

Chapter 5

BHUTAN PAPER-MAKING AND ITS ARTISAN EXCHANGE WITH JAPAN

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ABSTRACT

This chapter sheds light on the 3-decade long artisan exchange in paper-making between Bhutan and Japan. It discusses the raw materials, procedures and technology advances involved in this traditional craftsmanship.

MAIN

The history of paper-making in Bhutan goes back to the eighteenth century. The technique first appeared in China before it was brought to Bhutan via Tibet [1], to whom Bhutan had a long history of supplying medicinal herbs and paper [2], with the former serving the cornerstone of traditional Tibetan medicine and the latter an indispensable medium for recording religious texts and

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mantras. Japan, in comparison, was introduced to Chinese paper-making as early as 610 AD by the Korean Buddhist priest Doncho according to *Nihon Shoki*, but soon as the fragile Chinese paper couldn't keep up with the demand for durability, Japan evolved its own method of paper-making called Nagashizuki, using native plant kozo (paper mulberry) bark as the raw ingredient and aibika root (subset hibiscus) containing neri to serve the formation aid [3]. Subsequently, to obtain different colors and strengths to cater to various clientele needs, the procedure was adapted to two other shrubs mitsumata and gampi, the scientific nomenclature of which can be found in Table 1.

In comparison, Bhutan's traditional paper-making utilizes two plants: *Daphne* spp and *Edgeworthia gardneri*, both of which have a wide distribution in the country and are known locally as "dhenap" and "dhekap". *Daphne* is readily available in the north, east, west and central regions [1, 4], giving rise to many communities in fourteen dzongkhags (Chhukha, Dagana, Gasa, Lhuentse, Mongar, Paro, Samdrup-Jongkhar, Samtse, Sarpang, Thimphu, Trashigang, Trashiyangtse, Trongsa, Wangdue) devoted to this ancient technique for livelihoods, while *Edgeworthia gardneri*, a close relative of the Japanese mitsumata, concentrates in nine dzongkhags (Chhukha, Lhuentse, Mongar, Paro, Pemagathsel, Samtse, Sarpang, Trashigang, Zhemgang) [5]. The resulting products therefore differ in qualities in such a way that *daphne* paper sheet takes on a dark brown color and is relatively strong while

that of *edgeworthia* dons a beige and more fragile look [1].

In 2018, Under Japanese government's Grant Assistant for Grassroots Human Security Project (GGP), a donation was betrothed to Bhutan to construct the Common Facility Center for traditional paper-making at Trashi Yantse, to provide alternative income for the locals. The project took nine months and its completion in February, 2019 marked the 33rd anniversary since Japan dispatched its first paper expert for a technical visit to Bhutan in 1986.

Table 1: Common shrubs for making paper in Japan and Bhutan as well as their local names.

Plant	Known as in Japan	Known as in Bhutan
<i>Daphne</i> spp.	-	dhenap
<i>Edgeworthia</i> <i>gardneri</i>	-	dhekap
<i>Edgeworthia</i> <i>chrysanthra</i> /oriental paperbush	mitsumata	-
<i>Broussonetia</i> <i>papyrifera</i> /paper mulberry	kozo	-
<i>Wikstroemia</i> spp.	gampi	-
<i>Abelmoschus</i> <i>manihot</i> /sunset hibiscus (the formation acid)	Aibika/tororo-aoi (containing neri)	

That was in the 61st year of Showa Emperor's reign, eight years after Kubota Yoichi, the washi master of Seikishu, Shimane prefecture first demonstrated his washi during an international paper conference in the USA. Upon returning from Bhutan he commended the superior quality of Bhutanese hand-made papers to those of neighboring countries [6]. Ten months later, Kubota received three trainees from Bhutan to learn paper-making in Japan. This initial contact set forth a series of bilateral exchange that would last more than three decades between the two nations. In the first fifteen years, Seikishu received in total 15 Bhutanese trainees, dispatched 7 engineers and donated a number of paper-manufacturing equipment, and after 1995, the artisan exchange took place primarily through the Japan International Cooperation Agency (JICA) programs. In 2009, during the leadership of Yoichi's son Kubota Akira, Seikishu's kozo washi paper "Banshi" was recognized by UNESCO as an "Intangible Cultural Heritage", five years before its rivals Hon Mino-shi of Gifu and Hosokawa-shi of Saitama were duly registered, all of which made from 100% kozo plant resulting in a translucent but strong final product [7].

Traditional paper-making follows these procedures: bark preparation (cooking, washing, stripping), pulp preparation (beating), sheet forming, drying and finishing. An essential ingredient in paper-making is the formation aid, which suspends fibers to ensure constant viscosity and uniform distribution in the vat, and helps prevent entanglement to allow easier shaping on the

sheet-forming screen. It is also an important agent to keep the individual sheets from sticking to each other should they be stacked to be pressed off excess water. Historically in Bhutan, animal glue, rice and wheat starch made up the formation aid, but now the country adopted the same hibiscus root owing to their Japanese counterpart and since then this foreign-borne ingredient has streamlined the hand-making process tremendously.

Another noteworthy change to the traditional technique lies with the drying medium. As electricity and automations were scarce in the old days, craftsmen utilized bamboo frames to form sheets and let dry under the sun, a procedure that often took days. As modern equipment replaces several steps in manufacturing including the highly labor-intensive pulp-beating, locals began to take refuge in indoor steel panels that can heat-dry wet sheets even on rainy days. The output is greatly enhanced as a result.

Attesting to Kubota's comment decades ago on Bhutan paper's superior quality but lackadaisical design [6] is the influence of Japanese aesthetics across the years. For example, tie-dyed methods taught to the Bhutanese trainees added a kaleidoscopic beauty to the paper, with final products made into journals or book covers to tailor to a variety of functions. Embedded objects such as desiccated flowers and leaves are also seen in papers showcased at the popular Thimphu-based Jungshi Paper Factory, targeting an international body of tourists. Their creations relied on two thin layers of paper pressed against each other and the quality depends

on the flatness of the surface and the durable vibrancy of the flowers being sandwiched [8]. These are all interesting examples of Japanese paper crafting methods that have found their home in this secluded Himalayan kingdom.

Paper-making is one of the several programs under JICA that marked the enduring friendship and collaboration between Japan and Bhutan, alongside the plan to strengthen Bhutan's earthquake monitoring network, testing of quake-resistant buildings [9], construction of irrigation channels, post-disaster nationwide mobile backup system, a satellite clinic to offer wider ranges of medical services [10] and others that span four sectors- agricultural & rural village development, economic infrastructure development, social development and governance. More is to take on regarding the aforementioned projects, but with Japan to serve Bhutan's strong developmental guru and partner, the country is certainly on the shoulder of giant to utilize its abundant natural resources and continue bringing weal to its people.

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