

## Dalbari, a Traditional Pulses based fermented food of West Bengal

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### *Abstract:*

*Indigenous* traditional fermented foods are attractive alternatives to fulfil the nutritional and food requirements of large number of people of world. The famous traditional pulses based fermented foods of West Bengal are *Chana Dalbari*, *Urad Dalbari*, and *Matar Dalbari*. These foods are prepared by tribal and rural ethnic people of West Bengal. These fermented baries are low- cost, staple food consumed by the tribal, rural as well as urban population. The present study aimed at the documentation and preservation of traditional indigenous knowledge of preparation of different *Dalbari*, equipment's, substrate, raw-material used, its production and fermentation technology, it's socio-economic, cultural as well as marketing significance. These kind of fermented foods are prepared and consumed throughout the year in this part of West Bengal. This fermented food is mainly prepared by women by home based fermentation technology, male in the family are not involved in the production of *Dalbari*. This tradition of home based preparation of *Dalbari* is passes from one generation to other generation from mother to daughter in the family.

*Keywords: Dalbari, Traditional fermented foods, West Bengal,*

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### 1. INTRODUCTION

Fermented foods are prepared from the raw ingredients of the plant or animal sources either by naturally or mixing it with the starter culture (s) containing functional microflora which is responsible for modification of the substrates biochemically and also organoleptically into edible yields that are socially and culturally acceptable to the consumers [3, 4]. Each fermented food has its own unique microflora and this unique group of micro flora related with each fermented food increases the nutritional value by increasing the levels of essential amino acids, vitamins, proteins and many more. Thus, 3/4<sup>th</sup> of humanity which is facing a shortage of balanced food and endemic malnutrition, fermented food can play a vital role in fulfilling the diet requirement of world [2, 3, 4]. Among fermented foods, fermented alcoholic drinks are culturally and socially well accepted for consumption, entertainment, customary practices and religious purposes which are important component of our food supply [1]. Fermented foods are not only easy to preserve but also have beneficial properties like it increases digestibility, pharmacological values, enhancing flavour and improving nutritional values. Production and drinking of alcoholic beverages are widely accepted which not only enhances the nutritional value but also gives pleasure of drinking [5] and therefore it is not surprising that in several parts of world, custom of serving fermented beverages to guests is popular and documented in several historical documents [6,7,8]. Different types of plants and their parts are used in the starter culture preparation [10, 11]. Fermented foods play a significant socio-economic role in the developing world and these kinds of fermented food products contributes to the nutritional requirements of growing population. However, the knowledge of the fermented foods like *Chana Dalbari*, *Matar Dalbari* and *Urad Dalbari* preparation is getting eroded fast in younger generation due to changing lifestyle and availability of chemically preserved cheap and commercial foods. *Haria*, a traditional rice fermented beverage of West Bengal is prepared and consume throughout the year in tribal and rural areas (12). Therefore, now it is very important to document and preserve this kind of traditional knowledge, practices and conduct research to standardize the process of preparation of these kinds of fermented foods. This research is aimed at authentic documentation of traditional indigenous method of preparation of *Dalbari*, its fermentation technology and equipment's used, mode of consumption, socio-economy and marketing data.

## 2. METHODOLOGY

### Survey

The survey was conducted in different parts of North Bengal region, i.e., Jalpaiguri district, Darjeeling district, like Matigara, Shivmandir, Chandmuni, Champasari, Milanmore and Malbazzar, Bagdogra, Sonapur, Ghosh-pukur to document the traditional indigenous knowledge of preparation of *Dalbari*. The information were collected by interviewing (70 houses) landholding families comprising of different communities and castes which were randomly selected from both rural and tribal areas of three sub-divisions and district of North Bengal. In the present survey it was observed that different rural and tribal population were actively involved in *Dalbari* preparation and consumption.

The present study also documented the indigenous traditional method of preparation of *Dalbari*, a traditionally fermented pulses based fermented food of West Bengal. Information was also collected on different *Dalbari* through the survey about its bio-preservation, and mode of use of *Dalbari*, its socio-economic, cultural as well as its marketing and ethnic significance.

### Collection of samples

Samples of *different Dalbari*, have been collected aseptically from villages and markets of the Siliguri and Jalpaiguri of North Bengal. All samples were collected aseptically in sterile bottles, falcon tubes and poly-bags, which were kept in an ice-box container, and transported to the laboratory for analysis [13]. A total of fifteen samples of different *Dalbari* were collected from different places and local markets of North Bengal.

## 3. RESULT

Fermented *Dalbari*, play important role in social, economical and cultural aspects in North Indai as well as in Bengal. *Dalbari* is a traditional fermented pulses based food of West Bengal, it is prepared by using different types of pulses like Chanadal, Uraddal, Matardal, as substrates. Rural and tribal population used their traditional knowledge to prepare *Dalbari*, by fermenting the soaked pulses. For this present study, basic information regarding *Dalbari*, Fermentation was collected from the field survey; interview was divided into four categories: (i) Traditional method of different *Dalbari* preparation, (ii) consumption pattern, (iii) socio-economic (iv) socio-cultural importance.

