Traditionally used herbs in the preparation of rice-beer by the Rabha tribe of Goalpara district, Assam

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Received 12 February 2008; revised 4 July 2009

Rice-beer prepared at household level of the aboriginal communities of Assam is served to all irrespective of age and sex. Certain plant species are traditionally used by the Rabhas of Goalpara district of Assam for the preparation of rice-beer cakes as well as rice beer. Goalpara district of Assam is situated on the southern bank of the river Brahmaputra. Several villages of the district are the homeland of some Indo-Mongoloid tribes like the Bodos, Garos, Hajongs, Karbis, Rabhas, etc. Rice-beer accounts for a major portion of the daily caloric intake of these tribes. These tribes traditionally use certain herbs for the preparation of starter cake to be used in the making of alcoholic drink or rice-beer. Numerically, Rabhas are the most dominant tribe of the district. The study is aimed for the need of a detailed study on the curative properties of the herbs used by the Rabhas for the preparation of rice-beer cakes and rice-beer, which may provide better and beneficial remedies for many ailments.

Keywords: Rice beer, Rice cakes, Fermented drink, Medicinal plants, Rabha, Assam

IPC Int. Cl. 8: A61K36/00, A01G1/00, A01G17/00, A47G19/00, A23L1/00, A23L1/06

Herbal formulation for yeast culture for brewing alcoholic beverage from cereals is probably the most ancient method 1. Rice-beer, an integral part of life of several aboriginal communities is known in different names in different places. It is known as saki in Japan, lao-chao in China, tape ketan in Indonesia, khoa-mak in Thailand, daru, kali, pachwai and haria in India 2,3. The rice-beer starter cake has also several names like chu in China, nuruk in Korea, koji in Japan, ragi in South east Asian countries (like Indonesia, Malaysia, etc.), bubod in Phillipines, loogpang in Thailand, pekk in Taiwan, pab (Phap) in Tibet, levian in Sikkim and banhmen in Vietnam and bakhar, ramur or marchaar (murcha) in India 4,5. Rice-beer prepared in the household of almost all aboriginal communities of Northeast India is known by different names such as apong in Adi, bunkchung in Monpa, chi in Lepcha, laopani in Aka, ijaduijang in Naga, etc. 6. Rice-beer is an integral part of life of several tribal communities of Assam also and is called as jumai by Bodos, suze by Deoris, morpo by Mikirs, chu by Garos, jou by Mechies and Dimasas, zu by Tiwas, apong by Mishings, laopani and mod by some other tribal communities. 7. Rice-beer is prepared by a major percentage of the people of the Rabha community of Assam. The Rabhas are one of the large tribal groups of Assam like Bodo-Kacharis, Mishings, Kabris, Sonowal Kacharis, etc. Rabhas are widely scattered but mostly concentrated in the undivided Goalpara, Kamrup and Darrang districts of Assam. Rabhas have made significant contributions to different aspects of Assamese culture and literature. Goalpara district shows the highest Rabha population in comparison to other Rabha inhabited districts of Assam. Of seven sub-tribes of the Rabhas (Rangdaniya, Maitoriya, Pati, Koch, Bitiya, Dahuriya and Sangha), Rangdaniya, Pati and Maitoriya are found to be the dominant ones. 8. Rabha language is confined to Rangdani and Maitorí groups; the other groups either follow the language spoken by Rangdani and Maitories or speak patois of the Assamese language. Rice is the staple food of the tribe. The vegetables and raw fruits are obtained by Rabhas from different wild plant species available in nature in the district. Dried and powdered fish, pork and rice-beer always attract Rabhas like other aboriginal communities of Assam. Rice-beer is considered by as the most valuable item for entertaining guests.

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Majority of Rabha community of Goalpara district still depend on traditional medicine for their primary healthcare and treatment of various ailments. They have gathered excellent knowledge through experience for being constantly associated with forest-based resources over many generations. They prefer natural methods of treating disease through herbs. Several herbs having medicinal property are used by Rabhas in the preparation of rice-beer. Rabhas believe rice-beer to have curative property against some ailments of human beings and even cattle. Though valuable contribution on ethnobotany of different parts of India is available, very limited information is recorded from Assam. In recent years, information on the use of plants by different communities of Northeast India has been compiled. This region is mostly inhabited by a large number of tribal communities. Considering this, survey was made in different tribal villages of Goalpara district of Assam inhabited mainly by Rabhas. It was found that many old and experienced Rabha village men and women have been taking rice-beer generation after generation not only as an alcoholic drink but also as a medicine.

