

# *SUGANDHAWAL*

## *Valeriana jatamansi*

Sugandhawal oil is used for perfumery and for other industrial products. Rhizome of Sugandhawal is an item of commerce and is being sold to different trading centres in the region. Crude rhizome is banned to export without processing. Sugandhawal is collected from the national forest as well as private lands in the Karnali Zone. According to the district forest records of Jumla district, a total of 1870 kg of Sugandhawal has been traded during the Fiscal year 2058/059( 2001-2002).

### 1. BIOLOGY

#### A. Taxonomy

There are two species of *Valeriana* in Nepal (Anonymous 1976):

- 1) *V. hardwickii* Wall.
- 2) *V. Jatamansi* Jones Syn. *V. wallichii* DC.

*Valeriana jatamansi* is the species found in Karnali Zone.

Family - Valerianaceae

Local name - Samayo, Sugandhawal

English - Indian Valerian



It is perennial slightly hairy, tuft herb up to 45cm in height. Radical leaves are persistent, long petioled, deeply cordate-ovate, usually toothed or sinuate. There are only a few cauline leaves which are much smaller, entire or pinnate. Flowers are often dioecious, white or tinged with pink, in a terminal corymb. Fruits are oblong, compressed, hairy or glabrous. Rootstocks are thick and horizontal, several erect stems of 15 - 45 cm.

#### B. Habitat and Range

It is distributed from Afghanistan to southwest China and Burma (Polunin and Stainton 1987). It grows at the altitude ranging from 1500 to 2600m. In Nepal, it is found in central and western hills (Manandhar 1976). This plant is found growing from 1000 to 2500m altitude in cold and shady places. Sugandhawal favours temperate, sloppy, moist and shady places. Sugandhawal is mainly found in the following areas of Jumla: Patarasi, Chhumachaur, Dillichaur, Patmara VDCs of the eastern sector Chaudavisa region.

### C. Ecology

Sugandhawal is a glabrous and more or less pubescent herb, nearly 15-45cm tall herb. Rootstock is short and thick, sub erect and stoloniferous with cauline radical leaves. Long petiole bears white or pinkish flowers in a terminal comb. It is found mostly in the edge of Bariland (un-irrigated agricultural field in upland). Flowering time of this herb is March - June. The surrounding major associated tree species are Bedulo (*Ficus spp*), Dhale Katus (*Castonopsis indica*), Dudhilo(*Ficus nemoralis*), Khanyu (*Ficus cordata*), and Laligurans (*Rhododendron arboreum*). Mostly found in north-facing slopes of Rhododendron forests. In Jumla it is found in private field (Bariland) growing under apple (*Pyrus malus*), Okhar (*Juglans regia*) and Dhatel (*Principia utelis*).

### D. Regeneration

Natural regeneration of Sugandhawal takes place by seeds. It can also be cultivated. The seeds are planted in the nursery in February-March. The nursery soil should be irrigated to keep it moist. The nursery-raised seedlings are transplanted at the spacing of 18-20cm in rows of 30 cm apart.

Rhizome cuttings do vegetative propagation of this herb. The plant is easily propagated from a portion of the old rootstock either in autumn or in spring. The divided rootstocks are spaced 30cm x 60 -90 cm apart. If the divisions are planted very early in autumn (on time to become well established before the onset of frost), a good crop of the product may be harvested in the next autumn. The summer cultivation requires weeding of beds and cutting off of old floral stalks to avoid exhaustion and promote the formation of larger rootstock.

## **2. RESOURCE MANAGEMENT**

### A. Management System

Sugandhawal is cultivated in some community forests on a commercial basis, but on the private land it is planted as demonstration plots not in a commercial basis. Sugandhawal is found growing naturally in the national forest and near the farmland. Everyone in the area has access to the national forest for collecting the rhizome. This species is not included in the operational management plans of CFUGs in Jumla. No rules or regulations have been formulated locally regarding collection and harvesting control.

### B. Harvesting

Harvesting is done during September to November. The whole plant is pulled out and leaves, stem and branches are removed later and only rhizomes are collected. Collection is generally done in leisure time and mostly done by women and children.

From commercial cultivation 2500kg of dry rhizome can be collected from one hectare of land. First good harvest can be done after two years of plantation.

### C. Sustainability Issues

Rhizome and root are the parts used for trading. Recently Sugandhawal has been planted in some community forests in Jumla on a commercial basis. According to the traders, the production of Sugandhawal has been constant for the last several years. Sugandhawal was found growing naturally in the CFUG managed forests in 6 VDCs in Jumla. The CFUG members were aware of and interested to work on NTFP production. They said that they were planning to control harvesting of Sugandhawal from their CF.

