UTILIZATION OF WEEDS AND AGRIWASTE BY POPULARIZING HANDPAPERMAKING IN KERALA, INDIA

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Kerala in south India grows several cash crops such as banana and pineapple, the crop residues of which are sources of natural fibres that can be used in hand papermaking. Kerala, however, does not have a tradition in hand papermaking. The following is an account of an attempt to popularize the art and craft of hand papermaking among self-help groups as a means of self-employment and waste utilization, using fibres extracted from agriwaste and local plants.

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Traditional Writing Materials

In India, hand papermaking has traditionally been a craft practiced by members of the "kagazi" community in Rajasthan, Uttar Pradesh, and Andhra Pradesh. Post independence, the handmade paper industry has been recognized as a 'traditional craft of village industry' under Khadi & Village Industries Commission (KVIC) Act-1957 and is sustained by phased initiatives to set up cluster-based industry. Several small clusters are spread all over India, the most effective being in Sanganer in Jaipur (Rajasthan), Kalapi (Uttar Pradesh), and Mahaboobnagar (Andhra Pradesh). Kerala does not have a tradition in hand papermaking, possibly because paper is a relatively recent introduction to the state. Traditionally, processed palmyra and talipot palm leaf ("talli-ola") has been used for all written documents and religious texts. The following is a brief account of my experience in attempting to popularize the art and craft of hand papermaking in Kerala.

Motivations for Hand Papermaking

The first question that begs to be addressed is: why would one want to popularize hand papermaking in an area that does not have a tradition of papermaking? To my mind there are two compelling reasons for doing so. The first is the natural plant resources in the state. Kerala enjoys a warm, tropical climate with monsoon showers between the months of June and September and sporadic showers the rest of the year. It consequently sports a verdant plant cover year around. Several plants grown as cash crops (such as banana and pineapple), and others, for instance, bamboos, reeds, and weeds (such as sun hemp and milkweed) are sources of fibre suitable for making paper. Indigenous technology to extract plant fibres exists in the state, and Kerala has a thriving industry based on coconut (coir and coir pith) and pandanus (mats and baskets). The second reason is the current social set-up in Kerala. The state has a population of about 29 million, and is unique in that it boasts of 100% literacy. However the people are poor

(even by Indian standards) with an estimated per capita annual income of around $300 and suffer from chronic problems of unemployment. Family sizes are small, with the one- or two-child norm adopted by most. Housewives consequently have plenty of spare time and can potentially augment family income by making paper. Infrastructure for a small papermaking unit can be easily set up using tools and gadgets common to most households. For instance, although most households now use petroleum gas for cooking, the majority of traditional houses have outdoor stoves, now scarcely used, fuelled by dried coconut palm leaves, husks, and shells. These could be used for the boiling necessary for fibre extraction. Also, most households have large grinders, either stone mortar and pestles or the motorised versions (used for making rice paste batter necessary for making many Keralite snacks), which could be used for beating pulp. The mode of action of these grinders is very similar to that of Hollander beaters used in hand papermaking.

How to Popularize Hand Papermaking

So how does one go about popularizing hand papermaking? One method would be to make more people aware of the economic and environmental benefits of converting agriwaste such as banana pseudostems and pineapple leaves into handmade paper. It would involve training a large number of people in the technique of fibre extraction and paper making. And this is what was attempted. Funding for this initiative was provided by the Department of Biotechnology, Government of India to the Cochin University of Science and Technology in Kochi, Kerala, in the form of a societal development project. The specific objective of the project was to train 500 women from the KUDUMBASHREE (the state poverty eradication mission, www.kudumbashree.org) in the art and craft of hand papermaking and to foster entrepreneurship among them. The training, on the one hand, aimed to make the women aware of different kinds of handmade paper and the uses these could be put to, and on the other hand, taught them how to select and process plants to make different kinds of paper. The training necessarily had to have equal emphasis on theory and practice in order for the women to be able to customize it to locally available materials. The project staff consisted of two research fellows, a field assistant who doubled as our liaison with the KUDUMBASHREE management, and me as principal investigator.

To begin with we invited small groups of 5 to 10 women to the university campus and in the space of four days discussed methods to harvest plant parts, extract fibre by boiling in alkali, beat the material into pulp, and draw sheets using the western technique of a mold and deckle. We also showed them how to make products such as greeting cards and envelopes, small books, folders, paper lanterns, and photoframes. Discussions were held on different marketing strategies, consumer preferences, and possible sales outlets. A handbook with recipes and product designs was provided to each participant. The initial response was very encouraging. The women were fascinated by the novelty of the activity. Many made their first sheet of paper at home using a flour sieve as a mold!

