

Introduction

The Himalayan Nettle, *Girardinia diversifolia*, locally known as *allo*, is virtually unknown in the international natural fibre market [13]. Its uses are wide-ranging and it grows in abundance all over Nepal [9]. Women and other producers can receive the maximum product value from allo production [7] [9], making it a particularly attractive enterprise for low-income producers in rural communities of Nepal.

Crop Description

Allo is a 1.5 to 3 metre tall [16] perennial herbaceous shrub that grows without cultivation all over Nepal [7]. It most frequently occurs in the hilly and mountainous regions at altitudes up to 3000 m [2]. It grows without necessitating pesticide or fertilizer use [1] and helps to prevent soil erosion [15]. It is a low-lying plant that prefers shaded forest areas, growing best in loamy soils rich in humus [2][15].

Cultural and Practical Uses

Traditional users of Allo are ethnic groups from across Nepal, including the Gurung, Magar, Rai and Tamang people [11]. Allo products are culturally important to both the Gurung [11] and the Rai [2]. This is not thought to impact its selling for commercial and non-religious purposes [7]. Non-fibre uses of the plant range from fodder and fuel wood [2], to use as a live fence and in traditional medicines [11]. Allo fibre is very flexible and has high tenacity [1], allowing it to be used in a multitude of applications ranging from

clothing and bags, to floor mats and rope. [15][11][6]. Fibres made from allo are fully biodegradable [1].

Environmental Issues

Allo is soaked before peeling, cooked to soften and bleached with wood ash, something not shown to be in short supply [2]. Without proper environmental management there is a threat to allo survival [15]. Availability of allo fibres has declined in recent years, thought partially due to population increase and destruction for human use, as well as unsustainable harvesting practices, raising the question of whether Allo should be planted to meet increasing demand [2].

Present yields of allo fibre can potentially increase by 3 to 4 times [13]. Current harvesting has had adverse effects on potential yields, where cutting stems too high and in a haphazard fashion significantly lowers the capability of the plant to grow new shoots. [15]. A study using improved harvesting methods, where the stalk was cleanly cut near the base, showed a 12.7% increase in total fibre yield [15]. A simple adaptation has the potential to both increase income from greater fibre yields, and ensure the future stock of allo continues to grow sustainably. However, over-exploitation of the resources is a large environmental concern [13].

Economic Benefits and Costs to Nepal

Among many Nepali rural communities, Allo has been established as an important income generator [11]. It is a Non-Timber Forest Product (NTFP) with the unique ability to be processed to the point of retail sale, allowing its low-income producers to get the

maximum value for their product [7]. The Association for Craft Producers (ACP) is a Nepali NGO, widely seen as helping revitalize the sector [3]. ACP's management practices are seen as unconventional in the sense that all decisions are integrated and adapted to fit the cultural environment of Nepal [3], keeping business knowledge accessible to all levels. The Allo industry itself lacks any official organizational structures [13]. The product has high demand in local markets with tourists, and the national carpet industry is its main buyer [13].

Due to competition with cheaper, low-quality products sold in local markets ACP has worked to increase the stature of fair-trade items. It challenges businesses and government officials to buy locally, demonstrating the comparative advantage of high quality local, fair-trade crafts [3]. The similar, relatively cheaper and better-known [13] hemp fibres may also be threatening to the Allo industry's growth [13]. In the 2007/2008 fiscal year Allo made up about 0.3% and hemp 2.2% of total handicraft textile export products in Nepal [13]. Allo is advantaged by taking less energy to produce [1].

Technological Constraints

Current processing methods of Allo in many areas are time-consuming and inefficient for large-scale production [5]. Technology improvements are considered the best way to increase incomes, as local producers can sell higher-quality products, rather than exporting only allo fibre to countries with the better technologies [13]. In the last decade ACP and other NGOs have focused on bringing in technical upgrades to encourage the continual expansion of the market for handcrafted goods [3] [2]. The introduction of a foot-powered spinning device increased efficiency by six times in one area [5].

Labour Issues and Impact on Women

In one village, most respondents collected Allo bark in January, after the staple crops (millet, maize, paddy rice) had been harvested [11]. Some travelled distances up to four hours in order to harvest the plant [11]. Women and men were shown to be involved in the painstaking extraction task [5] but women did the majority of the days-long work, due to the amount of men seeking employment abroad [11][13]. Allo bark is covered in many stinging hairs [16] and owing to the traditional methods of peeling the bark, women who have spent their life working on the plant have been left with damaged hands and teeth [5].

For the most part, women are the textile producers [7]. Allo processing marks a social gathering time for many, during which stories are told and fibres are spun [11]. In textile craft initiatives, which are supported by ACP, empowerment of women involved in its production has been of utmost importance and in their case an overriding goal [3]. Acknowledgement of the person producing or involved in producing the goods is considered both a beneficial marketing strategy and a source of encouragement to the creator, an emphasis of fair-trade systems [7]. The increased responsibilities of women for income generation have led to several women-led Allo initiatives with focuses on both local and international demands, particularly in Sankhuwasabha in Eastern Nepal [2].

