

Suggestions for improving the medicinal plants sector

The present worldwide interest in plant-based medicines of Indian origin needs to be harnessed by reframing a clear policy for the promotion of commercial cultivation, research and development, and for the increase in exports of medicinal plants. For the development of the medicinal plant sector, there is a need to develop the coordinated efforts at each stage (e.g. research, cultivation, collection, storage, processing, manufacturing and marketing), which would be supported by an appropriate policy framework.

a. Farming strategies

Selection of medicinal plant species for cultivation is an initial important step for the development of the medicinal plants sector. Economic feasibility is the major rationale for a decision to bring medicinal plant species into cultivation. Apart from the priority species selected by the Planning Commission and the NMPB, the rare species banned for collection from the wild should also be taken on a priority basis for cultivation because a majority of such species are very expensive, have high demand and low supply. Cultivation may not be economical if a medicinal plant species is abundant in the wild and available easily. The less abundant species in the wild should also be promoted for the large-scale cultivation. Farming of any medicinal plants at commercial scale should be brought into practice only after the reliable cultivation technology of the concerned species is available. A large variation in climatic and soil conditions in India sustain a variety of medicinal plant species, which may be cultivated according to their niche and agro-climatic conditions.

Apart from meeting the present demand, farming may conserve the wild genetic diversity, permit better species identification, improve quality control, and permit production of uniform material, from which standardized products can be consistently obtained. The planting material therefore should be of good quality, rich in active ingredients, pest- and disease-resistant and environmental tolerant. Studies conducted on the agro-forestry of medicinal plants elsewhere suggest that since many medicinal plant species prefer to grow under forest cover, agroforestry offers a convenient strategy for their cultivation as well as conservation through:

- 1) integrating shade tolerant medicinal plants as lower strata species in multistrata system,
- 2) cultivating short cycle medicinal plants as intercrops in existing stands of tree crops,
- 3) growing medicinal tree as shade providers and boundary markers,
- 4) inter-planting medicinal plants with food crops (Rao *et al.*, 2004; Kala *et al.*, 2006).

The medicinal plants sector can be improved if the agricultural support agencies would come forward to help strengthen the medicinal plants growers, and if research institutions would help the plant growers by improving their basic knowledge about cultivation practices (Prajapati *et al.*, 2003). Awareness and interest of farmers, supportive government policies, assured markets, profitable price levels, access to simple and appropriate agro-techniques, and availability of trained manpower are some of the key factors for successful medicinal plants cultivation (KIT, 2004).

b. Community-based: Medicinal Plants cultivation

The Government of India has also enacted export restrictions on 29 plant species to prevent their further loss in wild. However, the sustainability of these species cannot be achieved merely by promulgating a ban on export or by fencing areas rich in medicinal plants.

The philosophy of joint forest management if applied on medicinal plants it may be useful in mitigating the various conflicts. Giving ownership of natural resources to local people and encouraging profitable uses of those resources may provide a powerful incentive for both medicinal plant conservation and sustainable economic development of the local people. Sustainable harvesting combined with cultivation can improve yields, and it may also reduce pressure in specified areas marked for biodiversity conservation. It has been shown that under cultivation and in a consolidated area the plants give a better yield and assure the supply of quality planting material to the industries.

The MPCA may ensure the autonomous development of a rural community by enhancing the people's income. This way they can decide themselves how to use their assets and resources, for which market they wish to produce, and by which services they need to achieve their goals. It also enables them to restore resources depleted by overuse, assure the long term supply of resources, regulate national and international trade by assuring a continuous supply of quality material, and ensure the conservation of not only the species concerned but also its associated species and ecosystems (Kaul, 1997; KIT, 2003; Kala, 2006b). The number of linkages in medicinal plants supply, process, drug formulation, trade, transport, and the retail industry can be used to generate employment. The available rural technologies for farming of some valuable medicinal plant species can be made useful for their large-scale cultivation (Kala, 2006c). The promotion of community-based conservation through the establishment of MPCA and dissemination of awareness among the various stakeholders (e.g., herb cultivators, herb gatherers, herbal practitioners, and traders) about sustainable harvesting techniques and processing through training can be a step forward in the conservation of medicinal plants.

Identification of proper areas for establishing MPCA is one of the important tasks. Areas traditionally known for their medicinal plants richness, occurrence of endemic species, representative of the forest types, high density of prioritized medicinal plant species and minimum level of legal protection may be some of the deciding factors for selection of MPCAs. The number of MPCAs may be increased as per the diversity of habitats and microhabitats of the respective agro-climatic zone as such areas require focused and more attention due to rich botanical diversity.

The major objectives of establishing MPCA are

- (1). to conserve the diversity and richness of medicinal plants in natural habitats across various agro-climatic zones
- (2). to disseminate and strengthen the values of medicinal plants, its significance and conservation education,
- (3). to develop long-term institutionalized mechanism for conservation of medicinal plants, assessing their degree of threat, population status along with identifying threatened medicinal plant species and undertaking measures for their recovery,
- (4). to develop dialogues and sharing of experiences among different stakeholders of the medicinal plants sector who are actively involved in the conservation, cultivation and sustainable utilization of medicinal plants, and
- (5). to facilitate linkages between the medicinal plant conservation organizations and medicinal plant user groups.

One of the major tasks of MPCA is to involve local communities and assure them for sharing of benefits accrued from the medicinal plants sector and MPCAs. This community-oriented policy is required realizing that rural and tribal communities are among the key custodians of medicinal plants. Apart from conservation aspects, many more activities may be taken up in MPCAs which includes, developing a complete set of databases on each MPCAs. On the basis of such database the strategies may be developed for future course of action in developing such MPCAs.