



## Traditional Granery Storage Structure Practised by Dimasa Tribe Community of Cachar District, Southern Assam

### KEYWORDS

Mico, Traditional Storage structure, Dimasa Community, Granary.

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**ABSTRACT** Tribal communities are known for their rich and diversified knowledge of agriculture. In cachar district there are around 18 tribal groups. Among all these tribal group Dimasa are one of the dominant tribal group of this district. Dimasa community form a part of the greater Dimasa Kachari Society. Literally, the meaning of the word 'Dimasa' is 'the children of the big river'. They are practising indigenous storage structure known as Mico in local dialect made of locally available material for storing post-harvest granary and seed for future use. A survey was conducted during January 2011 to July 2012 in three villages of cachar district of the Barak Valley, Assam by using household survey and group discussion methods.

### INTRODUCTION

The Dimasa is one of the plain tribe of Assam inhabiting Barak Valley. They form a part of the greater Dimasa Kachari Society. Dimasa tribe, which belongs to Indo-Mongoloid Kachari group, is found in North East region of India (Barman, 2012). Literally, the meaning of the word 'Dimasa' is 'the children of the big river' (Bardoloi, 1984). Agriculture is one of the major occupations in Dimasa tribe. Every year Dimasa Kachari family worships its god before sowing paddy. This small festive is known as Madai Khelimba. For safe storage of their rice grain locally known as Mai, the farmer of Dimasa community in this region use traditional storage structure. The commonly found structure is named as Mico. This structure is very common in all the villages in cachar district though a slight variation may exist in shape and method of construction of Mico in different villages of cachar district. However, the basic raw materials used are almost similar. The grain stored in the Mico remains safe during grainy season and even for many years. It might have taken generation after generation to evolve this indigenous technology of Mico construction but rapid urbanization regarding construction of storage structure has posted a serious threat to it. The present documentation was made to gather the information regarding construction technology of different shapes of Mico, appropriateness and cost effectiveness of these indigenous storage structures.

### MATERIAL AND METHODS

The study was undertaken to survey and document the traditional granary storage structures of Dimasa a tribal community of Assam. The study was conducted in three villages under Cachar districts of Barak Valley, viz. Shewartal Village of Dhalai tehnsil, Jaypur pt- III village of Lakhipur tehnsil and Thaligram Village of Udarbond tehnsil. Geographically the study sites are situated at longitude of 24<sup>o</sup>41' 29.9" N and latitude of 92<sup>o</sup>45' 25.9" E with the altitude of about 36 meter above msl. Information on traditional structures was documented by household survey, discussion and observations. The household selected for the study were mainly the farmers having indigenous storage structure. From each selected village around 150 farmers were purposively selected and individually contacted to collect the information and document their indigenous storage structures. The data were collected by contacting the respondents and organising group discussion method. Photographs of the indigenous structures were taken and the structure was observed carefully for its shape and dimension and collected the informations about the raw material and its availability in the selected sites for the present study. The present study was conducted during August 2010 to August 2012.

### RESULTS AND DISCUSSION

Traditional crop grower had designed their own structures and methods for storing their post-harvest grain, seeds with locally available materials. These structures were made up of bamboo, straw, cow dung, mud, plant materials and other locally available materials which protect their grains, seed and other stored agricultural product to keep infestation free and less damage caused by the insect pests and rodents. Granaries can be constructed at any time during the year, although the dry season is often preferred. This is because construction work can go on without any disturbance by the rains and more importantly, the dry seasons (from October to March/Early April) witnessed the end of harvesting of most crops and hence need for storing them. The storage structure made by the Dimasa Community of three villages of Cachar district is known as Mico (figs. 1 - 4) in their own language. These indigenous storage structures of Dimasa community in Cachar district are of different sizes and shapes which were documented and discussed below.

