixture (this pulp may need treatment with non-polluting bleaching agent).
- * The chemicals (rosin and alum) and colour may be added to improve the pulp quality as per requirements.
- * Paper sheets are formed by spreading this pulp mixture on a net to allow the water present to settle down. They are further blotted on a woolen or gada cloth.
- * Lastly the sheet is cut to the required size and shape
- * These sheets can be converted into bags, box, files, etc.

Eco-friendliness Of Handmade Paper

Usually paper is made from wood. Waste of paper would mean cutting of more trees for production of paper. Cutting of more trees would lead to environment issues like deforestation, soil erosion, scarcity of rain and water, pollution, etc. Those concerned and conscious about ecology believe, the use of single-side paper; envelopes once used; for internal correspondence in office or to leave behind a message to a family member or a friend, would surely reduce the consumption of paper and thereby less trees would be chopped off. This way, "paper can be made without disturbing trees, forests and environment", says *capart.nic.in*. In conventional paper making process, cellulose is obtained from trees (deforestation) after chemical and mechanical treatment with the result that only 30 to 40 per cent of the stating material is useful for paper making, whereas in the handmade paper making process 85 to 90 per cent of cellulose is obtained from tree usufructs followed by microbial or mechanical pulping by using non polluting additives and dyes from natural sources.

Handmade paper can be used for all purposes for which a normal paper is used but the most important area of paper application are as writing paper, cards, boards, etc. and includes newsprint, coated printing, tissue and sanitary, packaging & industries and