**Methodology**

During survey period, information was collected from old aged experienced people living in different villages of Goalpara district, densely inhabited by the Rabha tribe by arranging interviews with them. Herbarium specimens were prepared from the collected plant samples for proper identification and presentation. Moderate survey was carried out to record the plant species used in the preparation of rice-beer cake and rice-beer. All of these herbs are reported to have medicinal property too.

**Results and discussion**

Rice is the main component of both rice-beer cake and rice-beer. Ten plant species were found to be traditionally used by the Rabhas in the preparation of rice-beer cake (Fig. 1). These are enumerated with their scientific names, family, vernacular names in Rabha (according to Rangdaniya, Maitoriya or Pati sub-tribe), parts used and medicinal uses (Table 1) followed by the process of preparation of rice-beer cake and rice-beer, its medicinal value as reported by the village elders and healers of the Rabha community and traditional belief regarding rice-beer. Rice-beer accounts for one-quarter to one-half of the daily caloric intake of the Rabha inhabitants of Goalpara district. It was observed that in the traditional healthcare system of the Rabha tribe, rice-beer cake and rice-beer had been playing an important role. But due to migration of the youths to cities for earning livelihood and breakage of joint family system, traditional knowledge remains confined only to a few aged villagers. The paper throws light on the traditional knowledge of plants used by the Rabha tribe in the preparation of rice-beer with their folk values.

**Preparation of rice-beer cake**

Rice-beer cake is popularly known as bakhor, surachi or phap among the Rabhas of Goalpara district while rice-beer is known as choko or jongamod. Paste of 2 kg wet seeds of rice (Oryza sativa L., land variety sali and ahu) is prepared after mixing

<table>
<thead>
<tr>
<th>Plant name/family/local name</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ananas comosus (L.) Merr./Bromeliaceae/Anaros (Pati)</td>
<td>Tender leaves are anthelmintic and abortifacient.</td>
</tr>
<tr>
<td>Artocarpus heterophyllus Lam./Moraceae/Pan-chung (Rongdani)</td>
<td>Leaves are anthelmintic and used in skin disease.</td>
</tr>
<tr>
<td>Calotropis gigantea (L.) W.T.Aiton/Asclepiadaceae/ Akhomhang (Rongdani)</td>
<td>Leaves are analgesic, antiseptic, anthelmintic; used in burns, ear and eye complaints.</td>
</tr>
<tr>
<td>Capsicum frutescens L./Solanaceae/ Jhaluk (Maitori)</td>
<td>Fruits are analgesic, used in abscess and rheumatic pain.</td>
</tr>
<tr>
<td>Cleodendrum viscosum Vent./Nerbenaceae/ Holitita (Pati)</td>
<td>Leaves are anthelmintic, hair tonic, tonic, laxative; used in malaria, headache and tumours.</td>
</tr>
<tr>
<td>Dennstaedtia scabra (Wall.) T. Moore/Dennstaedtiaceae/ Bisdhinka (Maitori)</td>
<td>Fronds are analgesic, used in malaria and stomachache.</td>
</tr>
<tr>
<td>Ochthochloa coracana Edgew./Poaceae/ Kuchibun (Pati)</td>
<td>Leaves are used in measles and pneumonia.</td>
</tr>
<tr>
<td>Plumbago indica/Plumbaginaceae/Agaihib (Rongdani)</td>
<td>Roots are used as abortifacient; during headache.</td>
</tr>
<tr>
<td>Saccharum officinarum L./Poaceae/Kurchi (Rongdani)</td>
<td>Leaves are used in constipation.</td>
</tr>
<tr>
<td>Scoparia dulcis L./Scrophulariaceae/Phap jibra (Rongdani)</td>
<td>Shoots are used in urinary trouble, eye trouble, mouth sores, sex weakness and as tonic.</td>
</tr>
</tbody>
</table>
with mentioned plant parts (Table 1). A considerable amount of old rice-beer cake is mixed along with these plant materials for the preparation of fresh rice-beer cakes (Fig. 2). Some round and flat globules (each of around 50 gm) are prepared from the grinded mixture. The globules are placed on straw. Different parts of ten plant species are used in particular amount to prepare rice-beer cake. [Heteropogon contortus (L.) Beauv.ex R.& S.] is kept scattered on a broad sieve made of bamboo (Bambusa vulgaris Schrad) and then sun dried.

