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## RESEARCH ARTICLE

### TRADITIONAL TECHNIQUES OF FOOD PRESERVATION OF THE COMMUNITIES OF NORTH EAST INDIA: THE BODO

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#### ABSTRACT

The Bodo of the North Eastern region of India have their own traditional methods for preservation of food since early days. Flesh of animals, various types of fishes, fruits and vegetables etc. are the main food items which have been preserved for later consumption. Preserved food items are enjoyed by them when such foods are not available in fresh and they also wanted to consume the preserved foods for having different. Besides, the people also generally preserved the foods for consuming when they are busy in seasonal works where they could not find enough time for hunting, fishing, collecting fresh vegetables or fruits etc. The preservation of the food items were not only for the consumption purpose but also had a close association with the socio-cultural life.

#### INTRODUCTION

Ancestors of the Bodo had developed certain methods and techniques to preserve seasonal and also unseasonal (the foods available throughout the seasons) food intact for later use. Food preservation is inevitable owing to many reasons and it has been practiced by many communities since early days (Brain Nummer, 2002). Most of the communities in the world have been adopted different methods and techniques which include sun-drying, salting, fermentation, smoking, etc. for the preservation of the foods. The Bodo have been preserved many food items by applying and adopting old age traditional methods like sun-drying, fermentation, smoking, burning, cooking etc. In the process of preservation of varieties of food items like pork, chicken, flesh of some wild animals and varieties of fishes are sundried and smoked. Some favourite vegetables like *Narzi Gwran* (dried jute leaves), *Mwita* leaves (Rosilee) etc. are also sun-dried. Food items like *Kardwi* (alkali), *Jwo Bidwi* (rice-beer) etc. are also produced by way of burning and cooking respectively. For the preparation of the *Napam* (rotten fish), the Bodo adopted sun-dried, smoked and pounded methods. The Bodo used to consume fresh fish, dried fish and rotten preserved fish (Premananda, 2004). The fresh fishes are instantly prepared for consumption soon after their hunt. Both dried fish and rotten preserved fish have been preserved for future consumption. The Bodo are very fond of fishes. So they consumed varieties of fishes which are locally available in their settlement areas.

Fishes like *Magur* (Mud-water-fish), *Kursha* (*labco gonius*), *Singi* (Scorpion-fish), *Tota* (*nandus marmoratus*), *Tengwna* (*macrurus canasius tengra*), *Gwri* (Green snake head/Spotted snake head), *Maoya* (Mola/Indian carplet), *Pitikri* (Carp/Fry/*Puntius chola*), *Bwtiya* (Loach), *Bami* (Eel), *Turi* (One-strip spiny eel), *Kusia* (Hag fish), *Barli* (Freshwater shark), *Mutra* (Tang gobi), *Mijwo* (a species of small fish), *Barbus ticto*, *Barbus conchoniis*, *Barbus Phutunio* (Zoo) or Green barf, *Puntius Phutunis*, *Phutunis*), *Nangdor* (a big sized ell fish), *Natur* (prawn), *Aleng* (*robora elonga*), etc. are worth to be mentioned. These fishes are locally hunted by using their traditional fishing implements like *Jekai*, *Koka*, *Sen* etc.

#### MATERIALS AND METHODS

The methodology of the study is inter-disciplinary method. According the work is primarily based on field investigation i.e interview for collecting first hand data and also based on all published works. The techniques of anthropological data collection i.e participation, observation, interview methods are adopted. The collected data -both primary and secondary have been analyzed both quantitatively and qualitatively whenever necessary.

#### RESULTS AND DISCUSSION

No serious research based study on the traditional techniques of food preservation of the communities of North East India with reference to the Bodo has yet been made by any scholar by utilizing all the available sources. But some scholars have

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been brought to light on the subject matter in their respective works. However, still await thorough investigation and treatment within a wide canvas. The traditional methods of food preservation are still retained by the Bodo with or without modification. The preserved food items are not only for consumption but also have a great significance in socio-cultural life of the Bodo.