### (i) Traditional Method of Urad dalbari, preparation

The general fermentation process for preparation of *Urad dalbari*, *Chana Dalbari*, *Matar Dalbari* preparation is same in different part of India. The *Urad dalbari* fermentation and preparation is very similar to *Chana* and *Matar Daalbari*, only the substrate is different in each case.. In case of a traditional and indigenous *dalbari* preparation, the raw pulses were soaked overnight in water and then, converted in to paste and then it fermented for 5-7 days. This traditional and indigenous small oval or cylindrical cake is known as *dalbari*.

### *Urad Dalbari*

*Urad Dalbari* is a dry, round to flattened, sometimes oval, solid ball-like mixed dough. For preparation of *Dalbari*, good varieties Urad dal first soaked in water for overnight and then after sometimes, the Dal (pulse) were ground to paste form. This grinded paste of Dal is mixed with appropriate quantity of salt, white til, some spices like chilli powder. The dough prepared from the mixture mentioned above, is pressed into oval to round to cylindrical cakes and kept on bamboo carpet and sundried for 3-5 days in summer and 5-10 days in winter (Fig. 1). After sun drying, *Urad Dalbari*, are kept in a container and closed the mouth of the container to protect the *Dalbari* to take moisture of outside environment, because the high moisture of the environment can spoil the *Dalbari*, so then product can lose its quality and original texture, flavour and colour. *Dalbari* can be preserve at room temperature for six month to one year for further use. It has been found that mainly women are engaged in preparation of the *Urad dalbari*, but it is sold by men and women in the different local markets of North Bengal.

