A STUDY ON *Zu*, A TRADITIONAL BEVERAGE OF THE *Tiwa* COMMUNITY OF ASSAM

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Abstract:

Assam in the North-Eastern part of India is endowed with rich ecological as well as cultural diversities due to its geographical location, pleasant weather, and different ethnic groups that dwell in here. Rice beer is an integral part of almost all indigenous communities of Northeast India. Like other tribes, Tiwa community has its own traditional beverage named Zu. Tiwa people believe that Zu possesses healing properties against some ailments of humans as well as cattle. The present study aimed to scientifically record different aspects of Zu with objectives to collect data available on it from both primary and secondary sources as well as to scientifically identify and record different ingredients and steps used in Zu preparation. Five villages of the Nagaon and Morigaon districts were surveyed. The method of preparation was documented. A total of 20 plant species were recorded to be used in it. However, it is not mandatory to use all the plants together. All of these plant parts used in Zu are reported to have a wide range of medicinal properties. This report will serve as a preliminary record of Zu for further studies.

Key words- Rice beer, Lalung, Medicinal plants, North-East India, ethnic

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Introduction:

Assam is endowed with rich ecological as well as cultural diversities due to its geographical location, pleasant weather, and different ethnic groups that dwell here. Boro, Dimasa, Garo, Kachari, Karbi, Khasi, Mech, Rabha, Sonowal, Tiwa (also known as *Lalung*), etc. are different tribal groups of Assam with their diverse traditional practices. Like other tribes, the Tiwa or Lalung community has its own traditional festivals, rituals, and language. In their festivals and celebrations, they use various food and beverages. Rice is the staple food of the Tiwa tribe. *Zu*, a kind of traditional rice beer occupies an important place in their culture. It is an essential item in the traditional rituals of the Tiwas. Tiwa people believe that *Zu* is sent to the earth by Mahadeva, their supreme God (Bordoloi et al., 1987). Almost all indigenous communities of Northeast India including Assam prepare and use rice beer as an integral part of their socio-cultural activities. *Jumai* by the Bodos, *Suze* by the Deoris, *Chu* by Garos, *Jau* by Meches and Dimasas, *Zu* by Tiwas, *Apong* by Mishings, *Laopani,* and *Mod* by some other tribal communities (Bordoloi, 1991, Saklani and Jain, 1994). The majority of the Tiwa people are still dependent on traditional medicine for their primary health care and treatment of various ailments. Several plants having immense medicinal value are used by the Tiwas in the preparation of *Zu*. Tiwas believe that *Zu* possesses healing properties against some ailments of humans as well as cattle.

Though *Zu* is an integral part of the Tiwa community, proper scientific documentation on preparation and ingredients was not found while searching for it. The present study aims to scientifically record different aspects of Zu with objectives to collect data available on it from both primary and secondary sources as well as to scientifically identify and record different ingredients and steps used in *Zu* preparation.

Materials and Methods

Survey

Secondary data were collected from all available literature. Primary information was collected from different villages of Nagaon and Marigaon Districts where Tiwa people are predominant. Five villages were selected; Rahadhala from Nagaon district and Ahatguri Bilpara, Kohiguri, Lothabori, and Rahadhala (Goxaibori) from Marigaon district of Assam. Data were collected via focal conversations with aged and experienced people of selected villages and recorded.

Collection and Identification of Ingredients

Plant samples used as ingredients were collected and Herbarium specimens were prepared for proper identification. Identification was done with the help of the Botany Department, at Kaliaor College. An extensive survey was carried out in selected villages to record the plant species used in the preparation of the Zu cake.

Documentation of different steps of *Zu* preparation

Different steps of *Zu* preparation was documented and photographs were taken. A flow chartwasprepared.

RESULTS AND DISCUSSION

Survey

Information about the preparation and ingredients of Zu was collected via focal conversation with 80 elderly people from 5 villages of Nagaon and Morigaon districts. Only aged people and persons related to Zu preparations were selected.

Zu preparation

The preparation of traditional *Zu* by Tiwa tribe consists of two steps first one is the preparation of *bakhor* and the second one is the preparation of rice beer.

