

# THE UNIVERSITY OF BURDWAN



## DEPARTMENT OF BOTANY

A Report of Social Outreach Programme on  
Awareness Regarding :

Conservation of indigenous Rice  
Cultivars & Modern Day Agriculture

*Submitted by:*

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# LOCALITY OF THE SURVEY-

Saraitikar, Purba Bardhaman, West Bengal

# DATE OF SURVEY-

08-02-2024.



Maps of venue-Saraitikar.



## OBJECTIVE OF THE PROGRAMME:

- To aware the farmers about the importance of indigenous rice cultivation in context of modern day agriculture.



## INTRODUCTION:

India holds the second-largest agricultural land in the world, with 20 agro-climatic regions and 157.35 million hectares of land under cultivation. Thus, agriculture plays a vital role with 58% of rural households depending on it even though India is no longer an agrarian economy. Although India is self-sufficient in food production, its food production between 1947 and 1960 was so bad that there were risks for the occurrence of famine.

Therefore the Green Revolution in India was initiated in the 1960s in order to increase food production by introducing high-yielding varieties of rice and wheat to increase food production in order to alleviate hunger and poverty. Post-Green Revolution, the production of wheat and rice doubled due to initiatives of the government, but the production of other food crops such as indigenous rice varieties and millets declined. This led to the loss of distinct indigenous crops from cultivation and also caused extinction.

# **INDIGENOUS RICE LANDRACES VS. HIGH-YIELDING VARIETY:**

The benefits of indigenous crops over the introduced HYVs include:

1. cultivation of indigenous crops can make agriculture more genetically diverse and sustainable.
2. consumption of domestically cultivated indigenous crops can reduce the carbon footprints and imports.
3. the indigenous crops are highly adapted to the climatic conditions of the land.
4. consumption of indigenous foods contribute to food diversity and enrichment of diet with micronutrients provides health benefits due to the interactions between the inherited genes and food nutrients.



## EXAMPLES OF INDIGENOUS RICE CUTIVARS:

India has many indigenous rice varieties, including folk varieties, traditional varieties, and other varieties. Some Examples are given below:

Keralasundari, Dudh-sar, Neelam samba, Maharaji

DudheBolta, Athikaraya, Bhutmoori,

Tulaipanji, Radhuni-pagal, Kanakchur , Basmati, Jyothi, Pusa, Sona Masuri, Jaya.







Kalturey



Tulsibhog



Sadanunia



Rangakomal



Kalshipa



Tulaipanji



Dharmaphou



Radhatilak



Kataribhog



Radhunipagol



Gobindabhog



Kalojeera



Kalonunia



Rampha



Konkanijoha



Kalokhasa



Dudhkalam



Dubarikomal



Dudheswar



Kabra



Sitalkuchi-1(A1-1)



ChapkaChakhao



Chakhao Sel-I



Chakhao Sampark



Chakhao Sel-3



Chakhao Sel-2



Chakhao Poiterin



TSPM-3-1(TPUR-B-1)



T4M-3-5



TSP6-M3-4



T6M-3-3



KNS-3-1(Uttar Sugandhi)



KNS-2-1-1



KNS-2B-S1



KNS-2-1



## **INDIGENOUS RICE CULTIVARS AND STRESS RESISTANCE:**

Indigenous rice cultivars can have notable potential for biotic stress tolerance and nutritional attributes. Some indigenous aromatic rice cultivars, such as Tulaipanji and Badsabhog, can resist dehydration stress better than other landraces. This is because they are prepared to combat oxidative stress by up-regulating the expression of genes for some enzymes of the ascorbate-glutathione cycle and other antioxidative enzymes.



## **PRESERVATION OF INDIGENOUS RICE CULTIVARS AND FUTURE CROP IMPROVEMENT PROGRAMME :**

It is evident that necessary measures should be carried out to conserve the indigenous species of the nation and also to carry knowledge to the future generations by reviving the crops back into cultivation. The government of India may initiate the acquisition and management of germplasm of all indigenous varieties by the Indian National Genebank at the National Bureau of Plant Genetic Resources (NBPGR), New Delhi. Furthermore, the primary factors that contribute to the revival of indigenous crops include the passion of farmers, administrative measures initiated by the stakeholders, and the marketing strategies of vendors. Additionally, the knowledge about the health benefits of indigenous crops may also prevent its extinction and ensure the availability of these foods in local markets and the methods of cooking for future generations.



