

SHORT COMMUNICATION

Thysanolaena latifolia (Roxb. ex Hornem.) Honda as natural resource and product for the tribals of Srikakulam District, Andhra Pradesh, India

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Thysanolaena latifolia (Roxb. ex Hornem.) Honda, popularly known as tiger or broom grass is one among the non-timber forest products gathered by the tribals of Srikakulam district, Andhra Pradesh. The study documented the process of making brooms and its economic viability. The brooms made using these plants are an important seasonal livelihood for the local people. *T. latifolia* can be grown in a wide range of agro-climatic conditions and soils up to 2,000 m above the sea level. It grows easily on shady slopes, damp and steep river banks, degraded areas and gravelly soil on weathered rock surfaces. The study recommends cultivation of broom grass on a large scale as an effective source for income generation in tribal areas of Andhra Pradesh.

Keywords: Broom grass, Economic benefit, India, *Thysanolaena latifolia* (Roxb. ex Hornem.) Honda, Tiger grass, Tribals.

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Introduction

The tribal areas of any region are the remaining perennial reserves of natural resources, products and traditional handicraft skills. The documentation of traditional knowledge and skills of ethnic people is necessary for various needs, besides conservation. This knowledge may play a crucial role in achieving sustainable development and establishing intimate relationship between man and nature. The tribal communities depend on nature for their varied needs. Besides agriculture, they also depend considerably on all other forest resources for their sustenance¹. Therefore, importance should be given to encourage their traditional skills and products. Here non-timber forest products (NTFPs) play a vital role to help millions of forest dwellers globally and provide instant money to meet the basic needs of tribal people.

Thysanolaena latifolia (Roxb. ex Hornem.) Honda syn. *T. maxima* (Roxb.) Kuntze (Plate 1a) popularly known as Broom grass (*Konda cheepuru gaddi* in Telugu) is a member of family Poaceae. It is one of the important NTFPs of tribal areas of the Eastern Ghats of India. It grows in almost all parts of South and Southeast Asia up to an elevation of 1,600 m. Main economic product of the plant is terminal culms bearing inflorescence. Earlier studies on *T. latifolia* were on exporting brooms to Thailand and to the Northern provinces of Laos², bioengineering device for soil erosion control on hill tops and slope stabilization³, leaves as elephant fodder, growth pattern, production and marketing as fodder in fodder scarce areas⁴, in conservation and development⁵, non-perishable cash crop⁶ and as a major economic activity^{7,8}. Besides panicles, other vegetative parts of the broom grass are also economically important: culms are used as raw material in paper, small scale cottage and other industries. It is an important minor forest product of Meghalaya growing wild in almost all parts of the state^{9,10}. Conversely, attempt has not been made so far to document the traditional handicraft skill of broom-making from the terminal culms of broom grass and its economic viability. Hence, the present study attempts to document the traditional skill of the ethnic people in preparation of brooms and to identify the commercial viability of broom grass, which is a natural resource and product in natural habitats.

Materials and Methods

Study area

The study area is located in Srikakulam district of Northeastern Andhra Pradesh, India (18° 5' -19° 12' N and 83° 32' -84° 47' E). Although within the State, the district ranks low in terms of area (5837 km²) and population (27,08,114). It possesses considerable tribal population 1,66,118 (6.15 %)¹¹ in hilly and forest habitats. The dominant ethnic groups are *Konda Savara*, *Jatapu* and *Kapu Savara*, in which *Konda Savara* is considered as particularly vulnerable tribal group.

Collection of data

Collection of the data was mainly based on interviews, interactions and field surveys undertaken in

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seven mandals (viz. Seethampeta, Kothuru, Bamini, Hiramandalam, Pathapatnam, Meliaputti and Mandasa) of the district during January 2014 to April 2015. Interviews were held with different tribal groups regarding gathering of the broom grass and use of fibres in making brooms. The data on procurement quantity and price of the broom was obtained from the Girijan Co-operative Corporation Limited (GCCl, Visakhapatnam) for the last 12 years. Village elders, farmers and womenfolk were also brought into the purview of discussion to obtain firsthand knowledge and information.

Results and Discussion

Method of broom preparation

The different habitats from where ethnic people gather the broom grass are moist, damp, steep, sloppy,

sandy, sandy loam soils apart from the banks of ditches, ponds, etc. The culms of broom grass arise centrifugally during the peak growth period and produce inflorescence at the end of vegetative growth. The productive period starts with the flowering. Harvesting of panicles with terminal culms starts from December or January and it continues till March. Integrated Tribal Development Agency (ITDA), Seethampeta usually provides the harvesting tools (Plate 1b). The quality of the brooms depends upon the time of harvesting. The collected panicles with terminal culms are kept in sunlight to dry for a month on the roof or in front of their huts. Drying makes the broom lighter (Plate 1c). A pile of loose culms bearing panicles are taken into hand and tied with the fibre. Generally, the fibers of two important plant species



