

**C. Planting material propagation and multiplication:** - The Mission aims to improve the availability of planting material in the district by focusing on the production of quality mother rhizomes through seed production in horticulture turmeric farm, longkyndar, Mookaiaw, Community Seed Bank/Seed Villages, rapid multiplication through single bud rhizome pro tray method (standardized by TNAU, Coimbatore) and tissue culture.

**D. Post harvest management and processing:-** The project would extend support to eligible and well functioning processing units in terms of equipment like turmeric steamers / boiler, polisher, packaging equipment and facilitating access to certification and quality testing facilities in order to boost up their production and quality. Solar dehydrators would also be provided to farmers.

**E.Ecosystem Building & Enterprise Promotion:-** Motivating, mobilizing and training agribusiness entrepreneurs to take up higher end functions of the Lakadong value chain like establishment of aggregation centres, organised processing and trading of this valuable spice and creating ethically and socially responsible businesses.

**F. Marketing:-** A majority of Meghalaya's turmeric goes outside the state through traders and middle men either in the form of slices or powder. Farmers sell raw turmeric at Rs. 30/- to Rs. 35/- per kg while the dried slices fetch around Rs. 150/- to Rs. 160/- per kg as per current market rates. Processors then turn it into powder and sell it at around Rs. 160/- to Rs. 170/- per kg. The conversion ratio of rhizome to slices is 6:1 while the ratio of slice to powder hovers around 1:0.8. A quick scan of the futures markets shows turmeric trading at around Rs. 6900/- per quintal while spot markets indicate a price of Rs. 8500/- per quintal for fingers. Online retailers are also selling Lakadong at around Rs. 1280/- per kg.

#### Implementation process and mechanism:

The Mission is proposed to be implemented by a State Mission Management Unit (SMMU) under the chairmanship of the Agriculture Production Commissioner and comprising of representatives from the Directorate of Horticulture, the Governor's Secretariat, the DRDA, West Jaintia Hills, the Forest Department, North Eastern Hill University (NEHU) and the Meghalaya Institute of Entrepreneurship (MIE).

Accompanying support for GI, some part of area expansion for seed purpose, post harvest support to small scale turmeric processing enterprises, Training cum Exposure, Packaging, Branding, advertising, marketing / trade promotion will come from the MIE under its NEC project titled "Area expansion and value chain development of Lakadong turmeric" and and dehydrators / slicers from the Governor's Secretariat. Wages for area expansion and seed material will be mobilized under the Bottom 40 programme of the MNREGA while the rest of the Mission's investments will come in from the Directorate of Horticulture.

While the pre production, area expansion, production technology and mobilization of farmers would be handled by the Directorate of Horticulture in coordination with the Block Office through the DRDA, the tissue culture propagation of rhizomes will be handled jointly by the Forest Department, NEHU and the Directorate. The post harvest interventions and marketing will be handled by the BDU / DRDA with support from the MIE.

#### Financials:

The Mission has set a target of 50,000 tonnes of turmeric production from 15,000 acres (6070 hectares) over the next 5 years with a total outlay of Rs. 75.58 crores out of which Rs. 63.15 crores will come in as convergence for area expansion from MNREGA, Rs. 8.10 crores for seed multiplication from DOH, Rs. 2.88 crores for GI, PHM, Marketing etc from the Governor's Secretariat and the MIE and Rs. 69.75 lakhs for capacity building from ATMA. A total of Rs. 71.25 crores will be the investment from both the MNREGA and Mission for area expansion. Accompanying support from the MIE will touch a total of Rs. 1.50 crores. Administrative support for the Mission has been kept at 1% of outlay amounting to Rs. 74.83 lakhs. A total of Rs. 8.85 crores is therefore being sought from the Government of Meghalaya as support funds for the Mission over a period of 5 years.



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## DEPARTMENT OF AGRICULTURE DIRECTORATE OF HORTICULTURE



# MISSION LAKADONG

## 2018-2023



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## About Mission Lakadong Turmeric:

The Lakadong turmeric is unique in the world with the potential to change the lives of countless farmers if its uniqueness is properly exploited. There is an established demand for the variety and buyers who are willing to pay a premium for its quality. However the variety and the name is being threatened by other producers from other areas who have latched onto the name to sell sub-standard or even adulterated turmeric, thereby confusing the market and lending a bad name to the variety and to the original areas from where it is produced.