Export Potential

Allo products have niche markets in developed economies [13]. Nepali businesses such as Himalayan Bio Trade Ltd. have found export markets in Canada [12]. The ACP's focus is on increasing women's self-confidence [3], and the business Ninam Ridam Bio-Handicrafts is owned and run by women producers [14]. Didi Bahini [10] and Ten Thousand Villages [17] in Canada promote fair-trade Nepali products. All textiles imported to Canada from Nepal are subject to the Least Developed Country Tariff (LDCT) and the General Preferential Tariff (GPT) [4] [8].

Current processing methods are not all cost effective [9], however. High-quality fabric and more fashionable products are necessary for international markets, where there is greater need to stand out [2]. Higher-quality requires more technology expenditure, so new businesses with less start-up capital may not be well-equipped for bigger markets. Physical access to rural villages is also a drawback to production, compelling some to leave for the big cities [7]. Remote areas sometimes mean delivery by foot or mule, making transporting equipment extremely expensive [13].

Data is lacking concerning the potential stock of Allo that can be sustainably harvested [13]. Here, efforts made to document and assess Allo yields and environmental concerns can contribute to greater long-run understanding of the viability of Allo as an export product to international markets.

Contact Information of Potential Buyers in Canada

Name: Didi Bahini
Phone: 1 819 790-8273
Chelsea, Quebec
Website: www.didibahini.ca
(Currently sells allo products)

Name: EcoFair Trading
Phone: 1 888 732-6324
Vancouver, British Columbia
Website: www.ecofair.ca
(Has sold products made of allo in the past)

Bibliography

1. Bajpai, P. K., Meena, D., Vatsa, S., & Singh, I. (2013). Tensile behavior of nettle fiber composites exposed to various environments. *Journal of Natural Fibers*, 10(3), 244-256.
2. Barakoti, T., & Shrestha, K. (2008). Commercial utilization of allo (*girardinia diversifolia*) by the rais of sankhuwasabha for income generation. *Banko Janakari*, 18(1), 18-24.
3. Biggs, S., & Lewis, D. (2009). Fair trade and organizational innovation in nepal: Lessons from 25 years of growth of the association of craft producers (ACP). *European Journal of Development Research*, 21, 377-396.
4. Canada Border Services Agency. (2013). *Archived - list of countries and applicable tariff treatments*. Retrieved 11/05, 2014, from <http://www.cbsa-asfc.gc.ca/subzero.lib.uoguelph.ca/trade-commerce/tariff-tarif/2013/html/countries-pays-eng.html>
5. Deokota, R., & Chhetri, R. B. (2009). Traditional knowledge on wild fiber processing of allo in bhedetar of sunsari district, nepal. *Kathmandu University Journal of Science, Engineering and Technology*, 5(1), 136-142.

6. Dunsmore, J. (1998). Crafts, cash and conservation in highland nepal. *Community Development Journal*, 33(1), 49-56.
7. Dunsmore, J. (1998). Microenterprise development: Traditional skills and the reduction of poverty in highland nepal. *Himalaya, the Journal of the Association for Nepal and Himalayan Studies*, 18(2), 22-27.
8. General Preferential Tariff and Least Developed Country Tariff Rules of Origin Regulations. (2013). *Canada Gazette Part II*, 147 (21). Retrieved from: <http://gazette.gc.ca/rp-pr/p2/2013/2013-10-09/html/sor-dors165-eng.php>
9. Government of Nepal, Ministry of Forests and Soil Conservation, Department of Forests. (2014). *Value chain designing of allo of panchase protected forest area*. Nepal: Ecosystem based Adaptation (EbA) in Mountain Ecosystems in Nepal Project.
10. Gragtmans, J. *Fair trade canadian wholesale - ethical gifts: Wild earth spa*. Retrieved 10/30, 2014, from http://www.didibahini.ca/wild_earth_spa.html
11. Gurung, A., Flanigan, H., Kumar Ghimeray, A., Karki, R., Bista, R., & Gurung, O. P. (2012). Traditional knowledge of processing and use of the himalayan giant nettle (*Girardinia diversifolia* (link) friis) among the gurungs of sikles, nepal. *Ethnobotany Research and Applications*, 10, 167-174.
12. Himalayan Bio Trade Ltd (HBTL). (2014). *Nettle/Hemp products*. Retrieved 11/01, 2014, from <http://www.himalayanbiotrade.com/nettle-products.html>
13. MEDEP. (2010). *Value chain based approach to micro-enterprise development: Value chain analysis-allo*. Bakhundole, Lalitpur: Micro-Enterprise Development Programme (MEDEP). Retrieved from <http://www.medep.org.np/epanel/publication/docs/Value%20Chain%20Analysis.pdf>
14. Ninam Ridam Bio Handicrafts. (2014). *Contact us*. Retrieved 11/01, 2014, from <http://nettlehandicrafts.org/contact>
15. Shrestha, R. (1999). Improvements on the traditional harvesting practice of *girardinia diversifolia*. *Tropical Agriculture Research and Extension*, 2(1), 74-75.
16. Singh, S. C., & Shrestha, R. (1988). *Girardinia diversifolia* (urticaceae), a non-conventional fiber resource in nepal. *Economic Botany*, 42(3), 445-447.
17. Ten Thousand Villages. (2014). *Hello allo journal (S)*. Retrieved 10/30, 2014, from <http://www.tenthousandvillages.ca/shop/en/journals/5909017-hello-allo-journal-s.html>