



*An endeavour to save Traditional Rice Varieties*

# Annual Report | 2021-2022



*Kullakar rice earheads*



*Curd rice from Kullakar rice*

*Namma Nellu is an initiative of*



**CIKS**

<https://www.nammanellu.com/> | <https://ciks.org/>

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## REPORT OF ACTIVITIES (APRIL 2021 TO MARCH 2022)

This report of *Namma Nellu* activities in 2021-22 is organised into the following sections:

- A. *Namma Nellu* – A Background
- B. Conservation of Germplasm in the CIKS Research Farm
- C. Conservation of Germplasm in Farmers' Fields
- D. Upscaling Cultivation of Traditional Rice Varieties
- E. *Namma Nellu* 2021-22 – A Snapshot in Numbers
- F. Building Awareness
- G. Plans for the Coming Year (2022-23)
- H. Our Supporters
- I. Contributing to Support the *Namma Nellu* Initiative

### A. NAMMA NELLU – A BACKGROUND

How did the *Namma Nellu* program start?

India is endowed with exceptionally rich biodiversity in rice. We are so used to it that we may not realise it but rice plays a central role in the sociocultural life of our people. People across different parts of the country prefer different rice varieties. Several varieties are specific to a state and also ethnic groups. Farmers have deep knowledge of their own rice varieties, their environmental and nutritional requirements and their properties and peculiarities. Indigenous varieties are still conserved for a variety of reasons. Some of them are pest and disease resistant (*Sigappu kuruvikar*). They provide fodder and roofing material (*Kullakar*). They are suited for specific food preparations (*Kallimadiyan* for *Manapparai Murukku*). They provide energy and stamina (*Mappillai samba*). They are flood and drought resistant (*Samba mosanam* and *Vadan samba*). They have specific medicinal properties (*Pitchavari* is helpful for diarrhea). Some varieties are useful for pregnant women and lactating mothers (*Navara* and *Neelan samba*). Some are suitable for saline soil (*Kalarpalai*). Besides all this, it is very important to conserve a large genetic pool to draw upon in times of disaster like tsunami. Lands affected by tsunami in December 2004 was still cultivable with certain traditional varieties which came to the rescue of farmers.

#### CIKS' Work in Conservation

During the course of its work for the last 27 years on indigenous seed conservation, Centre for Indian Knowledge Systems (CIKS) has collected more than 100 indigenous varieties of rice suitable for cultivation in Tamil Nadu. All these varieties have to be planted out year after year for conservation. They also need to be conserved in more than one region so that they are not destroyed due to the vagaries of climate. Besides this, CIKS experiments with any new variety that it gets and cultivates it at least for a few seasons before passing it on to the farmers. CIKS also gets access to rare varieties and the amount it gets may be a handful (say a few grains). These have to be cultivated with great care, conserved, and propagated. Through the *Namma Nellu* programme, CIKS conserves these indigenous varieties in its experimental farm in Sukkankollai in the Chengalpattu district and in farmers' fields.

Under these conditions, CIKS started the *Namma Nellu* program in the year 2016 to obtain public support for this critical activity.

## B. CONSERVATION OF GERMPLASM IN THE CIKS' RESEARCH FARM

In the 2021 *Navarai* season

During the *Navarai* season (January 2021 to April 2021), two varieties (*Kullakar* and *Karunguruvai*), were cultivated organically in 2 acres in the CIKS farm and harvested at the end of April 2021. In the *Samba* season (August 2021-February 2022) based on the survey of TRVs conducted in 2020-21 across Tamil Nadu, we have sourced from farmers seed samples of 22 traditional paddy varieties which are new to the *Namma Nellu* basket for annual conservation. The nursery bed was prepared for 160 traditional paddy varieties. Transplanting was done in a way that long and short duration varieties were transplanted in adjoining plots. This arrangement is to maintain varietal purity. During the crop growth period, regular monitoring was done and weeding, pest and disease control was carried out as required. At different stages of the crop, the following 10 parameters were recorded - height of the plant, number of tillers, date of flowering, number of productive tillers, date of harvest, number of grains per earhead, yield per plant, total grain yield per plot, straw yield per plot, and 1000 grain weight. All the 160 traditional paddy varieties were harvested and are in different stages of threshing, winnowing and drying.