### Na Gwran (Dried Fish)

The dried fish is called *Na Gwran* in Bodo. Almost all the varieties of fish mainly small fishes are dried up. Three methods namely sun-dried, smoked and sun dried-smoked have been adopted to dry the fishes. In the first method, fresh hunted fishes are properly cleaned with water and exposed in the sun light by spreading in the *Sandanga* (Large Sieve) or *Sandri* (Sieve) till the fishes are dried up. In another method, a fire is used to create the heat needed to dry the fishes and smoked them well. Under this method special care is taken to produce more smoked than the flame as smoked is more important than the flame to dry up the fishes. The last technique is the combination of sundried and smoked. In this method, first the fishes are kept in the sun light after cleaning with the water for some hours and then smoked them in the fire. While fishes are smoked, the same technique which applied in the second method should be followed but duration of the time is less to that of the second as the fishes were already exposed to the sunlight for some hours and almost dried up. The fishes which were dried up following any of the three methods i.e. dried, smoked and sun dried-smoked, are generally put in a bamboo container or basket called *Kobai* which is made of bamboo and keep above the hearth in the kitchen to get smoked and heat of the fire in order to protect from all kind of damages caused by insects, fungus etc. Sometimes, the dried up fishes are also exposed in the sun light periodically whenever it found necessary to protect from the fungus, insects etc. and to free from all kinds of infection and damage of the fishes by taking out from the *Kobai*. The dried fishes which are taken properly cared by means of smoked, heating of fire and periodically exposing in the sun light could be preserved for a long time without any detrimental to the fishes. It has been informed to us that among the delicious food items of the Kacharis, *Na Gwran* (dried fish) are one of them. The fishes are collected in huge quantity from different sources like rivers and simply dried up those fishes in the sunlight. The dried fishes are greatly prized by the Kachari "as a welcome and savory addition to their somewhat monotonous daily fare" (Endle, Rev. Sidney, 2010).

### Napam (Preserved Rotten Fish)

*Napam* is the preserved rotten fish which has been consumed widely by the Bodo as it is one of the delicious food items for them since the early days (Narzi, Bhaben, 2011). The preparation for making *Napam* and to bring it to edible form is a long process. *Napam* is mainly made of small fishes. Among the small fishes *Na Mizwo* (a species of small fish, *Barbus ticto*, *Barbus conchoniuis*, *Barbus Phutunio* (Zoo) or Green barf, *Puntius Phutunis*, *Phutunis*) are regarded as the best for making *Napam*. For the preparation of *Napam* small fishes are collected first and clean properly with water. Then, they are to be dried up either in the sun or in the fire smoked. Sometimes both sun dried and smoked are also commonly practiced. The dried up fishes are mixed up with any one of the natural

ingredients such as *Taso Denta* (Stem of Arum), *Kumbra* (Vegetable-marrows) or *Kopi* (Cabbage) or *Mwita* (Rosilee) by means of pounding with *Gaihen* (pestle) in the wooden mortar known as *Uwal*. The *Taso Denta* is commonly used for making *Napam* considering that by mixing with this ingredient, tasty *Napam* can be produced (Brahma, Binay Kumar, 2012). In mixing the natural ingredient with the *Na Gwran*, considerable care and attention is always paid about the quantity of the ingredient that to be mixed up with *Na Gwran*. The Bodo do have good conventional knowledge of the require proportion in mixing the ingredient with the *Na Gwran*. The quantity of natural ingredient should not be exceeded than that of the quantity of *Na Gwran*. It is asserted that if the mixing is not in a proportionate way, the *Napam* may not be savory. The mixed pounded fish is immediately put into the bamboo pipe known as *Napam Hasung*<sup>\*</sup>. As and when the mixed pounded fish have been put into the *Napam Hasung*, the open hole or mouth of the *Napam Hasung* is immediately covered by dried banana leaves and then plastered by mixing mud and alkali over it to seal air tightly. The main reason for immediate store of pounded mixed fish into the bamboo pipe and the sealing the mouth of the pipe immediately is to prevent from any kind of infections. When it exposed for longer time, there always have a chance to lay eggs by the *Tampwi Dangra* (a fly of big size) into the mixed pounded fish. Once eggs are laid down, the pounded fish would be infected and spoiled. When it preserved, it could not be turned into a good form of *Napam* for eating. As a result, they put the non-infected mixed pounded fish into the pipe without any delay with the aim to produce good quality of the *Napam*. The minimum period of the preservation is at least one month and the maximum period would be three years or more. According to Bhaben Narzi and Kameswar Brahma, it can be preserved for two or three years (Narzi, Bhaben, 2011 and Brahma, Kameswar, 1992). It is generally agreed that if the duration of preservation is longer, good quality and good taste of the *Napam* would be produced. The taste and quality of the *Napam* depend on the duration of the preservation. The practice of preservation of *Napam* is still continuing in the Bodo society, however, some people used to preserve the *Napam* in the glass bottle also at present.