Preparation of bakhor using different medicinal herbs

Rice beer cake is popularly known as bakhor among the Tiwas, while rice beer is known as Zu. Bakhor is prepared with numerous ingredients and parts of plants and flowers and with rice flour and some other materials. A paste of 2 kg wet seeds of rice is prepared after mixing with different plant parts. A considerable amount of old rice beer cake is mixed along with these plant materials for the preparation of fresh rice beer cakes. After making the complete mixture and grinding it properly water is added according to the requirement to make small round cakes or balls according to choice. Balls are placed on straws. The cake is kept scattered on a broad sieve made of bamboo and it is dried under the sun for one week till it becomes hard. It can be preserved for a few months (**Figure 1**).

20 plant species (**Table 1, Figure 3**) were found to be traditionally used by the Tiwa community in the preparation of rice beer cake. These are recorded with their scientific names, family and vernacular names. All these plant parts used are reported to have a wide range of medicinal properties (**Table 1**).

Figure 1 a, b: Prepared Bakhor or *Zu*-cakes

Preparation of Zu

In preparation of *Zu*, firmly cooked fresh rice is used. Cooked rice is spread on a broad bamboo mat or plastic mat and kept for 1-2 hours to cool. A particular amount of *Bakhor* is powdered and mixed with the cooked rice by hand (**Figure 2)**. Generally, 18-20 *Bakhor* for 5 kg rice is taken. They place the rice in an earthen pitcher; the open mouth of the pitcher is tightly sealed with banana leaf and left to sit in a warm location for 5-7 days. After that yellow colour juice comes out from the fermented rice. It should smell alcoholic and mildly sweet. This way fermentation is done. An amount of water is added to it and then again it can be filtered and the diluted juice is consumed. Seal the rice beer in a bottle or jar and leave for a few days. This type of alcoholic beverage is called '*kesa mod'* by some Tiwa people. Again there is one process to make a kind of alcohol called poka *mod or Fatika mod. After* Fermentation is finished water is added to the fermented rice and kept one night. Additionally, they add Jaggery (local name *gur* or *mythoi*) into the rice and keep it for 3-4 days. After that in an improved still with three components or apparatus alcohol is distilled. The three components include a metallic utensil that contains fermented rice. In the middle, an earthen pot having small holes at the base is kept above the metallic utensil. Inside the earthen pot, another small wooden bowl is kept which is attached to the side tube, through which alcohol will come out. The side tube is the outlet of alcohol. Above the holed earthen pot, there is another utensil which is filled with water. The upper part is a condenser in the form of a saucer filled with cold water. The whole equipment is made air-tight using jute (*Corchoruscapsularies* L.) fiber and mud at the junctions. On heating, alcohol forms vapour which passes through the hole base pot and outlets through the side tube.

Figure 2: Mixing powdered *Bakhor* with boiled rice

A slight variation in preparation method, gives different varieties of *Zu*. *Kesa mod* and *Poka mod* or *Fatika* are two of them. Preparation methods of these two varieties are given as flow chart in **Figure 4**.

CONCLUSION

Zu is an integral part of Tiwa community. Tiwa people use this beverage on different occasions of their cultural events. Rice beer preparation is common to almost all tribes of North-East India. Rice cakes used in preparation of rice beer are enriched with numerous medicinal herbs. Though the plants used in rice cakes of different communities are not exactly same, almost all of them possess medicinal properties.

The Tiwas consumed the rice beer in many common ailments such as, fever and various enteric diseases and also got cured. Though rice beer is considered as good for many health issues, having everything in excess is unhealthy. They believe that the rice beer worked as medicine for many diseases. The juguli is assumed to work as energizer; as sleep enhancer and believed to have purgative effect. It is thought to be efficient in relieving headache, body ache, inflammation of body parts, throat infection and urinary problems. The rice beer is assumed to have affectivity in expelling worms from the alimental cannel and also to cure cholera. The Juguli is given to bulls as tonic to promote body strength and also cures swelling legs of cattle.

