# Brief in medicine plants and wild orchids situation in Lam Dong province - Vietnam

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**Present status of medicinal plant and wild orchid resource in Viet nam**

Vietnam is approximately 331,688 km² in area with the perimeter of the country running along its international boundaries is 4,639 km. Vietnam's geographical location is in the tropical monsoon belt characterized by two seasons - rainy summers and dry winters. Vietnam, stretching over 7° longitudes (102°10' E - 109° 30' E) is sandwiched between the Annamite mountain chains and the South China Sea and has a long coastline of 3000 km. Its northsouth elongation (1600 km) over 15° of latitudes (8° 30' N – 23° 22'N) is a factor for gradual decrease of temperature towards the north setting in sub-tropical situation. It is the high altitude that brings in a zone of temperate climate on the peaks of mountains rising more than 1000 metres above the mean seal level. During the winter or dry season, extending roughly from November to April, and the rainy or summer season with monsoon winds picking up considerable moisture. The average annual temperature is generally higher in the plains than in the mountains and plateaus. Temperatures in the southern between 21 and 28 °C over the course of a year, meanwhile in the north are much more dramatic.

Topography and climate together with geology have brought in changes in the soil conditions; and their combined influence is well evident on the vegetation types and floristic composition. Further and more complexity is manifested in the Vietnam's flora as a result of southward extension of the flora of the South China and the Himalayas (Fisher, 1969). The common forest types, mixed evergreen and semi-deciduous broadleaved forest.

Vietnam's forests cover to about 41 per cent by 1943 to 24% recently. The depletion of forest resources mainly due to over-exploitation, Vietnam's urbanization, wild fires, pollution, lack of funding for environmental programmes, over-population growth, and many other factors

**Orchid and medicinal plant resources**

Vietnam possesses more than 10,836 plant species. Among them, there are over 3,100 species of medicinal plants (Vo-Van-Chi. 1997). Of which, 920 species are widely mentioned in Vietnamese traditional medicinal literature. A list of 356 rare medicinal plants, as recorded in Vietnamese Red Book, is classified into: rare (159 species), threatened (83), vulnerable (61), known indefinitely (29) and endangered (24) species (Do Huy Bich et al. 2003).

However, deforestation and forest degradation has resulted in the significant loss of biodiversity in general and medicinal plant resources in particular. This loss has led to the erosion of valuable traditional knowledge and practice of the ethnic minorities in using these medicinal plant resources for disease treatment.

On the otherside, the orchid flora in Vietnam was considered a typical spectrum of the lagest orchid genera in tropical Asia (Averyanov, 2003). Unfortunately, the current excellent governmental programme for protection of primary forests cannot effectively prevent the extinction orchids and other plants that are in high demand in the market-place because of their widespread selective collecting for sale by local people and for international trade. Vietnam is currently hastening in industrial development and utilisation of its natural resources so that

the deforestation is in proceeding and some of the orchids are becoming rare and has changed dramatically. The complete extinction in Vietnam of most of the native orchids is quite possible in the very near future (Averyanov, 2003).

In the context of market economy, urbanization, demographic growth and expansion of agricultural land, medicinal plants and wild orchid grown in the family gardens have got dwindled; in several instances wild medicinal plants have been so much ruthlessly exploited as to face the threat of extinction.

**Present status of medicinal plant and wild orchid resource in Lam Dong**

Lam Dong is the third largest province on the plateau on the Central Highlands is approximately 10,137 sq km in area. It is also the highest province lying on a plain the average height of which is about 1,500 meters above sea level. Lam Dong is a forest province with forest coverage accounting for 70 per cent of the total area. The annual average temperature is 18$^{o}$C. Dalat is a provincial capital which offers an average temperature of about 10$^{o}$C in winter time and 20$^{o}$C in summer. Thanks to the warm weather the whole city of Dalat is a great many kinds of flowers and plants growing including orchid and medicine plants.

According to currently available data, at least 220 medicinal plant species being reserved in Lam Dong herbal plant center, and in a some households have a small part in their gardens for planting medicinal plants for family needs.

On the field of wild orchids, according to Averyanov L.V, 1994, Lam Dong Province of Vietnam has an exceptional diversity of orchids with approximately 410 species representing 104 genera (which of the entire the country 51,25% and 78,7%, respectively). Of these, over 239 Lam Dong wild orchid species are used for attention under the Conservation Vietnamese wild orchids projects. Among of 239 species of Lam Dong collection, 217 species belong to 69 genus scientific name oriented (VietNamNet. 2006).

Many herbs and wild orchid are becoming alarming. In collaboration with Department of Plant Biotechnology, Dongguk University – South Korea working under supported ODA funds from Korea government (MIFAFF) to exchange students for study, publication, the informations relating on natural and biological resources for developing bio-researches as well as other fields, we will consider how to collecting and preserving these plants in situ (or plantation) or conservating in vitro as a genetic resource. Plant tissue culture and micropropagation techniques play an important role in conservation programme and management of botanical collection. The micropropagation unit will set up at Agriculture and Forestry departement of DaLat University to propagate plants that are endangered of difficulty to grow conventionally. The techniques used include *in vitro* laboratory propagation from vegetative material and germination of seeds. We believe that the techniques used include *in vitro* laboratory propagation from vegetative material and germination of seeds will be successful.

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