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A preliminary survey of plants used for fencing in and around Bhadra reservoir project area, Karnataka

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Abstract
In Bhadra Project area the fields and houses often face the threat of animals grazing and intruders. To overcome these problems temporary or permanent fences are made using different plants. These fences not only protect the fields and huts but also play an important role in the conservation of plants. Some of the plants are used as stumps or poles; some are binders-wire ropes- runners. Some thorny species are used for protection from grazing animals. A total of 56 plant species belonging to 48 genera and 32 families, either live or in dried state for fencing by the peoples of Bhadra reservoir Project area of Karnataka.

Keywords: Bhadra Reservoir Project, fencing, plants.

1. Introduction

Fencing around fields and huts are important as they ensure safety to the crops and residents against intruders besides offering privacy. From the vast array of plant resources at their disposal, the villagers choose only species that are well suited for the purpose having the desired properties (Om prakash Kulhari, 1992) [10].

Local inhabitants of Bhadra Reservoir Project region of Karnataka are practicing the protection of owned lands and houses by producing fencings of plant species. Most of the time, these appear to be natural. The shapes, height of fencings are maintained by the inhabitants. Some plants are specifically cultivated while most of the species are growing naturally. The shape and size of all the fencing species are maintained by land owners. Land owners consider the fencings as good sites for maintenance of medicinal as well as other important species (Mahesh V Gokhale, 2015) [9]. Present paper reports a survey of plant species occurring in the fencings in the areas of Bhadra Reservoir Project region of Karnataka, India.

Materials and Methods

Extensive field trips were carried out to different places of BR Project, Bhadravathi taluk, Karnataka during 2009-2010. Personal observation of the process of construction of these fences were done and recorded. Information's regarding the different plants used for this purpose are collected through personal interview with the peoples. Plants were collected and identified using standard references (Hooker, 1892–1897; Cooke, 1901; Kulkarni, 1988; Ramachandran & Nair, 1988; Gopalakrishna Bhat, 2003; Anil Kumar *et al*; 2005; Subrahmanya Prasad and Raveendran, 2010; Mahesh V Gokhale, 2015) [6, 3, 8, 11, 5, 12, 9]. The areas represent different ecological conditions like human inhabitations, road sides, agricultural fields, horticultural fields, wastelands, etc. Fencings with 3-6 fts in length were considered for present survey.

Results and Discussion

From present study it is clear that the peoples are using a total of 56 plant species belonging to 48 genera and 32 families, either live or in dried state for fencing. The different plants used for fencing and their family are listed in Table 1. Number of plant species in each family is depicted in Fig 1.

Spiny or thorny plants are help to prevent entry into fields. The plants with thick foliage cause obstruction to sight of cattle, thereby preventing grazing. *Euphorbia tirucalli*, *Hibiscus sp*., and *Jatropha sp*. are preferred due to their unpalatability to cattles. Acacia species and *Lantana camara* make their presence as they form impenetrable thickets. Bamboos and Jatropha sp. prevent soil erosion. While, Bambusa sp. and Terminalia species acts as wind breakers and also increase the firmness of the fences. Flowering plants are often planted along these fences to attraction to eyes while in some areas these were supplemented with many fruit yielding climbers to make them economically important (Subrahmanya Prasad and Raveendran, 2010) [12].

These fences also help a lot in the conservation of many plants with spines and those forming impenetrable thickets, only because of their role in field fencing, otherwise by the time most of them might have disappeared from this universe. Moreover the large trees planted along the boundary act as wind breakers, thereby reducing the rate of evaporation from the field and barren land formation. Thus these traditional fences are time tested, easily affordable, easy to construct and play an important role in the conservation of many plants (Subrahmanya Prasad and Raveendran, 2010) [12].

The trees recorded in fences are depicted in Table 1. Plants like *Azadirchta indica*, which are not native, are also maintained along the fencings.

Litter from fencing plants accumulates at the base making soil fertile. Fencing plants attract birds as well as butterflies. Number of insects and ants are also recorded on these plant species. Fencings can be considered as promising sites to locate the seedlings of species which are dispersed by birds (Gokhale *et al*. 2010; Mahesh V Gokhale, 2015) [9]. Therefore, fencings around them provide good sites for maintenance

rather conservation of some important wild species. Live fencing has number of facets. It has a major role in protection, secondly it play role in ethno botany and ethno medicines (Jadeja *et al*. 2007 and Borkataki *et al*, 2008). The present paper reports the diversity of plants used for fencing in and around BR Project area of Bhadravathi taluk of Karnataka, India.

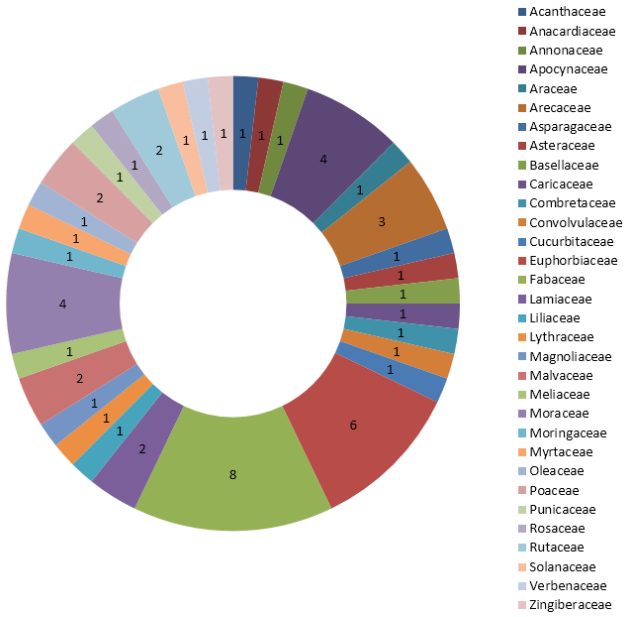

Fig 1: Number of plant species in each family

Fig 2: *Morus alba*, *Cocos nucifera* and *Jatropha curcas* plants used for fencing

Conclusion

Nearly 56 species of plants are used for fencings by the rural peoples in B. R. Project area of Bhadravathi taluk of Karnataka. As they are of great ethno botanical importance in the lives of the people. Many herbs, shrubs and climbers are supported by the fencings and carry aesthetic value.

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