### *Field preparation*



**Cultivation in larger areas:** In the same period, we also cultivated 18 of the 160 traditional paddy varieties in a larger area of about 5 acres in total. All the varieties were harvested during the month of December 2021. The total quantity harvested was 3000 kgs. The 18 varieties are *Mapillai samba*, *Kitchili samba*, *Kalanamak*, *Sivappu kuruvikar*, *Karuppu kowni*, *Kattuyanam*, *Thengaipoo samba*, *Kallurundaikar*, *Chengalpattu Sirumani*, *Rasagadam*, *Kallimadaiyan*, *Neelan samba*, *Ottadai*, *Thanga samba*, *Sanna samba*, *Vellai poongkar*, *Mullan kaima*, and *Vellai milagu samba*.

**In the 2022 Navarai season**

During the *Navarai* season (January 2022 to April 2022), 20 traditional paddy varieties were planned for cultivation in 5 acres of land in the CIKS farm. The 20 varieties are *Kalanamak*, *Thengai poo samba*, *Salem samba*, *Sempalai*, *Muttakaar*, *Anaikomban*, *Varappu kudainchan*, *Kullakar*, *Adukku nel*, *Kuzhiadichan*, *Kallundaikaar*, *Poongkaar*, *Sivappu kuruvikaar*, *Rasagadam*, *Navara*, *Karunguruvai*, *Chithiraikaar*, *Ananthanur sanna*, *Kitchili samba*, and *Thooyamalli*. All the 20 varieties were transplanted to the main field.

***Nursery bed ready for transplanting***



## ***Paddy transplanting***



### **C. CONSERVATION OF GERMLASM IN FARMER'S FIELDS**

In the *Samba* 2021 season, seeds of 49 different traditional paddy varieties were distributed to 27 farmers. This covered an area of about 26 acres in Kanchipuram, Chengalpattu, and Tiruvannamalai districts under this programme for the purpose of conservation and the purpose of producing good quality seeds. Important varieties distributed to our farmers are: *Adukku nel*, *Anaikomban*, *Ananthanur sanna*, *Arikiravai*, *Cochin samba*, *Jeeraga sala*, *Kadai kazuthan*, *Kaivari samba*, *Kaliyan samba*, *Kamban samba*, *Kappakar*, *Karuthakar*, *Kattu vanibam*, *Koomvazhai*, *Kothamali samba*, *Kottara samba*, *Kunthali*, *Kuzhiadichan*, and *Mapillai samba*. Of the 49 different varieties, 42 varieties were cultivated in 24.75 acres. Out of 42 varieties, 37 varieties were harvested and winnowed and dried. From these 37 varieties, 10,338 kgs of 25 traditional paddy variety grains were marketed. Twelve paddy varieties have been harvested and stored. Three varieties - *Koomvazhai*, *Samba*, and *Seeraga samba* - were damaged in some locations due to heavy rain and flooding.

### **D. UPSCALING CULTIVATION OF TRADITIONAL RICE VARIETIES**

Through this programme, selected traditional rice varieties, namely *Seeraga samba*, *Kitchili samba*, *Mapillai samba*, *Thooyamalli*, *Karuppu kowni*, *Varappukudainchan*, and *Kuzhiadichan* paddy varieties were cultivated in 5000 acres of land cultivated by 2319 farmers. Farmers' fields are spread across nine districts of Tamil Nadu, namely Kanchipuram, Chengalpattu, Tiruvannamalai, Pudukkottai, Nagapattinam, Mayiladuthurai, Thiruvarur, Thanjavur, and Ramanathapuram districts. Technical guidance regarding the cultivation of traditional paddy varieties was given to the farmers on a timely basis. Flood damage was observed in many of the field areas. In spite of the damage, harvest of the varieties was completed and 4910 metric

tonnes of harvested grains were marketed through different linkages. This component is being implemented with funding from two philanthropic foundations – Supraja Foundation and Woka Foundation.

***Harvest of Mapillai samba***



***Drying of grains***



### Processing of grains before storage



#### E. NAMMA NELLU 2021-22 – A SNAPSHOT IN NUMBERS

Number of Traditional Rice Varieties Conserved	<b>160</b>
Traditional Rice Varieties Conserved at the CIKS Research Farm in the <i>Navarai</i> Season 2021 and 2022	<b>22</b>
Traditional Rice Varieties Conserved at the CIKS Research Farm in the <i>Samba</i> Season	<b>160</b>
Traditional Rice Varieties added to the conservation basket at the CIKS Research Farm	<b>22</b>
Traditional Rice Varieties Conserved in Farmers' Fields in the <i>Samba</i> Season	<b>49</b>
Upscaling of TRV cultivation	<b>4 Clusters, 7 Traditional Rice Varieties</b> cultivated at a larger scale by <b>2319 farmers</b> spread over <b>9 districts</b> cultivating about <b>5000 acres</b> of land. We expect a yield of about <b>5000 metric tonnes</b> .