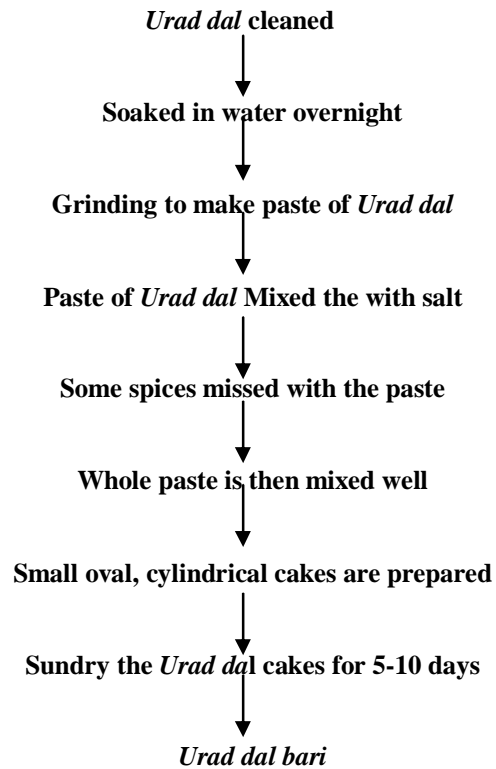


Fig: Traditional method of fermentation of *Urad Dalbari*

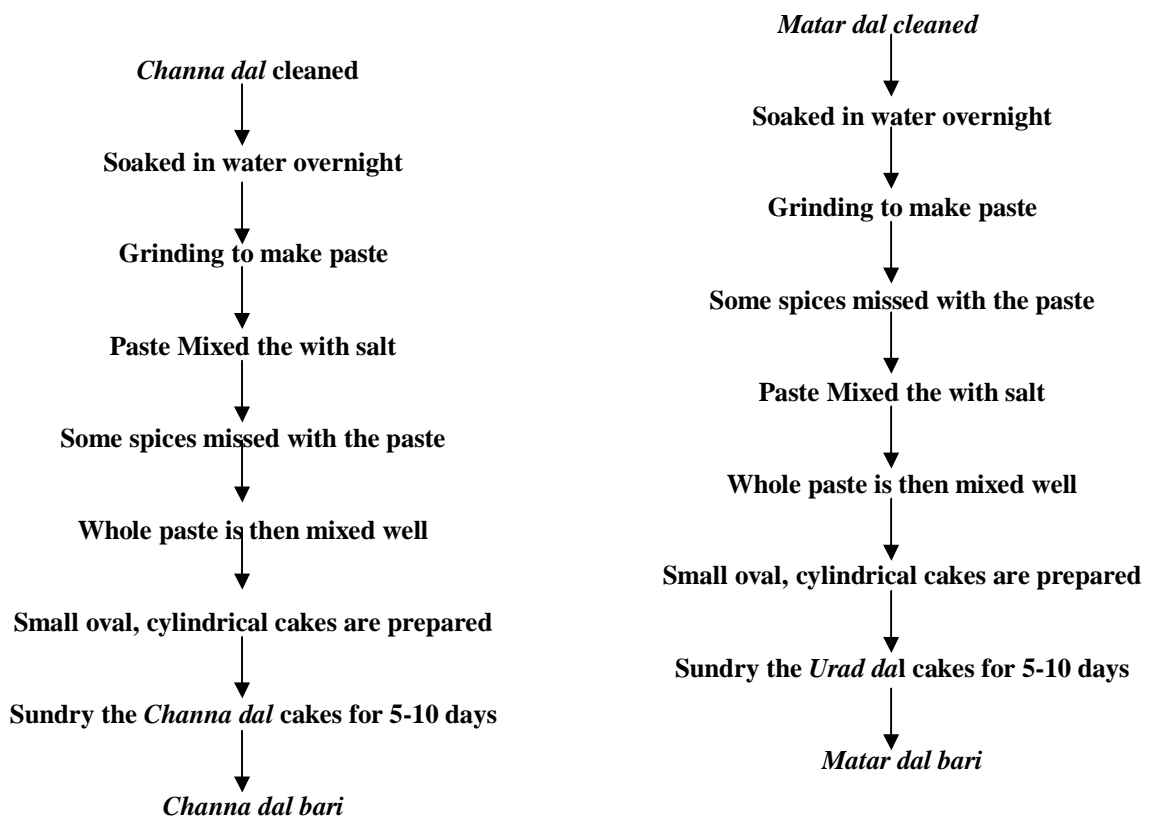


Fig: Traditional method of fermentation of  
*Channa Dalbari Matar dal cleaned*

Fig: Traditional method of fermentation of  
*matar dalbari*

**(ii) Mode of consumption**

It has been projected that 50–400 g per capita of fermented foods and alcoholic beverages are consumed daily worldwide [3,4]. During survey in the North Bengal area we found that *Dalbari*, is consumed directly as a food by many tribal, rural and urban population. Different *Dalbari* is mainly consumed by cooking with different vegetables and fish in this part of Bengal. It is regularly consumed with rice and chapatti by the people of Bengal.

**(iii) Socio-Cultural Significance**

Fermented foods have strong social and ritual significance and are deep-rooted in the cultural heritage of the various ethnic groups of North Bengal. These fermented foods are culturally very important, because are prepared during marriage ceremony among different communities of West Bengal. During festivals there is provision to take these fermented *Dalbari*.

**(iv) Socio-economy and marketing data**

*Dalbari* is prepared in most part of West Bengal, however it is more popular in North Bengal and tribal areas of West Bengal. In North Bengal it is available in Matigara, Chandmuni, ,Sonapur, Isalampur, Champasari, Shivmandir, Devidanga, Milanmore, and Malbazaar and some other villages of North Bengal. It is commercially available in the market and in local Hat and bazaar. *Dalbari* is easily available and inexpensive fermented food of west Bengal which cost about eighty rupees per kg. The inexpensiveness of *Dalbari* is because of the short process of preparation, easily availability of raw materials throughout the year and cheap labour. During the survey and field visit it was observed that *Dalbari* has huge marketing significance, it is prepared and sold in huge amounts in different hat and local markets in villages of North Bengal and for many families it is one of the major sources of the income. *Dalbari*, contributes substantially for family income of the people who engaged in this business.

#### 4. DISCUSSION

Traditional indigenous fermented foods of West Bengal is prepared at house hold level by ethnic people of the tribal and rural areas of North Bengal region by using the indigenous traditional knowledge of fermentation using different substrates for different *Dalbari* preparation. The present study aimed at documentation and preservation of the indigenous traditional knowledge of preparation of *Dalbari*, its ethnic, socio-economic, socio-cultural significance. *Dalbar*, is a low-cost, pulses fermented food consumed as a staple food-beverage in the tribal and rural and urban belt of West Bengal. For preparation of *Urad dalbari*, *Urad dal* first cleaned then soaked in water for overnight and then after sometimes, the Dal (pulse) were ground to paste form. This grinded paste of Dal is mixed with appropriate quantity of salt, white til, some spices like chilli powder. The dough prepared from the mixture mentioned above, is pressed into oval to round to cylindrical cakes and kept on bamboo carpet and sundried for 3-5 days in summer and 5-10 days in winter. finally *Urad dalbari*, *channa dal bari* and *matar dalbari* prepared and then sold in markets or in different hats and bazaar of villages. The traditional method of preparation of these three *dal bari* is almost similar but the substrate used is different. *Dalbari*, is prepared and consumed throughout the year. Traditional fermentations have low cost of production as it need less labour-input and the raw materials required for fermentations are easily and locally available. The traditional fermented foods and beverages form a part of socio-cultural life of the tribal and rural people of the West Bengal. These fermented foods and beverages have the potential to grow in a small medium sized industry, if proper scientific and technical support is extended to the existing indigenous practices of home based fermentations.

#### ACKNOWLEDGMENT

Authors are thankful to the Department of Microbiology and Sikkim University for funding this research work. Authors are also thankful to all the participants for providing valuable information and time. We would like to acknowledge the villagers for providing the necessary information for this documentation work.

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