

- k) **Go Mobile Village level awareness & skill building:** In order to take the concept and awareness about jackfruit value addition to the masses a concept of village level, Go Mobile awareness & skill building programs will be conducted. A total of 585 batches of 100 farmers / batch are targeted for 2 years which would enable the Mission to reach out to about 58,500 farmers across the State.
- l) **Awareness campaigns/Melas:** Annual melas/campaigns to spread awareness about the fruit and its potentialities, will be organized in all 11 district headquarters These melas will be organised by the Directorate of Food Processing through the respective District Horticulture Offices (OHO) wherein potential / prospective entrepreneurs / groups / societies could be identified through these melas for linking them to the TICs.
- m) **State Jackfruit Festivals:** State Level jackfruit festivals are important showcases and opportunities for entrepreneurs incubated under the Mission to showcase and market their products to a wider audience and interact with buyers, experts, scientists, source leads, negotiate deals, explore markets, technology options and gain knowledge from fellow entrepreneurs and processors etc. Such festivals constitute an integral part of the Mission and will be held for two days every year over the next five years of the mission lifecycle.
- n) **Exposure visits:** Exposure visits will be conducted over the Mission lifespan where 2080 entrepreneurs in 104 batches of 20 partners each will be sent for exposure and training to places where jackfruit cultivation and value addition is being done on a commercial scale.
- o) **Packaging, branding and marketing:** The Mission will be making substantial investments in packaging, creation of a jackfruit brand and promotion of trade for jack products of the enterprises incubated and set up under this Mission. In order to achieve this, the Mission will work with the TICs to hand hold the enterprises in ensuring that quality, testing and certification norms are met and to develop a common brand for jackfruit products both for the low and high end market segments including exports. Road shows, advertising campaigns, buyer seller meets, online presence, trade fairs, B2B meetings, electronic and social media will all be leveraged to reach out to consumers and markets.

The Mission will be engaging the services of reputed design houses, national institutions like the Indian Institute of Packaging (IIP), National Institute of Design (NID) and experts for shelf life certifications, packaging design and brand building as well as the extensive competencies / resources of the PMU to achieve this.

Financials:

The Mission has set a target of reaching out and impacting 80,580 farmers (24,570 + 33,930 + 2080), 1180 Farmer Friends, 200 ATMA functionaries, 200 Chefs, 70 SMEs, 2340 entrepreneurs and 300 Nano enterprises over the next 5 years in two phases. A total financial outlay of Rs. 67.08 crores is proposed for Phase -I out of which Rs. 12.08 crores will be brought in as convergence from MIOH, Rs. 6.99 crores from the KfW, Rs. 2.00 crores from MoFPI or SFAC, Rs. 1.00 crore from the KVK / ICAR, Rs. 18.00 crores from the CLLMP and Rs. 23.66 crores from the Mission. A total of Rs. 40.07 crores will be the investment sought from the MIOH, KfW, SFAC, CLLMP and MoFPI for the Mission. Administrative support for the Mission has been kept at 4% of outlay amounting to Rs. 3.35 crores over 5 years and MGE at Rs. 80.00 lakhs. A total of Rs. 27.01 crores is therefore being sought from the Government of Meghalaya as support funds for Phase - I of the Mission over a period of 5 years.



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MISSION JACKFRUIT

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Introduction:

