

**DIRECTORATE OF CINCHONA AND  
OTHER MEDICINAL PLANTS, WEST BENGAL**

**Head Quarter:**

**Mungpoo, Darjeeling, West Bengal, India**

**PLANTATION AREAS IN DARJEELING DISTRICT**

MUNSONG	:	KALIMPONG SUBDIVISION
RONGO	:	KALIMPONG SUBDIVISION
MUNGPOO	:	DARJEELING SUBDIVISION
LATPANCHOR	:	KURSEONG SUBDIVISION
AMBOTAY	:	KURSEONG SUBDIVISION

**:: Research & Development Laboratories::**

MAIN CENTRE	:	MUNGPOO
OTHER CENTRES	:	RONGO
RESEARCH & DEVELOPMENT CENTRE	:	AMBOTIA

**Factories:**

GOVT. QUININE FACTORY, MUNGPOO  
GOVT. EMETINE FACTORY, MUNGPOO  
GOVT. DIOSCOREA AND DIOSGENIN FACTORY, GAIRIBAS

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**DEPARTMENT OF FOOD PROCESSING INDUSTRIES AND HORTICULTURE  
GTA, GOVT OF WEST BENGAL**

**OVERVIEW**

The Directorate of Cinchona & Other Medicinal Plants, West Bengal started its functioning since 1862 right from almost foot hills at 150 M to 1800 M in the hilly terrain from the main sea level of Darjeeling District. The Directorate has taken commercial cultivation of some important medicinal plant crops like *Cinchona*, *Ipecac*, *Roulfia*, *Chirata*, and *Dioscorea*. *Dioscorea* and some other medicinal and aromatic plants are cultivated in restricted manner. The Directorate also started the cultivation of other commercial crops for diversification and it was started in 1956 with Large Cardamom. The Directorate, which was producing Quinine salts right from 1874 also started producing Emetine and Diosgenin in its new factories. *Cinchona* species has been long acclimatised (since 1862) and the best yellow bark producing *C. ledgeriana* species is mainly grown. Ipecac (*Cephaelis ipecacuanha*) is the 'green gold' plant that has grown on plantation scale only by this Directorate in Darjeeling Hills, and nowhere else worth mentioning. *Dioscorea composita* and *Dioscorea floribunda* have also for the first time been acclimatised on a plantation scale in these regions. Three factories, namely Quinine Factory, Emetine Factory and Diosgenin Factory, are getting raw materials from the Directorate's own resources.

**Constituent Unit  
MUNGPOO (Estd. 1862)**

**(A). Plantation**

Directorate's Head Quarter Mungpoo is 33 km. east of Darjeeling.

Total Area	:	10,103 acres
Cinchona area	:	2, 800 acres
Ipecac area	:	55 acres
Others crops	:	18 acres
Workers	:	1518

The plantation has four division:

***Mungpoo, Labdah, Rumbbee, Ronju Valley.***

**(B). Quinine & Emetine Factory**

This plantation has the unique century-old Quinine Factory established in 1875 which now is being modernized with production capacity of 28 – 30 M.T annually. A new Emetine Factory has been set up in 1982 on the technology developed in the Directorate's own Research wing. This has the production capacity of 240 kg Emetine hydrochloride annually. All the products are of

latest Pharmacopoeal standard. Quinine Factory engages 120 workers & Emetine Factory may accommodate 30 workers.

### (c). Research & Development Laboratory

The plantation enjoy the privilege of having one well equipped Research Section that has come up in 1977 and is in the process of modernization all these years. The research studies aim to improve the quality and quantity of raw materials from different medicinal and aromatic plants by exploring areas of applied research, such as ; biochemistry, developmental physiology, agronomy, pathology, tissue culture, pharmacognosy, soil science, genetic and breeding, propagation, phytochemical screening and ethobotany. The Research section has successfully carried out a number of research projects sponsored by CSIR, IFS, Hill Development Council and is in the process of collaborating with a number of other research organizations.

### MUNGSONG ( Estd. 1901)

#### (A). Plantation

Munsong plantation lies 25 km north of Kalimpong and on the border of Sikkim:

Total Area	:	10,000 acres
Cinchona area	:	3,100 acres
Ipecac area	:	51 acres
Others crops	:	6 acres
Workers	:	1081

The plantation has five divisions:

***Munsong, Kashyem, Burmiak, Sangseer, Rangpoo.*** Each division is very proud of its high quality *Cinchona* trees with average quinine contents 5-7%; going as high as 10-12% Rangpoo division can claim some best *Dioscorea* areas of the region.