## 3. UTILIZATION

### A. Subsistence

Locally it is being used for medicinal purpose especially for headache and eye trouble. In Ayurvedic medicine, it is used as aromatic, stimulant, carminative, and antispasmodic. It is also used for the treatment of epilepsy and hysteria.

Powdered drug, mixed with sugar is used in urinary troubles. A decoction of the drug is reported to be given in Nepal to mothers after parturition, probably as a sedative. The extract is showed antibiotic against *Micrococcus pyogens var. aureus* and *Entamoeba histolytica*. Sugandhawal is also used as incense and as an insect repellent.

### B. Commercial

Main constituent of *Valeriana wallichii* is valeportriate, which provides aromatic properties in plant. Dry rhizomes and roots are distilled for extraction of an essential oil. Generally, 0.5 - 0.7 percent of oil is extracted from the dry rhizome. If rhizome is of the best quality, the oil percentage can reach up to 1.8 from steam distillation. The yield of oil depends upon several factors: age of the plant, its geographical origin and method of distillation. The oil is olive green to olive brown in colour. It has a warm -woody, balsamic root-like odour with distinct animal undertone of musk like character and great tenacity. A fresh green slightly camphoraceous top note is also typical in odour of good oil (Wealth of India).

## 4. MARKETING

### A. Production Volume and Trade

Sugandhawal is collected from Jumla and sold to mostly road-head trading points. Collectors go to traders with a quantity of Sugandhawal ranging from less than a kilogram of Sugandhawal up to 50 kg. According to DFO, a total of 1870kg of dried

Sugandhawal is traded in Fiscal year 2058/059 (2001-2002) from Jumla. Collectors selling price of Sugandhawal is NRs 60-70 per kg in Jumla district

The table below shows the volume of Sugandhawal traded in different fiscal years\*

Fiscal year	2058/059	2057/058	2056/057	2055/056	2054/055
Quantity in KGs	1870	2381	14151	32109	12812
Royalty rate(Rs/kg)	15	15	15	15	15
Total Royalty(Rs)	28,050	35,715	3,12,265	4,81,635	1,92,180

\*DFO, Jumla.

#### B. Current Market Channel

Collector ->Village trader- >Regional trader->wholesaler -->processor- >exporter  
or  
Collector -> village trader ->processor ->exporters

#### C. Current Processing

The collected rhizomes are cleaned or washed in water. Then each rhizome is cut into 2-4cm long pieces. The rhizomes are dried in the sun on mats or sometimes by spreading them in trays, supported over a wood fire. Dried rhizomes are then stored. Removing soil from rhizomes does refining of products.

Currently there is no processing enterprise in the study area. The product is sold mainly to big traders or wholesalers/exporters in Nepalgunj.

#### D. Variability and Risk

Collectors have to store the product from few days to few weeks before taking it to trading centres. Road-head traders have to store the product from few weeks to few months. During this time of storage there is loss in the weight of the product and possibility a decrease in quality due to insect damage and fungus. The market price is not constant, but fluctuates quite often. Sometimes the selling price fluctuates to lower than buying price resulting in a set back to the small-scale traders.

### 5. SOCIO-ECONOMIC AND POLICY ISSUES

#### A. Socio-economic Factors of Existing Activities

Sugandhawal is one of the important incomes generating forest-based products for the people in the Karnali Zone. It is collected both by men and women but mostly women and children in their leisure time. No specific groups or castes are involved in collection. Mostly the disadvantaged groups are involved in the collection. It is carried to the local market to sell for cash or bartered for necessary household commodities. The income generated out of this product selling is used mainly for buying cloths, salt, kerosene and food-grains during food deficit seasons.

## B. HMG Policy on Collection, Processing, and Trade

### 1. Current Policy

Collection permit is required before collection from DFO and CFUGs describing collection area, method of collection, quantity and objective of collection, but in practice it is not followed. Collectors sell the product to village traders and trader receives a release letter after paying the royalty of Rs 15 per kg for Sugandhawal to transport to the Terai. Forest personnel have the power to conduct search, impound goods, undertake arrests, conduct investigations, and file cases. There is a ban on the export of Sugandhawal rhizome in the crude form.

### 2. Policy Constraints

Due to the ban to export this product, traders are forced to sell it to processors or illegally export the product to India.

There are several unnecessary government check points for forest products on the way down from hills to lowlands which harass the transporters or traders. It has a high royalty rate in comparison to its price with Kutki and Jatamansi and its volume of trade.

## **6. REFERENCES**

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