

**Background:** Global production and consumption of plastics are increasing gradually day by day. Non-recyclable plastic is creating problems as it remains uncollected and scattered, causing damage to the environment.

Considering the adverse environmental impacts of plastics and polythene bags, it is desirable to promote alternative packing material.

*Phrynium pubinerve* (Sla Lamet/Reru) is a plant, the leaves of which are being used in Meghalaya, Mizoram, Nagaland, Manipur, Arunachal Pradesh Assam of northeast India as wrapping and packing material as alternative of plastic. It is

a shrub belonging to the family Marantaceae and almost round the year availability of the leaves makes it a suitable packing material for boiled rice, pan, tiffin, meat, and vegetables in

Meghalaya. *Phrynium pubinerve* is the most common wrapping and packing material in Meghalaya. Rhizome of packing leaf used as vegetable and to heal wound in some pockets of Meghalaya. The leaves are used in community feast, traditional rituals and also to prepare fish curry by wrapping packing leaf. It is also used as wrapping material in lieu of plastic sheet for air layering propagation of Khasi mandarin ongkwai village of Meghalaya.



The leaves are sold in the market in bundle form and are collected mostly from wild sources. Natural population of Sla Lamet / Reru is gradually decreasing due to overexploitation of wild population. Unsustainable harvest from wild is also causing threat and damage of the wild population. Cultivation of packing leaf will reduce the pollution in the environment and will also help to enhance income of the local population.



**Cultivation technique:** Packing leaf can be grown 100 m to 800 m above mean sea level. It is a shade loving plant. It grows well along natural stand and shady areas. One hectare area can accommodate 800 plants with a spacing of 3.5 m x 3.5 m. It grows well in humus rich soil and in temperature ranging 12°C to 35°C. Seedlings may be raised through seed and rhizome. Healthy seedling may be transplanted to field at the height of 50-60 cm. The seedlings can be planted in the field through pit digging. After plantation watering is required to pick up the growth of seedlings. After plantation it takes 1-2 years to attain harvestable stage.



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## Packing leaves and their commercial cultivation for livelihood promotion



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**Management:** Three weeding (April, July, and October) is required in every year to keep the plantation weed free. Unhealthy leaves should be plucked from the base and burnt. FYM may be applied after one month of plantation for proper growth of the plant. Shade is required for good growth of the plant.

**Intercropping:** Packing leaf can be planted in the vacant place of Arecanut, Khasi mandarin, Banana, Dalchini, Bay leaf, Cashew nut, timber plantation site. as intercropping and orchard space can be utilized properly for additional income from same plot. The orchards plants will also provide shade for packing leaf plant.\



**Harvesting:** A mature plant usually have 6-8 leaves, and 4-6 older leaves are can be harvested by cutting from the base, leaving two younger leaves for regeneration per season. In three months' time, the plant produces again the same number of leaves which become ready for harvesting. In one year, farmers could harvest three times from the same plant.



From systematic cultivation and well maintained plot farmers may expect 9600 to 14400 leaves from one ha area.

**Marketing:** Packing leaf has got a very good market in Meghalaya. A small inter-state marketing with Assam and a small quantity is traded to Bangladesh via Dawki market. The growers bring the product to the local market where they sell it to the traders, who in turn directly sell it to the consumer at different local and regional markets. May to December is the peak season of packing leaf in the market. Shelf life of packing leaf is 25- 35 days. It can be used after 2-3 months if dried properly on kitchen chulla heat.



**Income:** Existing selling price of packing leaves vary from 25 paise to 50 paise depending on demand, season, leaf quality and place. A farmer can earn Rs.2400 to Rs.3600 (if selling price 25 paise) and if the selling price is 50 paise then income will go up to Rs. 4800 to Rs.7200 from one ha area. These can be an additional income from packing leaf



cultivation of one ha area if farmers do cultivation in arecanut, orange, banana, bay leaf, cashew nut, dalchini plantation area. Moreover, farmers can earn extra income by producing seedling and selling them in the market. The petiole of packing leaf is 30 cm to 50 cm and that can be also be used as binding material instead of plastic.

**Scope:** The packing leaf has few scopes and are summarize below (a).In one hectare natural forest 200 to 225 plants are found whereas in systematic plantation 800 plants / ha can be grown (b) Farmers can properly utilize their unutilized land in the orchard by planting Packing leaf as intercrop and can earn additional income from the same farm land (c) Packing leaf has very good market for whole Meghalaya, Assam and also international demand in Bangladesh (d) It is available throughout the year in the plantation plot (e) very less input is required for plantation and management (f) easy to carry from farm field to market (g) Pan, green Vegetables remain fresh if wrap with packing leaves (h) Packing leaf has good shelf life (i) The plant has cultural significance among some tribes of Northeast India (j) The leaf is used for fermentation of soya bean; to store water in a bamboo basket lined with packing leaf. Leaf used to wrap the steam rice balls retains some of its heat besides making it convenient for the farmer to carry it to the agricultural fields.