



Short Review Paper

## Indigenous methods of preparation of tasey from palm tree *Arenga obtusifolia* Griff. by the Nyishi tribe of Kurung Kumey - Arunachal Pradesh, India

P. Nanda<sup>1</sup>, C. Teyi<sup>1</sup>, Y. Gocham<sup>1</sup>, T. Kumji<sup>1</sup>, H. Sharma<sup>1</sup> and Joram Muthu<sup>2\*</sup>

<sup>1</sup>Department of Zoology, D.N. Government of College, Itanagar, Arunachal Pradesh-791113, India

<sup>2</sup>Department of Botany, D.N. Government of College, Itanagar, Arunachal Pradesh-791113, India  
joramuthu2005@gmail.com

Available online at: [www.isca.in](http://www.isca.in), [www.isca.me](http://www.isca.me)

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### Abstract

The north eastern region of India comprises of two biodiversity hotspots including Eastern Himalayas. The rich biodiversity of the region comprises of floras and faunas which also include various forms of palm species. This study was conducted with the help of undergraduate students on the process of preparation of TASSEY from the sugar palm tree *Arenga obtusifolia* Griff. found in various parts of Arunachal Pradesh. The study area consisted of Kurung Kumey district of Arunachal Pradesh, where parts of *Arenga obtusifolia* are used as food by the local people. The people belonging to Nyishi tribe of the study area mostly depends on agriculture as their major sustenance with forest products as their secondary source. Tasey, a product obtained from the stem of the plant, is indigenously prepared as food item which is used by the people of that area, especially during natural calamity. The paper presents an elaborate description of the whole process of preparation of Tasey with the help of traditional methods and various indigenous instruments. The end product is obtained in the form of a white grey powder, which is taken as food in various forms. It is also used as fodder for the domestic animals. Local beverages are also prepared by fermenting it with yeast. With the pace of development and passage of time this indigenous knowledge is on the verge of extinction. Production of nutritionally rich Tasey can be encouraged by planting more such trees and promoting its marketing. Conservation of such indigenous knowledge system along with the plant, having ethno medicinal properties is the need of hour.

**Keywords:** Eastern Himalayas, tasey, traditional knowledge, nyishi, conservation.

### Introduction

The North Eastern region of India comprises of two biodiversity hotspots including Eastern Himalayas<sup>1</sup>. The rich biodiversity of the region comprises of floras and faunas, which also include various forms of palm species. The Sugar palm *Arenga obtusifolia* Griff. is a monocot angiospermic plant belonging to the family Arecaceae, is distributed in Arunachal Pradesh (26°28' to 29°30' N and 91°30' to 97°30' E), Eastern Himalayas, the mega biodiversity hotspot. There are 24 species of palm trees belonging to 9 genera that are endemic to India<sup>2</sup>. The tree is extensively used by the tribals of Eastern Himalaya<sup>3</sup>.

A study was conducted with the help of undergraduate students on the process of preparation of TASSEY from the sugar palm tree *Arenga obtusifolia* Griff. found in various parts of Arunachal Pradesh. In various parts of the Kurung Kumey district of Arunachal Pradesh, parts of *Arenga obtusifolia* are used as food by the local people. The indigenous people of this region belong to the Nyishi tribe and they mostly depend on agriculture as their major sustenance with forest products as their secondary source. Tasey, a product obtained from the stem of the plant, is indigenously prepared as food item which is

used by the people of that area, especially during natural calamity. *Arenga obtusifolia* Griff. popularly called as sugar palm is widely distributed throughout the state of Arunachal Pradesh<sup>4</sup> in the sub tropical regions. The rich biodiversity of India comprises of people belonging to 227 ethnic groups and 573 tribal communities derived from six racial stocks in the country<sup>5</sup>. Arunachal Pradesh is inhabited by 28 major tribes and 110 sub-tribes<sup>6</sup>.

Most of the tribes depend upon integrated farming system consisting of Jhum agriculture and livestock rearing as a part of their nutritional security. In addition to this, they collectively manage community forests as the backbone for their livelihood. Various parts of the sugar palm tree *Arenga obtusifolia* Griff are used as secondary food as well as medicine for domestic animals. Tasey, a secondary product of this plant is used by Nyishi tribesmen as food in various forms. Earlier, during the food scarcity they used Tasey as primary food. During the pace of time and development, even though they shifted to Jhum cultivation and paddy cultivation where they use rice as their primary food but still Tasey used as a major traditional food.

Livestock are also fed with the leaves of the plant to Mithun (*Bos frontalis*). *Tassey* is traditionally used since time immemorial as food and medicine. In due course of time, the Nyishi tribesmen have developed indigenous technology to extract the starch present in the stem of *Tassey* Plant. It is used in many forms, including bread and producing a local beverage called *Opo* (fermented traditional beverage). With the pace of time the indigenous knowledge of tribal communities is dying at a very fast rate.

