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Status of Priority based Subsidized MAP Species for Cultivation and Conservation in Chamoli District, Uttarakhand Himalaya

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ABSTRACT : Cultivation of Medicinal and Aromatic Plants (MAPs) is considered as one of the most important tool for conservation of wild MAP species, ensure regular supply of raw material to pharmaceutical industries and also plays crucial role in the upliftment of socio-economic status of local farmers for their livelihood security. Cultivation of MAPs seems to be a viable solution for raising the economy of the farmers of Uttarakhand Himalaya as MAPs can be grown successfully in stressful and adverse conditions. To know the actual status of MAPs cultivation sector, with an aim to gather information about the initiatives and policies launched by government for the promotion of cultivation, prioritized species for cultivation and economic benefit of farmers through cultivation. The study revealed that various organizations were engaged in the promotion of MAPs cultivation and a number of policies were launched by the government such as subsidies to farmers on 26 prioritized species, free planting material, training, nursery development course, registration and certification of farmers, etc.

KEY WORDS: Biodiversity, Conservation, Himalaya, Livelihood, Medicinal Plants, Aromatic Plants, Cultivation, Uttarakhand, Chamoli.

INTRODUCTION

Plants have a long history of use in medicine, cosmetics and perfume, but the economic value of trade in plants has only recently been appreciated (Schippmann *et al.,* 2002). About 85% of the traditional medicines used for primary health care are derived from plants (Farnsworth, 1988). Concerns for the conservation of Medicinal and Aromatic Plant (MAP) resources were first expressed in 1984 (Lambert *et al.,* 1997). In recent decades this concern has increased, particularly for developing countries, where wild collection of MAPs is often an important means of generating cash income (Cunningham, 1993; Schippmann *et al.,* 2002). Apart from some inventive attempts and recent facilitation-driven developments, the trade of Himalayan MAPs generally relies on harvesting from the wild (Kuniyal *et al.,* 2013). Unregulated and over-harvesting had posed serious threats to many Himalayan MAPs (Heinen and Shreshtha-Acharya,2011). Integrating conservation and sustainable development of natural resources with rural livelihood may help in the commercialization of rural economy (Svarrer and Olsen, 2005). Conservation of MAPs can be achieved through creating awareness, capacity building and initiating cultivation of threatened and other potential species (Dhar *et al.,* 2002; Kuniyal *et al.,* 2003; Nautiyal and Nautiyal, 2004; Cultivation of MAPs in the Himalayan region is expected to be important for the conservation of rare and endangered MAPs (Silori and Badola, 2000).

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State of Uttarakhand was carved as small hilly state on November 09, 2000 from the erstwhile hills and foothills of Uttar Pradesh State (India). Uttarakhand Himalaya is blessed with a variety of soil types and varying agro-climatic conditions, ranging from sub-tropical to alpine, which is conducive for cultivation of various crops, yet agricultural sector of Uttarakhand Himalaya is not too good because of about 92.57 percent area of Uttarakhand is hilly, hence leaving a very small area i.e.7.43 percent for farming practices. In addition to diverse topography and agro-climatic conditions, Uttarakhand is the abode of potential MAPs. Approximately 1,748 species of MAPs are reported from the Indian Himalayan Region (IHR); of which, nearly 40.10% occur in Uttarakhand Himalaya. Furthermore, 28 important species of MAPs occurring in Uttarakhand Himalaya are categorized as the Globally Significant Medicinal Plants; GSMP (Ved and Goraya, 2008; Kuniyal *et at.,* 2013). According to the recent conservation assessment and management prioritization (CAMP), for Himalayan MAPs, 48 species of MAPs occurring in Uttarakhand are categorized as critically endangered (07), endangered (18) and vulnerable (23), (Ved *et. al.,* 2003). As a result of overexploitation in the Uttarakhand Himalaya, eight species of MAPs have been enlisted in Appendix I, II and III of CITES (2012).

The tradition of farming and trading of indigenous Medicinal and Aromatic Plants (MAPs) from this region dates back to 1949 (AFC 2003). It is also believed that the introductory cultivation of *Saussurea lappa syn. Saussurea costus* was started in this Western Himalayan region during 1929. An exclusive programme named as 'Indo-Tibet Border Medicinal Plants Scheme' for commercialization of MAPs was started in