Later, as we felt that it was difficult for many of the participants to come to the university campus, we began conducting the training in the villages. The response was better, both in terms of enthusiasm as well as numbers of participants, as the women were

able to multitask - attend to several duties such as milking cows or feeding dependant infants/parents during the training.

However we found that after the training very few of the women made paper in their homes. Part of the problem was that the women were from rural areas and of the low income group and could scarcely afford the price of the chemicals and basic tools required for hand papermaking. Although they did have access to start-up funds from the KUDUMBASHREE, they did not know how to organize an entrepreneurship. Also, in a male-dominated society, many women confessed to being dissuaded and/or ridiculed by their men folk. It soon became obvious that the women did not feel connected to this activity. As part of the process of making the paper ecofriendly, we had discouraged the use of chlorine bleaches and bright chemical dyes or colorants and the paper was mostly shades of tan or brown. In a community that prefers bright, colorful and synthetic/plastic goods, many of the women did not find this appealing and found it difficult to envisage a market for products made with such dull coloured paper.

Working with Self-Help Groups

In further attempts to popularize hand papermaking, we identified two organizations working with self help groups. Both of these organizations have handicraft products already in the market which require handmade paper. One was a group called URAVU in Wayanad (www.uravu.org), which has an establishment to train local tribal folk to craft a range of products from locally grown bamboo. The group wanted to make paper for two reasons, one, for use in lampshades and other products combining paper and bamboo frames. The second, the group wanted to promote a "zero-waste" concept and was interested to convert waste slivers from the bamboo products into paper for packaging their products. Training for participants was conducted in the URAVU facility and paper making was demonstrated using raw material from their production units. Despite the idealism, no paper is being made in URAVU, and their products have paper sourced from elsewhere in India.

The other organization we associated with was the Self Employed Women's Association (SEWA), which has a rural development centre in Trivandrum. The centre has a hand papermaking unit complete with a Hollander beater of 25kg capacity and a deckle box. It also has other machines such as a dab press, a calendaring machine, and a book binder's guillotine. The unit currently makes paper from cotton hosiery waste and recycled paper. Much of this paper is used for making greeting cards or book covers, files and folders, often customized with screen printing. In conducting the training in SEWA we hoped to expand the paper and product range of the organization by incorporating paper made from plant fibres. A few months after the training Dorothy Field, an artist, author and handpapermaker from Canada spent three weeks in SEWA, also working with them to improve paper quality.

Considering the Backgrounds of the Trainees

So far, our attempt at popularizing hand papermaking in Kerala has met with mixed success. While a few of the beneficiaries of the training did form groups to produce paper and did make a few sales, sustaining the endeavour has been a problem. The reasons are many and undoubtedly complex. To cite a few:

Most hand skills such as weaving, pottery, or wood carving are passed on from one generation to the next; lifetimes of accumulated and intuitive knowledge are imbibed at a very early age. Acquisition of a new skill is difficult. The women needed to empirically determine the nature of the fibres and experiment with the kind of paper that could be made and this required a level of dedication, perseverance, and perhaps, erudition they did not possess.

The participants who came for the training were members of the poverty eradication mission and were mostly from rural areas. KUDUMBASHREE, in its efforts to improve the income generating capacity of its members, conducts training in several vocations such as tailoring, book-binding, cooking, making pickles and jams, fabric painting, and embroidery. Often, members attend course after course, without setting up any enterprise! Loans and subsidies exist for setting up enterprises, but not all the members know how to access these funds. For several of the women, the training in hand papermaking was just another one of the courses they were being encouraged to attend. In comparison with the other vocations for which they received training, hand papermaking was probably far more difficult to pursue as it requires a lot of physical labour, from harvesting the plant material to boiling and beating the fibre. We did experiment with paper made from unbeaten banana and pineapple fibre, but the paper was often so wild it had limited uses. Beating the fibre for making good quality paper suitable for stationery was difficult without access to a Hollander beater.

Looking at the issue objectively, it is apparent that if hand papermaking is to become popular, it would have to be a financially viable proposition. This would require an analysis of the kind of papers that can be made in Kerala and the possible market it could access. A flaw in our attempt so far has been that sufficient emphasis has not been laid on the business aspects of the process. As members of the university, our mandate has been to teach the method of hand papermaking to as many women as possible. We however assumed that once taught, the women would be able to set up papermaking units utilizing funds from the government earmarked for self-help groups.

At present in Kerala, hand papermaking exists as a hobby pursued by a few. But perhaps in time, increased awareness and consumer preference for handcrafted and ecofriendly products may serve to raise hand papermaking to a popular and viable enterprise.