



Bhutan is coming to the international limelight regarding its unique textile. The hand woven textile are still a common sight in Bhutan and are being worn by the people. They come in many intricate designs and colours. Usually the weavers use vegetable dyes for colouring the textile. Recently, a Textile Museum was opened to preserve this living culture of Bhutan.



Bhutan has 20 species of cane. But the use of cane is not as diverse as in some other countries. In Bhutan they are usually used for making baskets and small household items. With the knowledge and skill learned from other countries, the villagers of Bhutan can make good use of this plant.

Harvesting Forests to Benefit People and Conservation

Non-Timber Forest Products in Bhutan

Forests are Bhutan's most precious natural resource, and holding on to them is its number one conservation priority. But balancing the needs of forest conservation against the needs of local communities presents a major challenge. One solution is the ecologically friendly harvesting of non-timber forest products (NTFPs). These are any natural product, plant or animal, gathered from the forest except timber. If collected in the right way, NTFPs can provide food, forage, fuel, medicine, fibre and trade to rural Bhutanese while protecting their forest home and preventing the widespread problems associated with deforestation.

At least 150 - 200 of Bhutan's NTFPs are traded internationally and this could grow with increased market access and technical support. WWF works closely with Bhutan's Nature Conservation Division (NCD) to identify and promote NTFPs in communities. Avoiding over-exploitation is extremely important, especially of high value species such as medicinal plants, which are traded heavily on the international market.

A recent WWF-supported survey by the NCD identified the following non-timber alternatives in Bhutan:

- **Bamboo**, which is used for handicrafts such as "banchung," penholders and mats that are popular with tourists species is widely distributed in Bhutan. The survey recorded 31 species of bamboo, while probably more remain undiscovered in remote parts of the country.
- **Cane or rattan** is used extensively as a substitute for suspension bridge cables in rural areas and can also be used to replace wood for making furniture. Bhutan boasts about 20 species of cane.
- Despite modern healthcare available in most areas, more than 192 **medicinal plants** are recorded in Bhutan, supporting traditional cures and providing income from export. There is a fear, however, that some endangered species could be lost if they are not harvested sustainably.
- Much of Bhutan's traditional arts and culture rely on the spectacular colors derived from **natural dyes**. Cloth weaving is an important economic activity in central and eastern Bhutan, and local people use dyes for textiles, foodstuff and household wooden and bamboo products. Dyes are even sold to neighboring Indian towns.
- More than 270 tons of **pine resin** is collected each year by villagers and sold to factories for the production of rosin and turpentine, which is exported to India. **Lemon grass** is also collected from the wild and then distilled, employing 4000 families



Bhutan was known as a land of medicine in the time of our great grandfathers. Still Bhutan is forests of Bhutan is host to many number of medicinal plants. Many of them are being used by the Indigenous Hospital in thimphu. The medicinal herbs are also used in making incenses.



There are many types of mushrooms found in Bhutan the more common being the Matsutake, locally known as Sangay Shamu. During a recent survey around 713 species of Mushrooms in Bhutan.

Especially in the east of the country, the villagers have started to make use of the wild lemon grass growing there. Lemon grass oil fetch a good price and has become a source of livelihood for the people in the villages.



in the eastern Dzongkhags (districts). The oil is exported to Germany and other countries, generating huge income for the locals. These two activities contribute more than Nu. 30 million (\$660,000) to the rural economy.

- **Forest and tree foods** are important buffers to poor farmers living in remote settlements when their crops fail. Foods such as root tubers, vegetables, spices and cooking oil help meet dietary shortfalls and supplement the income of rural populations. Villagers sell a variety of wild fruits, ferns and nuts in markets, while some of Bhutan's more than 92 wild mushrooms are exported to countries such as Japan.
- **Fibres** bring in revenue when they are made into traditional Bhutanese papers and brooms. As traditional paper has become popular around the world, 11 papermaking units, all small-scale and family operated, have been established throughout Bhutan. The paper is exported to countries such as the USA, Germany and Japan. Traditional brooms are manufactured from a species commonly found in subtropical forests.
- **Incense** is an integral part of Bhutan's Buddhist culture and Bhutan's products are considered some of the region's finest. Leaves, barks, fruits and whole plants are used as incense or they are powdered, mixed and made into incense sticks There are many small-scale units across the country making incense sticks using local aromatic plants.
- **Livestock grazing** inside forests is an age-old tradition but its importance is not yet fully appreciated. Its impact and monetary value is difficult to calculate, but estimates show that 40% of cattle feed is obtained from the forest.
- **Hydroelectric power** is Bhutan's biggest export, generating about 40 percent of the government's revenue through sales to neighboring India. In many communities, small-scale hydroelectric plants provide communities with essential power. An ecologically friendly product, hydroelectric power relies on healthy forests for its success.

Case Study: Mushroom Mania in Bhutan

Wild and cultivated mushroom exports offer huge potential for Bhutan, supplying the world's gourmet markets and providing income to local communities. WWF has been working hard to support and promote mushroom cultivation and export in Bhutan while ensuring the industry is environmentally friendly. Working with the Ministry of Agriculture's National Mushroom Centre, WWF has helped communities acquire mushroom harvesting machinery, introduce model farms in 14 districts, support study tours for growers, and preserve 713 non-exportable specimens at the Mushroom Museum in Semtokha.

Awareness programs have helped farmers in Bhutan's more remote districts understand the potential benefits of mushroom cultivation. Technical and financial support has helped many of them set up their businesses. WWF has also helped identify the strongest current and future export markets.

In addition to mushrooms, truffles have also been identified as a potential export market, which could further diversify the market. In the future, mushrooms and truffles could be a mainstay of Bhutan's economy, helping preserve its forests, support its people and bring it international attention.