

TEA

Promoting employment and growth in rural India

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Tea (Camellia sinensis (L.) Kuntze), commonly grown in the hilly tracts of Tirap district, Arunachal Pradesh, is a largely consumed local beverage. A large number of small tea growers' sell the green leaf to the nearby tea factories which rather fetch a measly income to the household. This article thus, discusses the epicenter of commercial growth of Luthong village of the Tirap district that is making way to socio-economic growth of rural India via initiating a tea business. Additionally, it sheds light upon the minor horticultural crops and its nutraceutical properties that is blended with the tea leaves, serving as herbal product in the daily cup of tea.

Keywords: Arunachal Pradesh, Beverage, Business, Start up, Tea

Camellia sinensis, which is the most common non-alcoholic beverage consumed worldwide, is cultivated over 16 different states of the country of which Assam, West Bengal, Tamil Nadu and Kerala accounts for 96% of the total tea production in India. While the land use pattern has indicated that the North-eastern states have 78% of its total area under tea cultivation. India accounts for 23% in global tea production and 21% in the total tea consumption globally. But for the past two decades, India's global ranking of export has declined from first to fourth position due to competition from countries such as Sri Lanka, Kenya and China.

Historically, it was Major Robert Bruce (Scotland) who discovered wild tea in the tracts of present-day Assam in 1832. He found that this wild tea was consumed by the indigenous people (Singpho tribe), sometimes as a vegetable and at other time as a fermented drink. After his death, his brother, Mr. Charles A. Bruce collected some samples of this plant and sent it for identification to the Superintendent of Botanical Gardens where it was confirmed that the sample

was indeed a tea leaf but was of a different species. There are namely three different cultivated subspecies of tea, namely China (*Camellia sinensis sinensis*), Assam (*C. sinensis assamica*) and Cambodia (*C. sinensis cambodiensis*). These subspecies of tea, based on preparation and consumer's preferences or palatability, is consumed as either green tea (unfermented), black tea (fermented tea) or oolong tea (semi-fermented tea). Other kinds of tea are white tea and brick tea.

The Nocte tribe of Arunachal Pradesh residing in Tirap district, was associated with the tea cultivation since 1834, when forest lands were cleared to turn into tea gardens at Namsang and Hukanjuri (present day Jeypore, Assam). These lands were under the chieftainship of Namsang and Borduria villages and were done so under the guidance of C.A. Bruce. This cultivation of tea soon took wings and has spread in other parts of the district.

Senya Lowang, a resident of Luthong village is a lawyer by profession but an agri-preneur at heart. She took on a challenge to start her own business of processing tea and out-sourcing to different

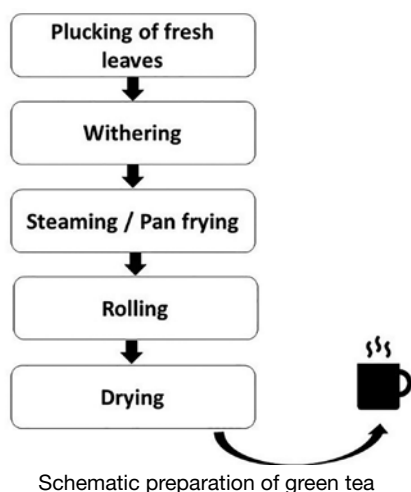
parts of the state. Her tea products, which goes by the name 'Misty falls' is a kind of blended tea (a mixture of tea along with other minor indigenous material available in that area). Interestingly, she also got recognition and listed under 'Top 10 Start-up of Arunachal Pradesh' which was organized by Arunachal Pradesh Innovation and Investment Park (APIIP) that is working alongside IIM Calcutta Innovation Park (IIM CIP). The article describes production of tea from her garden in detail.



The brain behind 'Misty Falls'

About green tea

Green tea is an 'unfermented' tea, which unlike black tea does not undergo oxidation. The fresh plucked leaves are steamed after withering. This steaming of tea leaves at high temperature, inactivates the polyphenol oxidase, an enzyme required for oxidation of polyphenols thereby giving a typical green colour of the tea. Green tea is reported to have anti-cancerous and anti-microbial property.



Beginning of the start-up

The region of Tirap district has a bounty of natural resources and many of them are untouched economically. Inspired by the botanical heritage of the region and in an attempt to revive the depleting minor herb and berries, which were the source of medicinal value, an idea was born to blend it further with tea, which is the common beverage consumed by all. The tea-blend not only serve its purpose as daily caffeine consumption but also provides with therapeutic benefits with every gulp of the drink.

Introducing an entirely new and unknown product in the market was a challenge. Therefore, blending the tea with familiar herbs and berries which were known in the area was a witty strategy to both revive the local available resources and also strategically bring the product to the consumers. After the successful launch of the first product, gradual attempt was made to blend other locally available materials to the tea. For this, she acquired a subsidy of 3 lakhs from *Deen Dayal Swavalamban Yojana* which is a

start-up loan scheme initiated by the State government of Arunachal Pradesh in March 2017; and an additional short-term loan of 4 lakhs. All her products are registered under Food Safety and Standards Authority of India (FSSAI).