Hence, this paper aims to study and document the indigenous methods of TASSEY preparation as a part of their indigenous knowledge system by the Nyishi tribe of Kurung Kumey district of Arunachal Pradesh.

## Methodology

**Study site:** Kurung Kumey district of Arunachal Pradesh which lies approximately between 28°30' to 38°40' North latitude and 91°21' to 95°40' East longitude. The district is mostly mountainous and lies within the medium mountain zone consisting peak and valleys. The altitude of the region is about 4500 feet above sea level. The climatic condition is within 15° to 30° sub tropical and temperate zone and often the temperate falls to 5° in winter. Rainfall is very high with most of time covered by cloud as well as windy in nature. Nyapin Circle was chosen as observation site for the *Tassey* preparation. Nyapin is a village panchayat located in the Kurung Kumey district of Arunachal Pradesh state, India. Latitude 28°15' N and longitude 94°12' E are the geo-coordinates of Nyapin. The site selection was mainly based on the availability of the plant species as well as the well experienced tribal communities on the knowledge of *Tassey* preparation. The site selection should be such that a plain area and well drainage system of water is nearby.

**Data Collection:** As per the study design questionnaire was prepared beforehand to collect information about *Tassey* from the local people. For our study purpose we interacted with old Village heads (*Gaonburas*) and the persons who have good knowledge about the process of *Tassey* preparation. The interaction was mainly based upon: preparation process, its uses, nutritional values and eating processes. Through our personal interaction with the peoples of Nyapin Circle, we came to analyze many things about the *Tassey* in the life of people from the circle, especially villagers who are still settled in interior places of the district. The site and instruments used during the process of *Tassey* preparation are photographed with reference to their local names.

## Results and discussion

**The Sugar Palm:** The Sugar Palm tree *Arenga obtusifolia* Griff. is found in subtropical climates which require high humidity, plenty of rainfall and grows well in sloping lands nearer to streams in mountainous regions<sup>7</sup>. The height of a fully mature tree varies between 3-3.5 meters and has a trunk circumference of 30-60cm (Figure-1). The leaves are up to 2.7

m long. People always prefer newly emerging root suckers for rising new *Tassey* tree plantation, in the end of March because the seed grown trees take more time to mature. Trees which are 5-6 year old are used as *Tassey* preparation. The flowering normally starts during June-July followed fruiting thereafter. The unripe fruits are green in colour and ripen by the end of September. The second fruiting take place during October and ripe fruits are harvested in January.



**Figure-1:** *Arenga obtusifolia* Griff: Mature tree bearing fruits.

**Palm Tree and Nyishi Tribe:** The Nyishi tribe is one of the major tribes inhabiting the state of Arunachal Pradesh who depends on farming with rice, meat and diverse plant species collected from forest. Women play pivotal role in crop management, the collection of plants for food, firewood and other materials and collection of ethnomedicinal plant from the forest. The development and the management of new *Tassey* plantation is the exclusive responsibility of Nyishi women whereas labour intensive harvesting operations are performed by men. Preparation of *Tassey* into food is the responsibility of women hence they know more about preparation methods than the men.

As per people's opinion regarding the *Tassey*, the peoples of this area mostly depend upon the jhum agriculture. However, they generate additional income by selling *Tassey* food and its others product which has high demand in markets. They can produce up to 60 -70kg of *Tassey* per day which fetches around 4-5 thousand rupee. Our study was concentrated on the uses of *Tassey* as food and various other uses. The villagers of Nyapin area informed us that they use *Tassey* as human foods, in preparing *Opo* (a fermented alcoholic beverage) and medicine for the domestic animals likes cows and pigs.

**Preparation Techniques of *Tassey*:** The matured sugar palm tree *Arenga obtusifolia* Griff (*tassey* tree) is cut down and the main part of the stem is separated for the *Tassey* preparation. The stem is cut into 3-4 pieces with a length of 1meter each with the help of a machete, the *dao* (Figure-2e). After that the bark of the stem is peeled and collected on a plain and flat stone, the *Sappar* (Figure-2g). The *Sappar* is cleaned with water for further processing. Now, with the help of locally made sharp knife, locally known as *Shaku and Satung* (Figure-2a, b), each log is converted into small fibrous or thread like particles initiated from one end to other end with the help of



*Sadang/Sapia* (Figure-2c). Then water from stream is connected into the basin of *Sappar* (processing area) where the fibrous particles are mixed with water. The mixture is passed through the strainer so as to separate the thread like particles. Than *Tassey* powder mixture and water is decanted off into the container, the *Regiang* (Figure-2f). During this process, the powder is rubbed on the water, which passes down to the *Regiang*. The remaining substances are left for sedimentation for 15-30 minutes.