Turmeric is synonymous with Jaintia Hills and the Jaintia Hills Districts of Meghalaya is home to one of the finest turmeric varieties in the world – the famous “Lakadong” variety. With a curcumin content of more than 7% (almost 2% higher than other varieties), chemical free, the turmeric from the region is much sought after for use in the cosmetic, pharmaceutical and food industry. However despite this good demand, farmers have not, till date, been able to realise the full economic potential of this crop primarily because of the preponderance of small and marginal farmers, absence of focused research, low individual volumes exacerbated by lack of organized aggregation, weak post harvest management and market facilities, lack of universal access to information, skills and technology, unreliable price discovery, dominance of middle men, trader cartelization, weak extension, lack of assured irrigation, access to finance and most importantly, insufficient planting material in Lakadong.

The Jaintia Hills region consisting of the two districts of East and West Jaintia Hills produces at least three varieties of turmeric - Lakadong, Laskein and Ladaw, each having their separate identity. As per data available with the Directorate of Horticulture, the cultivation of turmeric (Lakadong variety) is concentrated in the Nongbah-Shangpung belt of West Jaintia Hills district with around 1000 cultivators of the crop spread over 2577 hectares and covering villages like Shangpung, Raliang, Sahnsniang, Lakadong, Nongryngkoh, Mootyrciah, Khliehrangnah, Thadmuthlong, Pasyih, Mukhap, Mowkaiaw, Nongkynrih, Kyrwen, Mulieh, Ynniawkmai, Sahnsniang, longkasaro, Umsalait, Mooshrot, Saphai, looksi, Priang, Nongryngkoh, Biar, Rtiang, Psiar, Kyndongtuber, Pammanik, Samatan, Shilliangmyntang, Thangrain, Barato, Saba, Sookhlieh, Thadbamon, Khliehsniriang, Lummuriap, Musiaw, Umsalang, Latymphu, Moobandu, Umshangiar and Umplu.

The Lakadong variety has about 7.4% curcumin content and has very good commercial value in the market. The volatile oil content in dry turmeric varies between 3.6% to 4.8%. The district is known for the production of high quality turmeric with curcumin content of > 7.5 per cent. Though, the crop is grown in an extent of 1928 hectares, Jaintia Hills accounts for 58.0 % and West Garo Hills for 20.2 % of the total area due to favourable soil and climate. Each of the other five districts has about 4.0 per cent of the area. The State produces around 16 thousand MT of turmeric, of which 72.0 percent is contributed by Khasi- Jaintia Hills and 28.0 per cent by Garo Hills. Production grew at an annual rate of 2.47 per cent and area at 3.14 per cent per annum, indicating that yield may have marginally declined.

### Resource Availability:

Turmeric varieties like Lakadong and Megha Turmeric-1 and a number of local cultivars exist in the north eastern region. The turmeric produced in this region contains high oleoresin and curcumin content. The product is mostly marketed in the fresh form. The local demand being very limited, roughly 70-80 % of the total production is reportedly available as marketable surplus from the region. As it is abundantly available in the region, different products like turmerones (turmeric oil), oleoresin, and powder can be prepared for export, which are very common in developed countries.

The area under turmeric in the region is 2577 ha with a total production of 16324 tonnes (2015-16). In Meghalaya, Lakadong is the main variety with more than 50 per cent area under this variety.

A study published in the Indian Journal of Economics on the “Development on Economics of Turmeric Marketing in Jaintia Hills District of Meghalaya” (April 2016), examined the marketing system and the major constraints in marketing of turmeric in the Jaintia Hills district of Meghalaya across 80 farmers and 40 market intermediaries. The study revealed that a large number of the farmers were female. The marketable and marketed surplus was found to be 63.08 percent and 60.56 percent to the total production respectively. Three major marketing channels were identified; Channel-III (Producer- Commission agent – Wholesaler – cum – processor – Retailer -Consumer) was most common. The producer’s share in consumer’s rupee was more or less equal in all the channels with a difference of 2 to 3 percent. Channel-I was found to be more efficient than Channel-III, but the volume transacted was more in the case of Channel-III. Price fluctuation was the major problem faced by farmer.