### Narzi Gwran (Dried jute leaves)

*Narzi Gwran* is dried jute leaf. A traditional food item of the Bodo which is known as *Narzi Wngkri* is made of the *Narzi Gwran*. The process of making *Narzi Gwran* is very simple and easy. First of all a good number of fresh jute leaves are to be collected and to be dried up in the sun light properly for few days up to its requirement. After properly dried up they are stored in a container or bag. In order to protect from the insect and others which might cause harm to jute leaves, the bag which contained the jute leaves are kept upon the kitchen just above the hearth to get smoke to prevent from all kinds of insects, fungus etc. The *Narzi Gwran* (dried jute leaves) are preserved for so many days or even years however, they are thrown out when any member of the family died. At the same time the family members of the deceased are not consumed the curry made of *Narzi Gwran* for one year.

### Mula Gwran (Dried Radish)

*Mula Gwran* is another preserved food item of the Bodo which is made from radish (Brahma, Pratibha, 2012). In the process of the preparation of *Mula Gwran*, the numbers of the mature

radish are collected and clean them properly with the water. In the next stage, the clean radishes are sliced. These small pieces are kept in the *Sandanga* (Large Sieve) or *Sandri* (Sieve) and exposed to sun light for few days till dried up. The third step is that these dried up radish pieces are smoked in the fire for about half hour. In the four steps, the smoked radish pieces are kept outside to absorb moisture for whole night. In the next day they are again kept in the sun light to evaporate moisture from the slice radish. In the six steps, the pieces of the dried radish are put into the bamboo container or earthen pot and preserved for consumption during the off season. Now a day people used bottle also for the preservation in place of bamboo pipe or earthen pot. As and when, the preserved *Mula Gwran* found seems to be spoiled by insects, fungus etc. then they are immediately exposed in the sun light to prevent from further damages.

### Kardwi

Traditionally prepared alkali or baking soda is known as *Kardwi* in Bodo. For the preparation of the traditional *Kardwi* the plants like *Besor* (mustard), *Sibing* (black gram), *Sobai* (pules), *Talir Posla Gwran* (dried banana stems), *Owa Swikwnda Bibu* (remains of split bamboo), *Katri Pipang* (wild turmeric plant) etc. are required ingredients and they are properly made dry in the sun light. The dried plant which is to be used for the making *Kardwi* has to be burned down into the ashes. The ashes are sifted with the help of *Sandri* (sieve) to take out the unburned or unwanted things. They are preserved either by making cake or directly storing into the bamboo container. In making the cake the ashes are mixed up with a little amount of water and then exposed in the sun light till they are properly dried up (Brahma, Pratibha, 2012). For producing the *Kardwi*, in the *Kardwi Kolong*\*\* some *Sal Daokumwi* (*Nephrodium cucullatum*), *Turi Jigab* (straw) are put first, then the preserved ashes or cake\*\*\* are placed over that and started the filterization by pouring water on it. In this way the traditional alkali solution is produced for the purpose for using in the cooking. It is stated that the *Kardwi* which is made from the ashes of mustard, black gram and sesame is to be considered as the best (Brahma, Basanta Kumar, 2011).

### Zumai/Jwo (Rice Beer)

*Zumai* or *Jwo* is the name given to traditionally prepared rice beer. For the preparation of *Zumai* or *Jwo*, the rice is cleaned with the water and cooked properly. The cooked rice is taken out from the cooking utensil and placed on the banana leaves which are kept already on the *Dhara* (bamboo mat) or *Songrai* (winnowing fan). When rice is on tepid condition, the *Emao*\*\*\*\* is crushed in to powder and thoroughly mixed with the cooked rice. The mixed rice with the *Emao* is kept for 1 (one) day for fermentation in summer season and 3 (three) to 4 (four) days during winter season. Some *Hangar* (charcoal), *Hasib Suwa* (used broom) and *Banlu Gwran* (dried chili) are kept on it believing that by doing so it would be free from destroying by evil spirit. After the semi-fermentation of the mixed rice, those things which were kept to prevent from evil spirit are removed. Then, the semi-fermented rice is stored in the *Dabkha* or *Jong-ya* (Earthen vessel specially made for storing fermented rice) (Brahma, Binay Kumar, 2012:139). The mouth of the *Dabkha* or *Jong-ya* is covered by banana leaves and fasten it with the string of bamboo or jute for preservation. The minimum period of the preservation of the *Jumai* or *Jwo*