Jackfruit is one of the most neglected tree crops grown in the state of Meghalaya and reliable data on its area, yield, productivity is not available nor has its genetic diversity been studied. Though the fruit is available from end January to August / September the crop does not figure in the list of fruit crops interventions of the line departments. The tree is found in abundance especially in the Garo Hills region, southern slopes of East Khasi Hills, parts of West and South West Khasi Nils. Jaintia hills and Ri Bhoi district. The Garo Hills region of the State has tremendous potential to produce huge number of jackfruits but due to lack of intervention, suitable infrastructure, processing, packaging and market access, enormous quantities of Jackfruit is wasted every year. Rough estimates put the number of trees in Meghalaya at between 10 to id lakh trees. An assessment done by the Basin Development Unit, East Garo Hills estimated a loss of Rs. 434.00 crore each season as villagers leave the fruit rotting in the open. In East Garo Hills alone, it is estimated that the villagers lose more than Rs.118.00 crore every year by under-utilizing the fruit due to the lack of awareness among the rural communities, Value addition of jackfruit is still a new concept in the state and market penetration of the value added end products is still not there in the North Eastern Region due to lack of awareness and the fact that the ripe fruit In its original form is difficult and bulky to handle However this is a golden opportunity to tap into the latent market for jackfruit value added products like canned bulbs, chips, papal, juices, flour etc and would give the state a first mover advantage. An assessment of the current Market scenario of Jackfruit in India shows that the demand is more in the Northern, Western and Southern parts of the country in comparison to the Eastern part while there is substantial demand in the export market especially to the UK, Middle East and USA.

Mission Objectives:

- i. To catalyse and promote sustainable rural and urban livelihood through processing and value addition.
- ii. Creating of a value chains of jackfruit products and generating employment opportunities
- iii. Addressing food security and nutritional security of the State
- iv. Protection and preservation of catchment areas through widespread cultivation
- v. Providing an additional source of income for rural and urban families
- vi. Developing the market of jackfruit and its value added products through processing and value addition

Implementation Strategy:

- i. Action research program for varietal identification, germplasm survey, technology sourcing and transfer.
- ii. Planting material availability through propagation of improved varieties and grafts.
- iii. Demand driven process and technology development and sourcing, design and development of equipment, improving storage, shelf life packaging etc.
- iv. Promotion of jackfruit cultivation in 3000 hectares of catchment areas and promoting formation of 10 jackfruit collection, aggregation, agro processing cluster and FPO's.
- v. Establishment of 2 Techno incubation centers (TIC) in Garo Hills and Khasi Hills to act as common processing and technical assistance facility.
- vi. Promoting the establishment of 70 SMEs in jackfruit processing through a credit linked start-up fund
- vii. Promoting the establishment of 300 Nano jackfruit processing enterprises at village level through a credit linked Nano start-up fund
- viii. Conduct of Hands on Training for 4290 partners, entrepreneurs, housewives, officials, Chefs and Master Trainers in the incubation centres / offsite over the next 3 years.
- ix. Conduct of Village level Go Mobile awareness and skill development programs on plant management and minimal processing for 58,500 partners over the next 3 years
- x. Development and creation of IEC materials, training manuals, publications, Z-cards etc
- xi. Organization of Jackfruit Metes / awareness camps in all 11 (eleven) districts every year for the next five years.
- xii. Organization of a State Jackfruit Festival to celebrate the fruit every year for the next five years.
- xiii. Training cum Exposure visits on Value Addition of Jackfruit for around 2080 partners over the 2 years.
- xiv. Creation of a Jackfruit brand, hygienic and modern packaging, brand building, Advertising, trade promotion and Marketing.

Resource Availability:

Jackfruit (*Artocarpus heterophyllus* lam) is grown at low to mid altitude areas in Meghalaya such as in the whole of Garo Hills region, southern slopes of East Khasi Hills, parts of West and South West Khasi Hills. parts of Jaintia hills and entire Ri Bhoi district with substantial quantities of the fruit being produced from the five (5) districts of the Garo Hills where almost each and every household has an average of 5 trees per household Though no accu-

rate records exist as to its area, yield, variety and population, an estimate of the quantum of production of the fruit was made by the then Deputy Commissioner of East Garo Hills district. Shri. Vijay Mantri, in 2012, wider the aegis of the Integrated Basin Development and Livelihoods Promotion Programme (18DLP) The estimate assumed an average population of 5 trees per household for 2,71,802 households (2011 census), with each tree yielding an average of 50 fruits per season and an average weight of 20 kgs per fruit which resulted in an estimated population of 13.59.020 trees and a production of 13.59 lakh metric tonnes. Assuming that 20% of the fruits were consumed locally, the marketable surplus of jackfruits still threw up a staggering figure of 10.87 lakh metric tonnes.