Figure 3: Photographs of some plants used in preparation of *Zu*-Cake or *Bakhor*

Preparation of Bakhor or *Zu*-cake

Rice grains are soaked in water for 1-2 hours

↓

Soaked rice grains are half ground with *dheki* (traditional wooden grinder)

↓

Different plant parts are added one by one with the grinded rice (Table 1)

↓

Water is added to the mixture to make dough

↓

Small round *Zu*cakes (Bakhor) is prepared

↓

Sun dried for one week or more till they become hard

(It can be preserved for 3-4 months)

Preparation of *Zu*

Rice grains are boiled

↓

Kept for 1-2 hour to cool and spread over a bamboo mat (*Dhari*)

↓

Required amount of *Zu*-cakes are powdered and mixed with the prepared rice (18-20 bakhor for 5 kg rice)

↓

Placed the rice in an earthen pitcher and kept in a warm location for 5-7 days

↓

Yellow colour juice comes out

↓

Water is added as required

↓

Fermented Rice ← **Filtered** → **Filtrate**

↑

Diluted Rice beer is sealed in a bottle or jar and left for few days
***Kesa Zu* (a variety ofrice beer) is prepared**

Water is added to the fermented rice (kept for one night)

↓

Jaggery is added (kept for 3-4 days)

↓

Mixture is distilled in a distillation arrangement and beer is collected

↓

***Fatika* (a variety of *Zu*) is prepared**

Figure 4: Flow chart showing Preparation of *Zu*-Cake and *Zu*

Due to different social factors brewing and consumption of *Zu* has been decreased among Tiwas day by day and mostly restricted to festivals and ceremonies. Declination of this traditional practice may lead to extinction of the knowledge. Therefore, proper documentation of the materials and methods is very important for further. This study was a humble effort to collect and record the data regarding Tiwa rice beer *Zu*.

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Table 1: List of the plants used in preparation of *Zu* along with their applicable amount in Zu preparation and their use as traditional medicine

Sl. No.	Local name	Scientific name/plant name	Family	Parts used	Amount used (250g/kg)	Traditional Uses	References
1.	Nangol bhanga	*Clerodendron serratum*	Verbenaceae	Leaves	4-5	Syphilis, typhoid, cancer, jaundice, hypertension, rheumatism and other inflammatory diseases	Singh, Khare, Iyer, Sharwan and Tripathi, 2012
2.	Ghora-neem	*Melia azardirach*	Meliaceae	Leaves	1twig	Used as fodder and are highly nutritious, Skin diseases like scabies, for brushing teeth, loosening or pain of tooth, rheumatic pain, fever, insecticide Pyrexia, bloody piles, hysteria, diabetes, pimples, blood purifier, anemia, eczema and measles, jaundice, malaria and to expel parasite worms, stomachic etc.	Joy et al., 1998; Rahmatullah et al., 2010; Khan et al., 2011; Kaneria et al., 2009; Husain et al., 2008; Sultana et al., 2011; Sen et al., 2010
3.	Halodhi	*Curcuma longa*	Zingiberaceae	Leaves	1-2	Coughs, diabetes, dermatological conditions, respiratory problems, cardiovascular and hepatobiliary diseases, arthritis, irritable bowel disease (IBS), peptic ulcers, psoriasis, and atherosclerosis etc.	Kenawy, Hassan and Mohammad, 2019
4.	Bor bahaka	*Phlogocanthus thysiflorus*(Roxb)	Acanthaceae	Leaves	1-2	Fever, antidote to pox, skin diseases like sore, scabies, jaundice, liver and spleen diseases, indigestion, acidity, gastritis, pharyngitis, chronic leucorrhoea, cough and cold, chronic bronchitis, asthma and rheumatism etc.	Jaiswal, 2010; Ali et al., 2012; Paharia et al., 2013
5.	Boga bahaka	*Adhatoda vasica*	Acanthaceae	Leaves	1-2	Asthma, chronic bronchitis, rheumatic pain, removes intestinal parasites and to relieve the pain of urinary tract infections etc.	Kumar and Dwivedi, 2015
6.	Xoru bahaka	*Justticia betonica(Brum)*	Acanthaceae	Leaves	1-2	Constipation, diarrhea, malaria, cough, orchitis, pain, snake bite in human and cattle, stomach ache, headache, vomiting; used to control helminthes in calves and cattles	Rao et al., 2006; Khare, 2007; Jeruto et al., 2008; Bekalo et al., 2009
7.	Tita	*Solanum indicum*	Solanaceae	Leaves and	3-4 leaves	Asthama, chest pain, dry and spasmodic cough, scorpion stings, difficult urination, worm infestation, bronchistis, ,	Rekha, 2017; Bhakta, 2004; Bhattacharya,