### Mission Objectives:

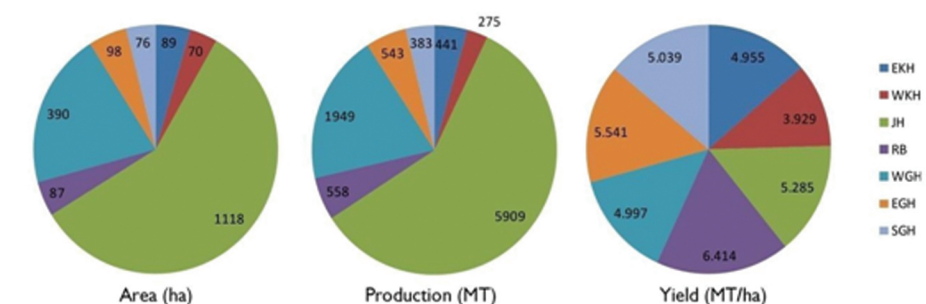
- 1) Enhancement of the livelihood and income opportunities of Lakadong turmeric farmers by leveraging on the uniqueness of Lakadong to tap the current and emerging opportunities in the spice sector. This will call for setting a target of 50,000 M.Ts. of Lakadong in a period of five years.
- 2) Building up the brand equity of Lakadong as a uniquely Meghalayan premium product, both online and offline, that is synonymous with quality and purity. This will call for investment to register the Geographical Indication for Meghalaya’s Lakadong.
- 3) Induction of the latest technology and management practices for enhancing the availability of quality planting material. This will call for establishing Tissue culture Labs in key locations of the state and using the available resources of NEHU, Forest and Agriculture Departments.
- 4) Creation of an ecosystem that catalyses the emergence and growth of local private enterprises in the value chain. This will call for sustained capacity building of the potential entrepreneurs and establishing market linkages by the Meghalaya Institute of Entrepreneurship.

### Mission Approach:

The Mission will adopt a much focused approach of leveraging on the current brand equity of Lakadong and the increasing demand especially from the pharmaceutical industry, to ensure better returns for the farmers of the crop through streamlining and facilitating the demand supply chain. To this end the Mission will operate in a highly convergent mode as there are already a number of organizations and agencies in addition to the Directorate of Horticulture that are currently involved in the Lakadong turmeric space like the DRDA which is focused on livelihoods around Lakadong, the MeghaLAMP which is mapping the value chains, the Meghalaya Institute of Entrepreneurship (MIE) which is striving to promote entrepreneurship and enterprises through value addition. Also a number of local private entities like Zizira, COLKS, Country Spices, Nest, Wan’s, Hunbait, LIFE Cooperative Society etc which have either tied up with Lakadong farmers to buy turmeric from them or are processing Lakadong turmeric to feed their own clients.

The Mission would strive to bring them all onto a convergent and enabling platform that would ensure fair returns to farmers and stabilising the market through facilitating the growth of these local enterprises and linking them to big institutional buyers. The Mission would also strive to put in place the requisite IPRs to ensure that the brand name is not diluted by unscrupulous element that are trying to cash in on the name. This approach would usher in the much needed ecosystem that would allow farmers to take maximum advantage of their USP while stimulating the growth of enterprise and consequent employment generation in the district. The Lakadong Mission will have a specific time frame of five years from the launch year i.e. by April, 2023.

Area, Production and Yield of Turmeric by Districts



### Mission components:

**A. Capacity Building & Farmers’ mobilization:-** will be undertaken by the Agricultural Technology Management Agency (ATMA) and the District Horticulture Office (DHO) working in tandem with the DRDA, the C&RD Department through the office of the Block Development Officer (BDO), Laskein, the Basin Development Unit, the Meghalaya State Rural Livelihoods Society, Laskein and the Meghalaya Institute of Entrepreneurship (MIE) through meetings, awareness programme, workshops, seminar, farmers conferences, kisan mela / exhibitions, field day, field demonstration / on farm trial, exposure visit, media and radio talks.

**B. Area Expansion:-** The current area under Lakadong is around 2577 ha with a total production of 16324 tonnes (2015-16) and a productivity of 6 MT per hectare which many sources have quoted as not being enough to feed the demand. To address this issue and meet future demands the Mission aims to increase the productivity to 8 MT per hectare, production to 50,000 metric tonnes and area under the crop to 15,000 acres (6070 hectares) over the next five years