When the particles are settled down, water from the upper layer is removed gently by making a channel through the *Regiang*. After that it is squeezed to remove the remaining water. Finally the gum like sticky material after the complete processing is called “*TASSEY*” (Figure-3 a-f). The *Tassey* is dried and stored

in a container the *Satok* (Figure-2d). The *Tassey* thus produced is consumed by the local people using different methods.

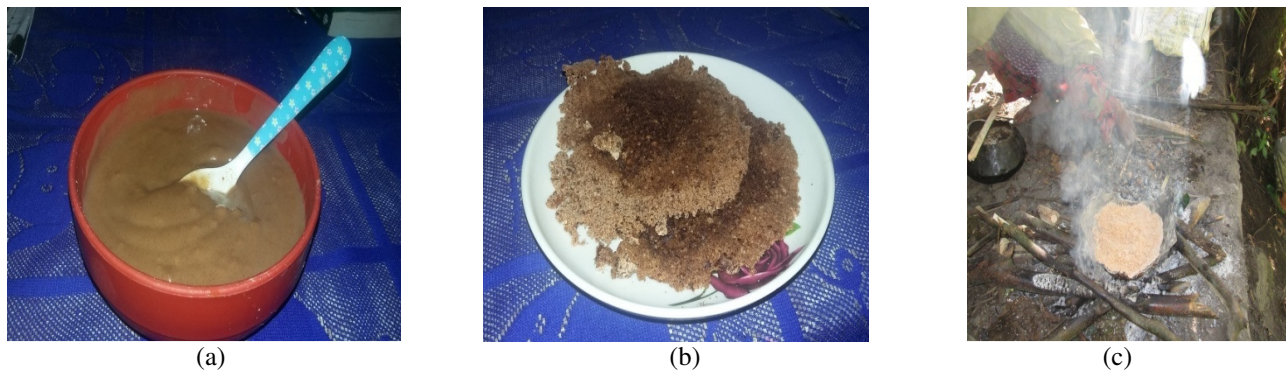
**Uses of *Tassey*: As food:** *Tassey* is primarily used as food in various ways. Some of the ways are described below: i. By mixing hot water (Figure-4a): While in the hot mixing process, *Tassey* powder which is in bowl is added first with cold water and later on with hot water and stirred properly with spoon for 5-6 minutes, after which it is ready to eat. It is eaten along with local soup, usually made up of meat. ii. Frying method (Figure-4b): In this process, *Tassey*, in form of powder is mixed with sugar. Sugar is added with moderate frying in oil until the colour of *Tassey* is changed to red colour. It is also called as local chapatti (roti). iii. Burning process (Figure-4c): In this process a raw *Tassey* in the form of flat roti is burned in fire for a period of 10-20 minutes and then consumed as food.



**Figure-2:** Instruments used during the process of tassey preparation (a) Saku, (b) Satung, (c) Sadang/Sapia, (d) Satok, (e) Dao, (f) Regiang and (g) Sappar.



**Figure-3:** Process of *Tassey* Preparation: (a) Cutting of the stem by Dao, (b) log converted into crude powder by crushing, (c) addition of water and filtration, (d) collection of the filtered content, (e) decantation of water in the *Regiang*, (f) the final product, *Tassey*.



**Figure-4:** Use of Tassey as food: (a) With boiled water, (b) Fried in oil and (c) Burning in fire.

**Preparation of alcohol (Opo):** The mature *Tassey* tree (about 10 years old) is selected, and after cleaning off the fibrous bark, the inner portion is cut into small slices. These are crushed in an indigenously made wooden crusher (*Cheepar*) to make granules which are then dried for 8-10 days and stored. Then the dried granules are boiled in water and are stirred constantly on wood fire for about 30 minutes.

The solution is then cooled and then a traditional yeast tablet (*Opop*) is added @ 1 tablet per kg of *Tassey* paste. The paste is then stored in a container made of Bamboo, layered inside leaves of banana and is left for the fermentation for approximately a week. After this, the paste is transformed into a semi-liquid ethnic alcoholic beverage called "*Opo*" which is served after the addition of warm water.

## Conclusion

*Tassey* forms an integral part of the traditional food system. It is used in two basic forms in bread and in producing a local beverage called *Opo* (a fermented traditional alcoholic beverage). Due to its unique taste, its use as beverage is more popular than bread. It was considered as a unique food during drought as explained by the local community. However, with the pace of time as well as increased dependency on rice, the use of indigenously made *Tassey* breads has gradually diminished which was once considered only popular as food during famine by the local tribal community. The study inferred that the *Tassey* of *Nyishi* community has potential for commercialization. More importantly it can be stored *in vivo* and could be sources for starch minerals during the famine. Further it can also be used as a reserved food for military personals in the border areas.

This documentation was aimed at conserving the tradition knowledge system of *Tassey* preparation among the *Nyishi* tribe of Eastern Himalayas especially Arunachal Pradesh.

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