	bhekuri			fruit	with seeds	rhinitis, dysuria, leucoderma, sexual disorders, insomnia, cardiac weakness and pruritis etc.	1982
8.	Doron	*Leucus aspera*	Lamiaccae	Leaves	1-2 small plant	Chronic rheumatism, psoriasis and other chronic skin eruptions, snake bites etc.	Srinivasan and Ravali, 2011
9.	Kothona	*Tabernaemontona coronaria*	Apocynaceae	Leaves	2-3	Toothaches, headaches, used to treat burning sensations, ophthalmitis, and dermatopathy, useful in the treatment of fractures, rheumatic pain, fever, as a tonic for the kidney, liver, and spleen, as well as to cure disorders such as pruritus, asthma, hysteria, paralysis, piles, rabies, ulceration, vomiting, skin diseases, aches, scabies and eye diseases etc.	Raut et al., 2022; Warrier et al., 1996
10.	Bhatai	*Clerodendron infortunatum*	Verbenaceae	Leaves	4-5	Diarrhea, liver disorders, headache, gravel, malaria, scabies, skin diseases, sores, spasm, scorpion sting, snake bite, tumors, leaf is used as antidandruff, antidiabetic etc.	Khare et al., 2008; Duke, 2010; Sharma et al., 2001
11.	Kothal	*Artocarpus integrifolia*	Moraceae	Leaves	2-3	fever , boils, wounds, ulcers, asthma, skin diseases, diarrhea, Reduce various diseases such as high blood pressure, heart diseases, strokes, and bone loss, improves muscle and nerve function etc.	Swami et al., 2012; Ranasinghe et al., 2019; Hemborn et al., 1996; Gupta and Tandon, 2004
12.	Kuhiar	*Saccharum afficinanum*	Poaceae	Leaves	1-2	arthritis, bedsores, boils, cancer, colds, cough, diarrhea, dysentery, eyes, fever, hiccups, inflammation, laryngitis, opacity, penis, skin, sores, sore throat, spleen, tumors, wounds etc.	Duke and Wain, 1981
13.	Malbhog kol	*Musa paradisiaca,* AAB group	Musaceae	Leaves	1/4	ulcers, dysentery, bronchitis, diarrhea, rheumatism etc.	Roy et al., 2010; Moton 1987
14.	Anaras	*Ananas comosus*	Bromeliacea e	Leaves	2	Induce menstruation, induce abortion, kill parasitic amoebas, expel worms, constipation, used as a digestive tonic, apply to burns, itches, boils, fractures etc.	Paixão, et al., 2021
15.	Bih-dhekia	*Polipodium sp.*	Polipodiacea e	Leaves	9-10	Jaundice, dropsy, scurvy, combined with mallows it removes hardness of the spleen, rheumatic swelling of the joints, used as cardio tonic etc.	Dar et al., 2012; Ansari et ai., 1888
16.	Manimuni	*Centella asiatica*	Apiaceae	Leaves	1 fist	Asthma, skin disorders, ulcers and body aches, for improving memory, as a nervine tonic and in treatment of dropsy, elephantiasis, gastric catarrh, kidney troubles, leprosy, leucorrhoea and urethritis, in maternal health care, in treatment of stomach disorders and also as a vegetable etc.	Sahu et al., 1989; Babu et al., 1995; Kumar and gupta, 2002; Das et al., 2009
17.	Joba	*Hibiscus rosa sinensis*	Malvaceae	Leaves	2-3	Wounds, inflamation, fever and coughs, diabetes, infections caused by bacteria and fungi, hair loss and gastric ulcers etc.	Missoum, 2018
18.	Sewali phul	*Nyctonthes arbortristis*	oleaceae	Leaves	2-3	The leaf juice is used to expel roundworms and threadworms in children, to treat loss of appetite, piles, liver disorders, biliary disorders, chronic fever, malarial fever, obstinate sciatica and rheumatism, in fungal skin infection and in a dry cough, high blood pressure etc.	Nawaz et al., 2009; Shandar et al., 2011; Bhalakiya & Modi, 2019
19.	Pan	*Piper betle*	Piperaceae	Leaves	2-3	Used as a mouth wash when the mouth is swollen, cleanses bad breath, stops bleeding, enhance digestion and treats other diseases such as vaginal discharge, coughing, hoarseness,and skin wounds etc.	Salehi et al., 2019; Depi Sakinah et. al. 2020
20.	Posotia	*Vitex negundo*	Verbenaceae	Leave	2 twig	Vaginal discharge, edema, skin diseases, pruritus, helminthiasis, rheumatism and puerperal fever etc.	Jabeen et al. 2015