is five to ten days and the maximum period could be six to twelve months or even more. The view of Sidney Endle is that it may keep for six to twelve months (Endle, Rev. Sidney, 2010). It is said that for long period of preservation of *Jumai* or *Jwo*, the requirement of *Emao* cake would not be more than 1 (one) and for the shorter period, the number of the *Emao* cake would be 2 (two) in the 5 (five) kg of cooked rice. In case of the latter, the *Jumai* or *Jwo* could be consumed within six to ten days from the date of the preparation, afterward the taste would be sour and unbearable (Brahma, Kameswar, 1992). Sometimes, a pit or hole on the surface of the earth is dug and the *Dabkha* or *Jong-ya* is buried up to its neck for preservation for long time. It is considered that by preserving in this way good quality and good taste of rice beer could be produced. Now a day very few people practice this system of preservation. Some of the preserved food items of the Bodo occupied a very important place in the traditional rite, ritual, ceremonies and festivals. After the funeral ceremony, the members of funeral party purified themselves by taking bath and chew small quantity of *Narzi Gwran* and throw away which signified to bid final farewell to the death person. The importance of the *Narzi Gwran* has noticed from the funeral ceremony of the Bodo without it the ceremony is considered to be incomplete (Brahma, Dr. Kameswar, 1998). Some traditional rites and rituals like *Garja Puja*, *Hambai Hwnai* etc. cannot be performed without the *Jumai* or *Jwo*. In such rites and rituals *Jumai* or *Jwo* are required. *Jumai* or *Jwo* is made compulsory not only in the traditional marriage ceremony but also in the festivals like *Bwisagu* (Brahma, Dr. Kameswar, 1998:1ff). The rice beer is also required when a person made complain to the village authority as well as settling any kind of disputes (Basumatary, Birendra Giri, 2009).

### Conclusion

It is evidenced that some preserved food items are made compulsory in certain rite, ritual, ceremonies and seasonal festivals without which they cannot be executed. The practice of the preservation is still in vogue and the importance of the preserved items in the rituals and festivals are also still remained valid among the traditional practitioner. The techniques of the preservation have been learned from their ancestors and handed down from one generation to another generation. The traditional methods for the preservation of different food items are still retained by the Bodo with or without so much modification. No doubt, the preserved food items have special place as well as significance in their socio-cultural life owing to its festive, cultural, ethnic and nutritive values since remote past.

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- Napam Hasung is the bamboo pipe for preserving the mixed pounded fish to make Napam. This bamboo pipe is generally made of the mature bamboo having one natural Ganti (knot) and one Ganti should be removed to make as mouth of the pipe to enable to fill in the mixed pounded fish into the pipe. Proper care is taken in selecting the Napam Hasung that there should not be any crack or hole from where the air or any germs can be entered into the pipe. If the air or germs enter inside the pipe which Napam is being preserved, the Napam may get spoil by infection caused by bacteria, fungus etc.
- Kardwi Kolong is a handmade filtering object with one small hole at the bottom so that the ashes or powder cake could be filtered. It may be earthen pot or made of wood or bamboo or Narengkol Kolta (half of endocarp).
- In case of the preserved cake, that should be crushed to make powder and placed over the Sal Daokumwi (a kind of fern leaves), Turi Jigab (straw) which were in the Kardwi Kolong.
- Emao is the traditionally prepared ingredient. For the preparation of Emao certain amount of uncooked rice are mixed up with the Lwkna Bilai (*Clerodendron infortunatum*), Kantal Bilai (leaves of jack fruit), Rwimali Bilai (pineapple plant), Bongpang Rakeb (*Pulmbago zeylanica* Linn) and Talir Bilai (Banana leaves) in the proportionate way by means of pounding in the Uwal (wooden mortar) with the help of Gaihen (pestle). And small cakes are made from that pounded stuff with required water and dried in the sun light. Sidney Endle while discussing about the Emao described that it was mixed with required amount of water to transform it into a cake form and from that

cake several small cakes which were about three inches in diameter, and one inch thick in centre, with thin edges were made (Endle, Rev. Sidney, *op. cit.*, pp. 17-18).

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