#### Mico



**Figure 1.**

This type of Mico (Fig. 1) is constructed with the bamboo (Locally known as Wha). The first step for construction of Mico is the selection of proper place inside the house for construction. Care should be taken that the ground soil surface is in a good condition because damp surface cause the infestation in the Mico. After that Six Poles of bamboo first dipped in to

the soil in rectangular shape at a distance of 3 metre from each other. The bamboo is dipped at a depth of minimum 2 metres from the ground surface. The bamboo poles are joined and tightened with the jute rope (Locally known as Wadhu). After that 10-12 bamboos are split and arranged in a traditional way and fixed with the bamboo poles. One such type split bamboo structure is fixed with the two corners of the bamboo poles. In total, four such types split bamboos structure are fixed with all the four sides of rectangular Mico (fig. 1). The height of this type of Mico is generally 4.5-5 metres and width 7-8 metres. This type of Mico can store a minimum of 700 kg of rice grain and is also used for storing vegetables and fruits. Roofing is not done in this type of Mico as it is same with house roofing. The floor of the Mico is made up of bamboo.



**Figure 2.**

The raw materials used for this type of Mico (Fig. 2) are seasoned wood, bamboo, cow dung (Locally known as Muski), neem (*Azadiracta indica*) leaf extracts, and soils of paddy land (Locally known as Haa). After selection of the site for construction of Mico nine wooden poles are dipped in the ground surface. After that three splitting bamboo traditional structure are made and fix with the three sides of the structure with wooden poles and tightened with the ropes and iron nails one side is fixed with the wall of the house. One wooden pole is vertically fixed with the Mico to strengthen the structure. The wall structure of the Mico is layered with mixture of soil, wood ash, cow dung and neem (*Azadiracta indica*) leaf extract. The paste produced by this is layered in both inner and outside walls of the Mico and then dried for one week after that it is coloured with limewater and again dried. This type is usually at a height of 0.3 metre above the soil surface for minimizing the rodent attack. The floor of the Mico is made up of the wooden sheets. This type of Mico can store more than 1000 kg of rice grain. A Window like structure is made for deposit and recollection of grains when needed. The window is covered with polythene paper to avoid moisture and flying insect pests which may cause to damage the grain. The height of the structure is 7 metres and width is 8 metres. Usually a ladder is used for climbing the structure from the ground which permit easy loading and unloading of the grains.



**Figure 3.**

This type of structure (Fig. 3) is made up with bamboo only. It is a rectangular shape and all the four walls are made by bamboo structure after splitting the bamboo arranged in a traditional way. The bamboo wall is kept fixed with three bamboo poles in each side of the structure. The bottom surface inside the structure is layered with mixture of cow dung, black soil (Locally known as Haama), cow urine (Locally known as Mususidi). After that polythene or some time thin bamboo flat structure is placed over the ground and rice grain stored on it. These types of structures require minimum cost but chances of infestation are higher as because grains are stored only one layer above the ground surface. Well sun dried stored grain gives prominent result and it is very commonly used by the poor farmers of Dimasa community in this valley of Assam.



**Figure 4.**

This is a square shaped structure (Fig. 4) constructed inside the home in a separate room. The structure is made up with bamboo. Four bamboo poles are dipped into the soil and wall of the structure is made up with bamboo placed in all the four sides and tightened with the rope. The floor of the structure is made with small bamboo poles are arranged and fixed with ropes and above these small bamboo poles wooden sheets are placed to form a flat surface. The walls of the structure both inner and outer sides are layered with a mixture of cow dung, clay, black soil, cow urine and then dried there after rice grain stored over there. A window like opening is there to store and recollect the grain as and when needed. The structure is above 0.5 metre above the ground surface to prevent rodent attack. The height of the structure is 4 m and width of the structure is 6 m. This type of Mico can occupy more than 600 kg of grain at a time.

**CONCLUSION**

With the passage of time, traditional storage structures are diminishing and being replaced by metal bins but the ethnic strategies are time tested and have proved to be very successful in storing various commodities pest free. Most of their practices are worth simulating since many of them are eco-friendly and sustainable but on the other hand these indigenous structures have some demerits as it has some wastage with stores often being inadequately located inappropriately designed, and poorly managed and maintained. Labour demand for indigenous storage structure production is very high in dry season as the construction is done manually using traditional methods that are often slow, time consuming so some poorly constructed structures causing grain quality loss in early storage and is caused mainly by insect pest and rodents. Deterioration due to high moisture content is much more difficult to assess (Itto and Wongo, 2002). So

the workshop of farmers for management of their indigenous storage structure along with the agriculture research personnel is highly encouraged which may minimize their grain loss in post-harvest periods with minimum financial inputs. Looking in this study, further attention should be given to the efficiency level of Mico in terms of tribal farmer's knowledge and experience to refine it.

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