

NTFP Sustainable Harvesting and Resource Management Protocol

Fruits



NTFP Protocols Series

This publication is part of a series of sustainable harvest and resource management protocols to promote good practice in NTFP management.

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Fruits



Velvet tamarind (*Dialium cochinchinense* Pierre)

Photo: Dr. Luu Hong Truong, SIE, Vietnam

There are many different kinds of fruits from the forest that are consumed by humans and animals. These wild edible fruits may come from trees or plants, and may be eaten at various stages of ripeness. The fruits may be used for home consumption, sale to the local market or value added through fruit processing before sale. They are an important source of nutrition and income. A study of forest-based communities in Vietnam revealed that fruits make up 29% of the plant part used for food.

However, there are many threats to the survival of the forest fruit industry. Destructive methods such as cutting trees or big branches to harvest fruit, and harvesting immature fruits, are some of them. Others are loss of forest and the reduction in the number of fruit trees and plants. Protected area rules may also restrict local harvesting, even when communities are using sustainable harvest practices.

Thumb Rules for Fruits in Traditional Forest Communities



- ✓ Keep fruit-bearing trees and plants healthy.
- ✓ Ensure that the tree is not killed or damaged in order to harvest the fruit tree.
- ✓ Harvest only at the right age and height of the tree.
- ✓ Harvest at the right season when fruits are mature (except when they are eaten unripe).
- ✓ Use appropriate tools when harvesting.
- ✓ Always leave enough fruits on the tree for the animals to eat and for seeds to germinate.
- ✓ Respect the mother tree or spirit tree.
- ✓ Respect tree or area ownership.
- ✓ Organize a farmer or harvester association.
- ✓ Ensure fair trade practices.



Harvested jackfruits
Mekong Delta, Vietnam
Photo: Callum Parker

Socio-Ecological Indicators to Ensure the Sustainability and Quality of Fruits



01 Ecological

- There is an abundance of fruit-bearing trees.
- There is a wide range of ages of fruit trees – seedlings, saplings, juveniles, and adult trees.
- Mother trees are identified and protected.
- There is a healthy population of animals that are feeding on fruits and serve as pollinators or seed dispersers.
- The forest is healthy with a diverse population of plants and animals.

02 Harvest

- Fruits are harvested ripe as indicated by color, size, taste, and odor (except when eaten as unripe fruits or immature fruits are cooked as vegetable).
- Harvest protocols exist and are followed.
- Protocols are disseminated in the local language.
- Rituals are practiced.

03 Trade and Markets

- Quality of fruits sold meet the minimum standard for human consumption.
- Traceability of fruits
- There are direct markets.
- There is value addition by harvesters or the community.
- There is regular supply based on historical figures and no wastage.

04 Institutions

- Local or traditional organization is formed, running and functional for collective trade, with a diverse membership coming from different age groups and gender.
- Social networks or partnerships exist between harvesters and other actors in the value chain.
- Fair trade and Participatory Guarantee Systems (PGS) are in place.
- Geographic Indication (GI) exists.

05 Policies and Regulations

- There are policies for collection and collection areas.
- There are policies for protecting fruit trees, such as incentives for non-destruction.

06 Monitoring Methods

- Assessments and baseline studies are done in partnership with the community, government, and the academe.
- Resource mapping, including identification of mother trees, with the community decisions is recognized by government.
- Harvest protocols are observed.
- Records of increase or decrease in demand are kept.
- Trade certification bodies exist.
- Quantity and quality of fruits sold are recorded.

07 Climate Adaptation

- Repeat assessments every five years.
- Monitor if climate-related factors (e.g. warmer temperature, stronger typhoons, change in rainfall pattern) affect the health of fruit trees.
- Ensure that traditional practices are still sustainable in light of changing climate and market demand.
- Monitor changes in quality of fruits, particularly its taste, size, shape and color.

Sustainable Harvest Rules for Velvet Tamarind in Southern Vietnam

Dialium cochinchinensis Pierre (local name *xoay*) of the Fabaceae family, otherwise known as velvet tamarind, is endemic to Southern Vietnam from Thanh Hoa province southward to the South East and is categorized as a Near Threatened species by IUCN as of 2015. This tree species is known to be water resistant and provides good wood for the construction of durable trucks among other products. The fruit is edible and has medicinal values, while its flowers are good nectar sources for honey bees. On the average, a tree gives 10-15 kg of fruit which is harvested three times per season (August to September) and creates income of

about 160 to 300 USD per year. Velvet tamarind used to be abundant in Southern Vietnam but unregulated harvesting and felling of trees has resulted in its decline.

Currently, approximately 150 Raglay ethnic households from eight villages living in the buffer of Nui Chua National Park (extending 29,865 ha) are assigned to participate in the government program of forest monitoring and conservation which includes looking after velvet tamarind trees. The Raglay community, in partnership with the Southern Institute of Ecology (SIE), developed rules for sustainable management of *xoay*. The rule of harvesting the fruits from the tree is to ensure only ripe fruits (fruits with black color) are harvested from mature trees (eight to nine years old) in the right season (August and September). Velvet tamarind trees should also not be cut down, nor large branches cut off. Only the tree branches with many fruits are harvested, making sure that fruits in remaining branches are kept intact for animal food and for ensuring seeds for the next generation. Furthermore, harvesting areas are divided according to rules in the community (for example, trees are marked and tied for protection on an annual basis) and the local community will keep the young trees on their farms for future seasons. The local knife (*xa-gac*) is used to gather the fruit. Harvesting from some large trees is not allowed as these are considered spirit trees.

From 2009 – 2011, SIE conducted research to assess the density, frequency, distribution of NTFPs in Nui Chua National Park including *xoay* trees. The results show that the trees are in a state of good protection by the local people, most of them are over 5 meters high, and found in dry forests on rocky mountains. However, the local people only sell them locally and they fetch a low price to traders. From the result of the research, a co-management model was initially implemented in Cau Gay village with support from related stakeholders. A master plan including sustainable harvest rules and value addition initiatives towards a more market orientation has been developed by the local community in partnership with Nui Chua National Park and SIE.

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