To prepare rice-beer choko or phap, tightly cooked fresh rice (using less amount of water) is used. After cooking, Rabhas scatter rice on a broad mat made of bamboo and cooled. Then a particular amount of rice-beer cake (generally 2 pieces for boiled rice prepared from 2 kg of fresh rice) is powdered and mixed with the cooked rice. A special type of cylinder made of bamboo net, known among Rabhas as janthi, is placed inside an earthen pitcher, known as jonga. Now, already prepared mixture of rice and rice-beer cake is kept inside jonga and outside janthi (Fig. 3). At last, open mouth of jonga is tightly sealed with banana (Musa balbisiana Colla) leaf warmed in fire and placed in a dark place. Rabhas place Ricinus communis L. leaf and one piece of wood charcoal over the lid of jonga made of banana leaf ward off the effect of evil spirit. During summer, (after 4-5 days) and during winter (after 7-8 days), choko or rice-beer attains the actual stage for drinking. A hole is made at the venter of dried shell of matured fruit of Lagenaria siceraria Standl. and used to collect the local alcoholic drink stored inside janthi placed inside jonga (Fig. 4). The rice-beer prepared through the above process of fermentation is again fermented adding particular amount of water and rice-beer cake. After 3-4 days, rice beer is collected and distilled through a local process using 3 earthen or metallic pitcher-like pots (hadi / luduki), placing one over another; 2\textsuperscript{nd} and 3\textsuperscript{rd} pots having a hole at the bottom. The whole equipment is made air-tight using jute (Corchorus capsularis L.) fibre and mud at the junctions. The resulting drink is strong liquor, known as fotika and Rabhas believe that it has curative effect on psychiatric patients (Fig. 5).

**Ethnomedicinal value**

When choko is prepared from local land variety boro of Oryza sativa L., it can be preserved for 6 to 12 months. Such type of choko is strongly alcoholic, reddish brown in colour like honey and also sweet in taste; known as sachotia mod among the Rabhas. It is observed that sometimes Rabhas eat mixture of such rice and rice-beer together (without separating the rice-beer) as delicious food, popularly known as juguli (Fig. 6). Rabhas believe that juguli works as a tonic; promotes sleeping tendency and also has a purgative effect. Rabhas believe rice-beer to possess
high medicinal value in relieving headache, body ache, inflammation of body parts, diarrhoea and urinary problem. Rice-beer is highly effective in expelling worms and also cures cholera. Rice-beer cake possesses curative property not only for human being but for also cattle. It is given to eat to the bulls as a tonic to promote body strength and also cures swelling legs of cattle.

Conclusion
Consumption of rice-beer is gradually coming down because of many factors like enforcement of the excise law and economic pressure. Now, rice-beer is brewed in a restricted manner and that too is connected with festivals and ceremonies. Further, pork and rice-beer are strictly prohibited for those members of Pati Rabhas, who have included themselves into the Mahapururiya groups of Vaisnava religion. It is expected that the information will be beneficial in the field of ethnobotanical research in future. Since various plant species having high medicinal value are being used in the preparation of rice-beer cake, it is of utmost importance to record the probability of having medicinal property of rice-beer. This knowledge may be fruitful for the future generation; otherwise in absence of the experienced and knowledgeable persons of the Rabha community, it may be lost forever. The knowledge related to indigenous culture, traditional faith and healthcare system have been facing challenges in the district during the recent days. So, preservation of indigenous knowledge based on indigenous culture and healthcare system has become an urgent need for the society.

Acknowledgement
Authors are indebted to the villagers of the Rabha tribe of Goalpara district of Assam, who have provided valuable information about the role of rice-beer cake as well as rice-beer on their socio-cultural background as well as healthcare system.

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