

## **NIF supports tea dehydration machine & an agar wood oil extraction machine of serial innovator from tea gardens of Assam**

Durlobh Gogoi is a small tea garden owner from Assam who was recognized by National Innovation Foundation (NIF) for developing Reciprocating Tea Dryer and other machineries. He has utilized the COVID-19 lockdown period to work vigorously on new ideas – a tea dehydration machine, and an agar wood oil extraction machine, to reap the benefits of agar wood expanse in his hometown. Over the last few years, ever since the innovation has become part of NIF's database, it has been incubated and supported for value addition and product development activities.

The National Innovation Foundation – India (NIF), an autonomous institute of the Department of Science & Technology, recognized Gogoi's efforts at the National Grassroots Innovation Award Function in the year 2019.

The tea industry in Assam is nearly 200 years old. However, the trend of small-holding tea plantation started in Assam much later – in the 90s – and came with its own set of prospects and constraints. Prospects for profitability, but constraints in terms of machinery to process the produce, as all leading manufacturers of that time were large enterprises.

In the small village of Tingkhong near Moran in Upper Assam, Durlobh Gogoi (presently aged 52) owned a small tea garden and used to sell its produce to large tea factories nearby. But his enterprising mind wished to think beyond an income of Rs. 3-8 per gunny bag full of freshly plucked green leaves, more so for the larger benefit of all such small-scale tea growers. Not satisfied with the performance of existing tea dryers in the market, he decided to don the innovator's hat himself and develop machinery suitable for production in smaller land holdings. Thus began a journey of countless research, trial-and-error and relentless innovations.

Durlobh started with the Reciprocating Tea Dryer, and now has modified and developed an entire range of machinery needed for processing tea. This includes mini steamer, rolling table, round dryer, compact heater, semi-automatic dryer, tea breaker, sorter, and many more as per the requirement. He has also gone beyond tea farming and developed other machineries like turmeric/ginger slicing machine, noodles steamer etc.

The Reciprocating Tea Dryer that was recognized at the NIF's National Grassroots Innovation Award 2019 is also called a push-pull dryer. Slider crank mechanism is used for the reciprocating motion of the drying trays. With 14 plates, it has the capacity to dry 20-30 kg (wet) leaves into 6 kg of dried leaves in a span of 40 minutes. Drying temperature can be maintained up to 100° C.

Durlobh has sold his products riding on strong word-of-mouth and a large network of people who are very well aware on the innovation. Being an active member of the All Assam Small Tea Growers Association, he has managed to establish a wide network of like-minded tea farmers in the region. NIF facilitated setting up of a community fabrication workshop at his premises where neighbouring innovators can also come and try out their ideas, thereby reducing the time of conversion of an idea into a prototype.



*Mr. Durlov Gogoi with his Reciprocating Tea Dryer*



*Reciprocating Tea Dryer Drying tray arrangement*



*Mr Durlav Gogoi was conferred with an award in the year 2019 during National Grassroots Innovation Award Function*