#### (B). Research

Research efforts have been undertaken to introduce some essential oil bearing plants and their distillation performances.

### RONGO (Estd. 1942)

#### (A). Plantation

Rongo plantation, situated 100 km east of Siliguri, presents a mixed pattern of cultivation of different medicinal and aromatic plants:

Total Area	:	4,222 acres
Cinchona area	:	813 acres
Ipecac area	:	165 acres
Dioscorea area	:	120 acres
Others crops	:	15 acres
Workers	:	1,290

People here are particularly competent to grow *Ipecac and Dioscoreas* and this plantation can claim to be of unique type to accommodate quite a few number of important medicinal plants like *Digitalis, Ravoflia, Datura, Atropa, Hyoscyamus, Ammi, Solanum, Calendula, Mentha, Argeria, Cymbopogon, Ocimum* & Others.

The plantation has three divisions:

**Gairibas: Dalgaon, Rongo**, of which Dalgaon division maintains the biggest ever area under *Ipecac*.

#### (B). Diosgenin Factory

The new Diosgenin factory, built on technology of RRL, Jammu (CSIR) has started production from 1984 on restricted scale and has the annual capacity of produce 3-4 M.T. of Diosgenin (94-96% purity). The new factory will ultimately accommodate 20 workers.

#### (C) Research

Experimental studies on improvement of the newly acclimatized different medicinal and aromatic plants are in active progress. There is a Research Annex of different medicinal plants.

### LATPANCHOR (Estd. 1942)

#### (A). Plantation

Latpanchor plantation lies 20 km. east of Kurseong having at its credit of very high quality Cinchona bark:

Total Area	:	2,446 acres
Cinchona area	:	1,430 acres
Ipecac area	:	19 acres
Workers	:	580

The Plantation has two divisions:

***Latpanchor and Sittong.***

## **Research and Development Centre AMBOTIA (1978)**

This is mainly a research plantation covering an area of 150 acres; of which 18 acres is under high-grade *Cinchona trees*, seedlings developed by the Research Section by hybridization and clonal propagation. This small completely isolated plantation is planned to produce high-quality seeds for future extensions of *Cinchona*.

### **Organizational set up**

The Director is the administrative as well as technical head of the Directorate and directly guides the research and developmental activities of the Organization. Quinine Factory is in – charge of Quinologist, Emetine Factory is in – charge of Chief Chemist, and Diosgenin Factory is in-charge of Production Chemist. Each plantation is in-charge of Manager along with the Divisional Officers who is looking after each division. Research Section is in charge of Horticulture & Analytical Chemist. Directorate's establishment at Calcutta is the main selling Centre of its products under the control of Manger. The central administrative wing of Calcutta is looked after by the Director and at the Head Quarter (Mungpoo) he is assisted by a Manger.

### **Development Projects**

A number of development projects have been executed resulting to extension of Cinchona acreage to 8,200 acres, Ipecac to 300 acres, Dioscorea to 120 acres and introduction of other important medicinal and aromatic plants and mandarin orange, besides improvement of existing plantation, modernization of Quinine Factory, establishment of new factories like Emetine and Diosgenin, provision of houses and other facilities of workers, improvement of communication system, improvement of water supply and sanitary conditions, intensification of research activities and search for new medicinal plants along with extension work at village level are progressing. These projects are being financed by the Central Assistance funds for development of Hill Areas.

World requirement of Quinine is nearly 900 tons and West Bengal producing only 1 percent. It has a projection to increase to production of about 3 percent of world's requirement within 2-3 years. Besides, Quinine production is planned to be augmented. A sizeable revenue is earned from internal sales of Quinine Salts and efforts for export is being strengthened. Recent production of Emetine hydrochloride (BP-80) and Diosgenin along with the production of new raw materials from minor medical and aromatic crops have brightened the prospects of earning higher revenues in the near future.

The medicinal plants Industry is mainly a research based innovating industry and constant research and development efforts to improve the quality and quantity if different raw materials and its products, are of utmost necessity for the coming 21<sup>st</sup> century.