

Cultivation of medicinal plants as mixed crops in Malenadu region: a study

Keshav H. Horse

highlights how medicinal plants could be integrated into traditional cropping systems

Farmers have been cultivating several medicinal plants traditionally as mixed crops in “Malenadu” region of Karnataka. Besides being ecologically significant, this localized integrated farming practice with low investment and no extra farmland, seemingly has more potential in the coming years due to an increasing demand for medicinal plants and their products.

Background

The “Malenadu” (hilly region of Western Ghats) of Uttara Kannada District (13° 55' to 15° 32' N & 74° 5' to 75° 8' E) presents a typical tropical humid climate on a landscape having hilly terrain. The study targets the following areas: Siddapur, Sirsi, Yellapur and Joida taluks, and portions of Mundgod and Halyal taluks. This region has three major west flowing river systems, namely, Aghanashini, Bedthi and Kali. Natural vegetation includes evergreen and moist deciduous forest ecosystems. Altitude ranges from 50 to 1000m and rainfall is around 3000-4000mm annually. Top soil is dominantly the laterite kind with rich humus.

Ecosystem & Farming practices

Essentially an agricultural economy, the other communities of this region include traders, skilled professionals and landless labourers. The agricultural community comprises mainly subsistence farmers.

The noteworthy aspect of this farming community is its unique culture and farm practices. They live as a close knit society where inter-farm co-operation and sharing is still very much evident. They have inherited rich farming knowledge on the ‘crops’ they grow. As a whole, they are all organic farmers. They do not use chemical fertilizers and pesticides. (The only pesticide they are now familiar with is the application of ‘Bordeaux Mixture’ to *Kole roga* of Areca nut tree). They have rich traditional wisdom related to agronomic

aspects of crop plants and practices like use of bio-manures, soil and water conservation methods, farm forestry, water harvesting techniques, etc. Thus, this region is blessed with rich agri-biodiversity and folk knowledge.

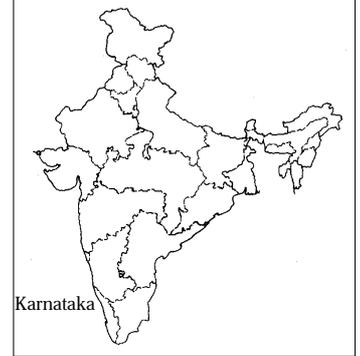
The typical agri-landscape has 4 major components. (See sketch). The paddy fields (‘Gadde’) and orchards (‘Tota’) are situated in the basin of the valley regions, usually adjacent to a river or stream. The immediate area besides farm fields, usually, is a strip of grassland (‘Bena’). Around these two land bits is a minor forest region (‘Betta’), and beyond this, is the state owned reserve forest.

Traditionally, they have been cultivating food crops like Betel Nut, Cardamom, Coconut, Pepper, etc. In recent years, farmers are switching over to cash crops along with new crops such as Vanilla, Coffee, and cocoa etc.

Farming is for subsistence and the average land holding of each farmer is less than 2 acres. (i.e. the actual farm field of revenue land). They depend on ‘Bena’ for the grass, used mainly as fodder. ‘Betta’ would be a slopy region with natural vegetation which provide the water source, grazing land, fodder, firewood, bio-mass like dry and green leaves, etc. Certain farmers are even given legal rights by the state over its use, through the Canara Privilege Act. (This privilege however is only given to revenue landholders with old deeds). Farmers do not have direct access to the reserve forest; though they depend to some extent on it for minor forest products. Thus a highly interlinked agri-ecosystem is seen here. The cultivation of medicinal plants in mixed cropping is one such important aspect among them.

Medicinal plants in mixed cropping

Several herbs, shrubs and trees of medicinal importance are being grown in farm fields as mixed crops for many generations. Interestingly, they do not grow them for commercial profit. The products of such plants are entirely for self-use or to be shared among fellow villagers and relatives free of cost! This



tradition is also nourished by village “Nati Vaidyas” who have profound knowledge over hundreds of medicinal plants. Even housewives know several ‘Grahamaddu’ (home remedies), which can be prepared from such locally grown plants. Such cultivation over the ages has enabled them to acquire several sustainable agronomic and post harvest methods for several plants. They know their ecological role as well. *Centella asiatica*, for example, is grown as covering for soil surface in Betel Nut garden. Clove is grown for its insecticide property in the border of orchards. The Coccum plant is cultivated in ‘Betta’ to stop soil erosion. Such a culture of cultivation of medicinal plants is also encouraged by religious leaders for their sacred value. Any given village would have a few ‘Nati Vaidyas’ and a ‘sacred grove’ to carry on and nourish this traditional ethos.

The inter-cropping and mixed cropping of these plants can generate more biomass and green manure, which can be used for the main crops. They would also be instrumental in gap filling and land surface covering. ‘Betta’ and Bena’ can be made more productive by this farming along with natural soil and water conservation works like contour-formation, strip formation, gully plugging, sub soiling, etc. Part of orchards or marginal lands like ‘Bena’ are used for the cultivation of medicinal plants. Sustainable water sources like streams and ponds can be revived by adopting water harvest methods in marginal farmland planted with these medicinal plants. Over a period of time the increased canopy of medicinal plants can also increase relative humidity of that microclimate.

Though there is rich folk knowledge to support such practices, it has not yet become a major farming activity mainly because of the lack of an established market, information on kinds of medicinal plants in demand, their agronomic aspects, etc.

Conclusion

‘Malenadu’ being part Western Ghat Region, has more than 1200 known