After an investment or input of 40% in raw materials and payment of labour, and 20% in packaging and miscellaneous expenses, she gets a profit of 40% from the business. In the process, she faced some challenges such as the lack of available labour in the area, but she overcame it by incorporating and encouraging women in the workforce.

From the garden to the cup

The main material which is the tea leaves comes from her own two acres of land and also from other small tea growers. The other materials such as chamomile, sumac berry, basil, roselle are procured from the village farmers. The standard two leaves and a bud (2l+1b) are plucked from the garden from March to October. These freshly plucked tea leaves are then send to the tea factory for withering. The withering process is carried out in the withering trough, followed by steaming or pan frying, rolling into orthodox tea leaves in

a table roller and ultimately dried in a dryer. Blending of tea leaves with other material is followed after drying. The different fusion of tea blends with their prospective benefits is mentioned in Table 1.

The working period of factory labourers is eight hours and runs from Monday to Friday. There are three permanent labourers in the factory while five permanent and five seasonal labourers in tea garden. Both the factory and garden labourers earn an amount of ₹400/head/day. The garden produces completely organic tea *in toto* without the usage of any chemical; except the weeds which are tackled by spraying concentrated salt solution. The plant height is maintained via pruning which is usually done in the cold months of December. Pruning also removes old, diseased and insect-infected branches.

Marketing

This particular phase was the most challenging issue in case of extending out to the consumers. Initially, she also had doubts about marketing her tea products. But with proper guidance and mentorship as well as taking the right advantage of social media, she was able to carry out the products



Procurement of raw materials



Withering trough

Working of table roller

Manual blending of tea leaves with other ingredients

Working of the tea factory

Table 1. Different types of tea products with their health benefits

Product name	Blends	Benefits	References
Bliss tea	Green tea + Pandanus grass + rose petals	Pandanus leaves: Aroma, antioxidant, anti-microbial, anti-hyperglycemic, diuretic, anti-cancerous Rose petal: Antioxidant, anti-inflammatory, anti-cancerous, anti-aging, anti-microbial, hepatoprotectant	Bhuyan and Sonowal (2021) Hegde <i>et al.</i> (2022)
Fruit tea	Green tea + cinnamon + orange peel	Cinnamon: Antioxidant, anti-inflammatory, anti-diabetic, anti-microbial, anti-cancerous, lower lipid concentration, decrease cardiovascular diseases, activities against neurological disorders such as Parkinson and Alzheimer's disease Orange peel: Antioxidant, anti-inflammatory, anti-carcinogenic, anti-atherosclerosis	Niranjani and Bhubaneshwari (2022) Chen <i>et al.</i> (2017)
Sereni tea	Green tea + basil + chamomile + rose petal	Chamomile: Anti-inflammatory, anti-oxidant, sedative, anxiolytic, antispasmodic, anti-nociceptor, anti-mutagenic Basil: Anti-cancerous, anti-stress, anti-diabetic, anti-pyretic, anti-arthritic, anti-oxidant	Kimura <i>et al.</i> (2023) Shahrajbian <i>et al.</i> (2020)
Sumac berry tea	Sumac berry	Anti-cancerous, anti-inflammatory, regulates cholesterol levels, anti-microbial and increase breast milk production and cease menstrual cramps	Khoshkharam <i>et al.</i> (2020)
Heart tea	Roselle	Natural colorant, antioxidant, choleric properties, intestinal antiseptic, mild laxative	Shruthi and Ramachandra (2019)



Final face of the product



From the garden to the boxes

and successfully sold out one of her first tea blend which was the 'Sereni tea'. Currently, she sell her products via pop-up events, social media and the products are also available in different departmental stores of the state. Additionally, the product can be bought online from the recently launched website (www.mistyfall.com). The business is currently trying to expand at the global-scale.

CONCLUSION

Agri-preneur like Miss Lowang

sets an example on how to circulate soil and other available natural resources and turn it into gold. Not only is she setting example for tribes of Arunachal Pradesh but also creating employment, especially the women who are engaged in this business right from plucking of tea leaves in the garden to blending in the tea factory, thereby, also providing a social upliftment amongst the tribal women. Additionally, by using the available resources, she is encouraging to conserve and

preserve the germplasm which is on the verge of extinction due to modernity, thereby conserving the tribal heritage. She is also a living example of how a right-mindset and the perfect opportunity to grab the powerful tool of social media can help overcome the barrier and make way for business in isolated rural areas of Arunachal Pradesh.

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Know Krishi Unnati Yojana

The *Krishi Unnati Yojana*, a central sector scheme, is envisaged as umbrella programme for focusing on food security, by merging schemes on Soil-health Card, Integrated Scheme on Agricultural Co-operation and Agricultural Marketing, National Mission on Agriculture Extension, Horticulture Development, Price Stabilization Fund, National Mission on Sustainable Agriculture and other programmes.