ALAINCHI

Amomum subulatum

Amomum subulatum is the cultivated species of large cardamom. Cardamom is one of the oldest spices used by man. In India, it was used as early as the 6th century BC in Ayurvedic preparations, as mentioned by Susrata (Sharma, 2000). ***Amomum subulatum*** is an important economic crop in the Eastern Himalayas. Typically, cultivation is in woodland areas with overhead shade and access to regular irrigation from mountain streams. A number of cultivated variants of Alainchi are adapted to different elevations and various other environmental factors such as water deficit and frost. Seven wild species can still be found in the region (Sharma, 2000).

1. BIOLOGY

A. Taxonomy

Family - Zingiberaceae
Local Name - Alainchi
English Name - Large Cardamom

Alainchi stems grow up to 5ft tall. Leaves are found on the upper portion of the stem. This is an evergreen plant with the old stems dying down after a few years. The rhizomes are a dull red colour. Flower buds appear in spring from the base of the rhizome. The peduncle is short and the buds encased in tight red bracts. Flowers appear from spring through mid summer. Individual flowers stay open for three days and more and new ones open successively. An inflorescence stays in flower for over a month.

B. Habitat and Range

Alainchi is farmed in the Eastern Himalayas in Nepal, Sikkim and Bhutan at an altitude of 500-2000m, from subtropical to the cool temperate zones (Sharma, 2000). This species inhabits cool forest areas near mountain streams and damp forest floors.

C. Ecology

Alainchi is a perennial plant distributed in the mid-hills of the Himalayas. It is found on slopes of hills where there is plenty of well-drained water available, preferably in the north slopes of under the shade of trees. The shade tree used in plantations and large patches of existing cardamom agro forestry systems is the N_2-fixing Himalayan alder (*Alnus nepalenis* D. Don). Other common shade trees are *Schiima wallichii, Engelhardtia acerifolia, Eurya acuminata, Leucosceptrum canum,Maesa chisia, Symplocos theifolia, Ficus nemoralis, Ficus hookeri, Nyssa sessiliflora, Osbeckia*

paniculata, Viburnum corifolium, Litsaea polyantha, and *Macaranga pustualata.* However, the use of *Alnus*-Alainchi system has recently proved more profitable (Sharma, 2000). It is grown on such a slope, which is not suitable for any crops, and this protects the soil from erosion and landslide. Alainchi grows fast and vigorously during the summer monsoon months.

Regeneration

Natural regeneration has decreased; although, this species is cultivated abundantly in the private and other lands. Alainchi is propagated by raising seedlings from seeds in nurseries and also through separating the rhizomes from the plants. Traditionally, farmers have been following the second method as it is relatively easy, less time-consuming, and cheaper. This method is, however, also responsible for the spread of diseases as the planting material may carry diseases, thereby reducing the productivity and also the lifespan (Subba 1984, Chapter 33). Alainchi starts producing a harvest from the third year after planting.

2. RESOURCE MANAGEMENT

A. Management System

Alainchi is mostly cultivated on private land in the eastern part of Nepal in districts such as Ilam, Sankhuwasabha, Panchathar, and Taplegunj.

B. Harvesting

Harvesting of the crop commences from August and lasts until November depending upon the elevations and variety (Sharma, 1997). The seed capsules are dried and these aromatic dried capsules are sold in markets.

c. Sustainability Issues

The main sustainability issue is the rapid spread of diseases. *Phurkey* and *chirkey* are the two viral diseases, which have brought about a great deal of damage to the crops. It is advised to uproot and burn disease-affected plants, as it is highly infectious, sometimes whole stands are infected. It is suggested to use new planting materials from seed to reduce the spread of the disease. Although four to five years gestation period may be too long for farmers some farmers. The Dzongu-Golsey variety of cultivated Alainchi has been found to be resistant to these viral diseases. Also, planting several wild relatives of Alainchi in a plantation will assist resistance to diseases through genetic variability maintained through crossbreeding (Sharma, 2000).

3. UTILIZATION

A. Subsistence Use

Locally it is used as a food spice and as a mouth freshener after a meal.

B. Commercial Use

Large volume of crude Alainchi is traded to the Indian market in Siliguri, which is ultimately sold as a spice. The oil extracted after processing can be used in Ayurvedic medicine.

4. MARKETING

A. Production Volume and Trade

According to traders' information, a total of 48, 97,600 kgs (75,000 kgs -Dharan, 45, 55,000 kgs -Ilam, 57,600 kgs -Dhankuta and 21, 0000 kgs –Birtamod) of Alainchi is traded during 2001.

B. Current Market Channel

Collector - > Village Trader -> Regional Trader - > Exporter
Collector - > Village Trader - > Exporter
Collector - > Village Trader - > Regional Trader - >Wholesaler - >Exporter

Most Alainchi from Nepal is sold through the Siliguri market in India.

C. Current Processing

Mature fruit capsules are cut in bundles with sickle/knife from the Alainchi shrub. The fruit are manually separated. The post harvest technology continues to be largely traditional. Farmers have devised indigenous ways of processing Alainchi. The capsules are dried on traditional kilns. In the kilns the capsules are placed on a wire-mesh above a fire stove or in the sun. Fuel wood is consumed in the ratio of 4:1 for cured Alainchi; about 800kg/ha of wood is required to cure 200kg/ha of the finished product. The fruit capsule tails are manually cut using a knife. Recently, some institutions have developed improved kilns and gasifiers for curing as well as capsule tail cutting and polishing machines for added value (Sharma, 2000). Finally, dried Alainchi is packed in jute sacks to transport to the district centres and regional markets.

D. Variability and Risk

Limited markets are available for Alainchi. The main market for Alainchi in eastern Nepal is Siliguri, India. A decline in yield can be caused by infestation by two viral diseases *Chirkey* and *Foorkey*. Uprooting and burning of all the infected plants make it possible to control these viral diseases.

5. SOCIO-ECONOMIC AND POLICY ISSUES

A. Socio-Economic Factors of Existing Activities

Alainchi is one of the important sources of income for rural people. Mostly poor people and farmers with low land holdings are involved in collection and trade of Alainchi.

B. HMG Policy on Collection, Processing, and Trade

1. Current Policy

The HMG has created a fixed minimum price for Alainchi to be exported out of Nepal.

2. Policy Constraints

Several unnecessary checkpoints from district up to the border are the main constraints, which are responsible for harassing the traders.

7. REFERENCES

Sharma, E., Sharma, R., and et al., 2000. 'A Boon for Mountain Populations: Large Cardamom Farming in the Sikkim Himalaya'. In *Mountain Research and Development,* Vol. 20, No. 20, 108-111.

Sharma, H. and Sharma, E., 1997. *Mountain Agricultural Transformation Processes and Sustainability in the Sikkim Himalayas, India.* Kathmandu: International Centre for Integrated Mountain Development.

Subba, J. R., 1984. 'Agriculture in Hills of Sikkim'. In *Sikkim Science Society.* Gangtok: Sikkim Science Society.