

Background: According to the Central Pollution Control Board, India produces close to 26,000 tonnes of plastic waste every day and nearly 9.4 million tonnes a year. Of that, only 5.6 million tonnes is recycled in a year, while the remaining 3.8 million tonnes is left unattended. Plastic bags are low resistant to high temperature. Due to leaching of toxic dyes from plastic bags, it can easily contaminate food products. Agriculture, land and environment are also affected due to the pollution caused by plastic bags. Toxic chemicals leach out of plastic and are found in the blood and tissue of nearly all of us. Exposure to them is linked to cancers, birth defects, impaired immunity, endocrine disruption and other ailments. Plastic pollution has the potential to poison animals, which can then adversely affect human food supplies. Some of the chemicals used in plastic production can cause dermatitis upon contact with human skin. Plastic bags produce toxic fumes when it is burnt. It takes many years to decompose.

In different corner of India people use banana leaf as a substitute of plastic plate. In some pockets of Assam plate are made from areca nut leaf sheath. There are some problems in banana leaf and arecanut plate and these are- short shelf life of banana leaf, i.e., 1-2 days and damage in any part of the leaf due to its parallel venation and irregular supply of leaf. Plates made from arecanut leaf sheath are costly and are not commercially viable at the moment and shortage of raw material. *Phrynium pubinerve* leaf (Packing leaf) can be an alternative as the leaves are stronger than banana

leaf, eco-friendly, better shelf life, and has capacity in retaining moisture and keeping the packed edibles fresh and long lasting.

Scope for use during community festival: Use of packing leaf can be promoted during different festival of Meghalaya and other Northeastern states. Ka Ban Khana

Shnong and Ka

Pom-Blang

Nongkrem are

important

festival of

Khasi. Wangala

and A Se Mania

among Garo;

Behdienkhlam, Beh Ser Soopen among Jaintia.

These are social festivals and sometimes

community feast are arranged and packing leaf can be used to serve meal in the feast and this can offer a scope to trap the market.

Scope for use during religious ceremony: There are many religious festivals in northeast India where community feasts are arranged. Some of the very common religious ceremonies are Durga puja, Kali puja, Magh Bihu, Bhada Mah Naam, Biswakarma puja, Lakshmi puja, Saraswati puja etc. where prasada are served in banana leaf/ plastic plate or in thermocol plate.

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Market scope of packing leaves



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There is a scope to promote packing leaf in these festivals on commercial basis.

Scope for developing market linkage with vegetables and food items vendors: In Tripura packing leaf is used to pack dry fish and salted Hilsa fish as it remain fresh. In all the north-eastern states packing leaf is used to pack *Diplazium esculentum* popular sag of northeast India (Jhur Tyrkhang), *Centella asiatica* (Kynbat Moina, Brahmi), *Eryngium foetidum* (Etucha bellock), *Cucurbita moschata*, shoot & flower (Pathaw), *Colocasia esculenta* (Shriew, Matchitangong), *Portulaca oleracea* (Stilchi, Jiahusia), *Houttuynia cordata* (Jamyrdoh), *Rhynchotechum ellipticum* (Regong) etc. by the vegetable vendors as it remain fresh. It is also used to wrap eri and muga silk worms, local mushroom to sell in the market. In Meghalaya it is extensively used to pack betel leaf, cake, lunch, *Myrica esculenta* (Sohphie), *Elaeagnus latifolia* (Soh Shang, Chhokhua) fruits etc. There is a huge scope to establish marketing network with these vendors for marketing of packing leaf from cultivation fields. Bhat (Steamed rice ball) wrapped in packing leaves are served in special occasion and to guest in Assam.

Potential of packing leaf for preparing traditional dishes and market scope: Traditional food item prepared from sticky rice called Tupula Mishing and Deuri tribes of Assam use packing leaf extensively in all traditional festivals and religious ceremonies as wrapping material during food items preparation. Packing leaves are used to prepare traditional fermented soybean food of

Nagaland, Mizoram, Meghalaya and Sikkim. Packing leaf is an integral part for preparation of traditional dishes like *Pusla*, *Pudoh* and *Putyndong* in Meghalaya. *Tam-um* a Mizo dishes is prepared with the help of packing leaf. As in most of the cases to prepare traditional dishes packing leaves are collected from wild sources and now-a-days it is difficult to get the packing leaves from its natural stand because of its declining population due to different anthropogenic pressures. To trap market potential of packing leaf, it can be made available in the city and town markets from the cultivation plots.

Scope to popularize the packing leaves at Restaurant and Hotel: Traditional recipes of the tribe attract many food lovers of Assam, Arunachal Pradesh and other places to the restaurants grown up in different parts of Upper Assam and packing leaves can play an important role in preparation and serving of traditional dishes to the customers. In this way, packing leaf can find a place in the market. In some pockets of Assam viz., Bokakhat, Jokholabandha, Amoni dishes are served in banana leaf where packing leaf can also be promoted for the same purpose.

Potential market pockets of packing leaves: In Meghalaya packing leaf is widely used to prepare



some traditional dishes, to serve tiffin/lunch/cake etc. and also to pack betel leaf, salt, meat, fish, silk worm, vegetable etc. There is a huge scope to promote packing leaf as packing material substitute to plastic. . Important market points can be the state capital, all the district head quarters, small towns of the respective states. Besides, Meghalaya packing leaf are also used in all the northeastern states. As there is no such commercial cultivation in these states, hence a market network can be established with the respective state capitals and potential towns for marketing of the packing leaves. There is scope for international market of packing leaf as it is used in Bangladesh for packing salted Hilsa fish and dry fish. It is also used in Bhutan and Myanmar for packing traditional food items in restaurant. Some amounts of packing leaves are exported from Meghalaya to Bangladesh. To develop business, a tie up can be established with the trader of Bangladesh, Bhutan and Myanmar to export packing leaf. International trade can be done through Dawki trade centre (located in Meghalaya) with Bangladesh. To trade with Bhutan, Daranga border centre (Tamulpur, Baksa district, Assam) can be used; Myanmar trade can be carried out through Champhai (Mizoram) and Moreh (Manipur) trade centres. To dispatch packing leaf from Meghalaya to different international trade centre by road it will take only 7-24 hours.