Plate 1—The ethnic process of broom making from broom grass. a) *Thysanolena latifolia* mature plants, b) Traditional tools supplied by ITDA for cutting culms, c) Drying of terminal culms with panicles, d) Fibres of *Grewia tiliifolia*, e, f) Splitting of *Hibiscus sabdariffa* stem into halves to extract fibre as observed by first author and fibre, g) Dipping of fibre in water for tying the broom witnessed by the first author, h) Skill in tying of broom, i) Cutting evenly at the base of broom on *Gmelina arborea* wood and j) Bundles of brooms for sale in a shandy.

namely *Grewia tiliifolia* Vahl and *Hibiscus sabdariffa* L. (Plate 1d, f) are used to tie the brooms. Fibres of the former are removed by cutting the stem transversely and peeling the bark. They are brought home and drooped under the roof of their houses (Plate 1d). Before using the fibre, they are dipped in water for a short period. The fibre becomes flexible to tie within one minute after dipping. If it were soaked for more than one minute, it becomes too soft and difficult to tie the broom. In the case of *H. sabdariffa*, the dried stem is cut into two longitudinal halves (Plate 1e, f) and kept. Later, the fibre is removed and made soft and flexible by applying water with fingers (Plate 1g). After completion of tying process (Plate 1h), the lower parts of the culms are cut with metal sickle by placing on the wood of *Gmelina arborea* Roxb. (Plate 1i).

After harvesting the terminal culms, the basal parts of culms above ground level are burnt, which is an essential step for the growth of new culms of good quality. The underground rhizome remains intact and alive until the next rainy season. The tribal people said that the new culms are produced in one week or ten days after the first rain.

Economic viability

A total of 25,668 tribal households were involved in broom making with ST population of 1,10,331 in the study area¹². Monthly income due to broom making is about Rs.9000 per month during the season, which varies depending on the individual's skill and seasonal climatic conditions. No attempt has so far been made to cultivate broom grass in the study area, which grows wildly. If it is cultivated, it may enhance the income of the tribal people as it requires minimum investment. On an average, one person can make 20-30 brooms per day. They bundle about 30-40 brooms into a set and carry them on their head to a nearby shandy for sale (Plate 1j). The brooms produced are procured by GCCI of the Srikakulam district for onward transport to local and non-local markets and may even be exported. Singh *et al*¹⁰ mentioned that the price fixation of the broom should be through open auction and also that there is need to develop cooperative marketing. As it is nonperishable, marketing may not be a problem.

The data on procurement quantity and price of single broom by GCCI over the past 12 years is presented in Table 1. The data shows variation in number of brooms procured in 2011-2012, which may have been due to the poor quality of the brooms because of adverse climatic conditions in the season. The private traders reach shandy points early to buy the

Table 1—Procurement quantity and price of brooms by GCCI in Srikakulam district (2003-2015)

Procurement Year	No. of brooms procured	Value (in Lakhs)	Procurement cost per broom (in ₹)
2003-04	57128	3.26	6
2004-05	1828	0.3	16
2005-06	59954	8.94	15
2006-07	20916	3.12	15
2007-08	10376	1.56	15
2008-09	6272	1.14	18
2009-10	2307	0.68	29
2010-11	16158	4.85	30
2011-12	12163	3.42	28
2012-13	56712	17.38	30
2013-14	13108	4.33	33
2014-15	17550	6.93	40

brooms. If price is not fixed by the GCCI, private traders may procure it for very less price. GCCI is protecting the interest of the tribals by fixing a base price. If they receive better price, they sell it to private traders, which is the main reason for fluctuation in the procurement quantity of the GCCI. The tribals are aware of the base price fixed by the GCCI officials such as shandy inspectors¹³. From the data it is obvious that there is an increase in the quantity of brooms made and the price per broom. The cost of the broom declined during 2011-12 due to poor quality of brooms¹³. The price fixed by the GCCI is considered base price but in practice brooms are often sold at a higher rate in shandies than what was fixed by GCCI.

About 4,27,440 ha of land is in holding in the district with an operational area of 1,57,500 ha (including 7,960 ha by Scheduled caste, 12,010 ha by Schedule Tribes and 1,37,480 ha by others)¹⁴. The marginal land is nothing but less fertile land, which is most suitable for the cultivation of the broom grass. It will generate increased income than the income obtained from making the brooms from the grass grown wildly. Broom grass farming can also be a part of agroforestry system to rejuvenate degraded lands.

Conclusion

The present study documented the traditional handicraft skill of making brooms as products from a natural resource namely *T. lalifolia* and utilization of fibers of *Tada/Tella jana* – *G. tiliifolia* (wild) and *Gogunara* – *H. sabdariffa* (cultivated) of family Malvaceae. The present study envisages and recommends the following three- i) broom grass cultivation in tribal areas to increase income with minimum input and

labor, ii) to develop mechanical tools to cut the terminal culms with panicles to make the culms into bundles, tying and packing and iii) minimum support price of GCCI should be increased rationally. Brooms are essential and continuous requirement in every house and hence cultivation of broom grass on marginal lands which are unsuitable for food production will enhance household income.

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