Mission Implementing Agency:

The Mission will be implemented in a phased manner by the newly created Directorate of Food Processing in coordination with the Meghalaya Institute of Entrepreneurship (MIE) as the Programme Management Unit (PMU) for the Directorate.

Mission Components:

- a) **Mission Focus:** The mission will mainly focus on the development, upscaling of value addition and creating of holistic value chains for movement of the finished products to consuming markets of the country through a process of incubating private enterprises.
- b) **Operational Area:** The mission will cover all jackfruit growing areas of the State initially targeting Self Help Groups(SHG's) entrepreneurs, functioning co-operative societies, farmers interest groups (FIG) in 10 jackfruit clusters encompassing 822 villages in the first phase.
- c) **Action Research:** The mission will be grounded on sound scientific and technical foundation for its success. To this end, the mission would take up action research on local varietal survey, identification and sourcing of appropriate technologies for value addition, CD block and village level survey for mapping, identifying, creating and organizing production and aggregation clusters for the supply chain.
- d) **Planting Material:** Meghalaya lacks early fruiting varieties which are suitable for processing as vegetables. Grafted varieties developed by UAS and Kerela can be introduced in the State and multiplied in nurseries.
- e) **Technology Development and Sourcing:** A lot of the equipment in use in jackfruit growing states has either been adapted from conventional fruit processing equipment or imported from countries like Vietnam, Malaysia, Sri Lanka or China. As Meghalaya conditions differ from these states there is a need for demand driven product and process technology development, design and development of equipment, improved storage, shelf-life, packaging etc, suited to the unique conditions of the state, which could be conducted in collaboration with or outsourced to institutions like Agri Universities, NEHU, IIFS, Indian Institute of Packaging, CFTRI, DRDO, IIFPT, NIFTEM etc with assistance from the externally aided Farmers' Mobilization Project of the KfW Development Bank
- f) **Jackfruit cluster formation:** For the processing and value addition of the fruit to take off on a commercially viable scale there is a need to create agro processing clusters that can function as collection/aggregation centres located within the producing areas and to encourage entrepreneurs and the formation of FPOs/FIGs or cluster groups that can take on the responsibility of aggregation and perhaps to a certain extent carry out primary or minimal processing of the fruit before shipping it to a larger facility. 24 such potential clusters covering around 1950 villages have been identified across the state which can be linked to market /processing/aggregation centres through the 1917iTEAMS platform of the Department.
- g) **Area Expansion:** Furthermore in view of the well known property of Jackfruit to ameliorate soil moisture regimes and its climate change resiliency, clusters and villages will be encouraged to take up systemic area expansion of the tree for catchment areas and spring sheds protection in collaboration with the Community Led Landscape Management Project (CLLMP).
- h) **Techno Incubation Centres:** The Mission will establish two (2) Techno Incubation Centres (TICs) with KfW funding support in Shillong and Tura at the start of the Mission, at locations with well developed infrastructure like hostels, water, electricity, buildings, work space, classrooms, laboratories etc like the College of Home Science (COHS), Tura or Institute of Hotel Management, Shillong.
- i) **Start-up funding for Nano processing units:** Jackfruit also lends itself admirably to home scale or Nano processing either as chips, pickles, kurkure, sweets, jams, papad etc which is yet another avenue for additional livelihood and income support especially for housewives, marginalized and vulnerable women.
- j) **TIC Trainings/incubation:** The TICs, the Directorate of Food Processing and the MIE will take up the training, skilling and incubation of 4290 partners, entrepreneurs, housewives, officials, Chefs and Master Trainers in batches over the next three years in a phased manner.