## F. BUILDING AWARENESS

We have planned a series of programs to build awareness about TRV and its use among the consumers and the general public. In March 2022, CIKS collaborated with Mr. Rakesh Raghunathan and organized an event – “Sacred Offerings” which was a presentation on the temple *prasadam*s (Offerings to the Gods) which were specific to the famous Srirangam Ranganathaswamy Temple. The dishes presented included the sweet preparations *Akkaraadisil* and *Srirangam Aravanai* which were described with special emphasis on traditional rice varieties used in the preparations.

### *Sacred Offerings Program in March 2022*



## G. PLANS FOR THE COMING YEAR (2022-23)

During the course of the coming year April 2022-March 2023, CIKS plans to implement *Namma Nellu* are as follows:

- Efforts relating to conservation of germplasm in the CIKS Research Farm and farmers' fields will continue.
- Upscaling cultivation of Traditional Rice Varieties will also be continued with support from various funding partner organisations.
- Building awareness will be continued and strengthened during the course of the year.

The additional components that are being planned are the following –

### 1. Survey for Seed Collection in new areas

Based on the information and leads generated through the *Namma Nellu* website and our field work, we have identified specific locations in Tamil Nadu state where field trips will be taken up for the documentation and collection of TRVs which are not already available with us.

### 2. Analysis of Nutritional and Therapeutic Properties of TRV

In terms of raising consumer awareness and interests as well as market demand for TRVs, it is essential to take up documentation and analysis of their nutritional and therapeutic properties. This is an area where CIKS has already made a beginning. During the course of this year, for selected TRVs shortlisted in consultation with nutritionist we will take up the analysis of proximate principles (moisture, ash, energy, protein, fat, carbohydrate, fibre, potassium, iron, calcium, magnesium, zinc, phosphorus, etc.), antioxidant properties and selected other properties such as phytochemicals screening, phenolic content, anthocyanins etc. Preliminary testing will also be carried out with respect to anti diabetic and anti-cancer properties.

### 3. Development and field testing of value-added products

One of the important ways in which we can reach out more effectively to consumers of TRV is to prepare value-added products which may include ready to use/easy to use preparations of various kinds. This can also help farmers to obtain a better value for their produce due to increased market demand as well as the possibility of some stages of the value addition being taken up by the farmers group themselves. This year, we plan to take up some initial efforts in this direction.

### On the Long-Term Need for *Namma Nellu*

While the previous section has presented our plan for *Namma Nellu* for the year April 2022 to March 2023, well-wishers also ask questions to understand the long-term need for the initiative. Does the *Namma Nellu* initiative have to be continued over a long period or is it enough if the initiative is run for a specified period of time? In this connection, we share the following details with you:

1. Cultivation of a variety for the purpose of seed production requires a different and specialised effort. The starting seeds must be pure and have good germination and vitality. The land must be fertile and have assured irrigation. In all stages of cultivation, efforts must be made to avoid contamination with other varieties. Seeds must be harvested and stored properly.
2. Certain varieties are cultivated by farmers only in specific tracts of land (such as saline tolerant varieties) or during times of specific need (such as short duration varieties in the case of delayed monsoons).
3. In public interest, it is essential that all varieties must be conserved and seeds of good quality (genetically pure, good germination and vitality) must be made available when needed.
4. Currently, since these seeds are not made available to farmers by the agriculture extension departments which focus on high yielding and modern varieties, it is essential that efforts at *in situ* conservation (such as *Namma Nellu*) must be continued long term.

If the good quality seed is not available, farmers will use grains as seed for the subsequent crop cycles and this would lead to a gradual deterioration of the quality.

#### H. OUR SUPPORTERS

During the last seven years, we have received enthusiastic and generous support for the *Namma Nellu* program from a large number of sources. We provide below an overview:

- We have received support from individuals, families, schools, non-profit institutions as well as corporate bodies.
- There is a vast range of persons in terms of the professions and interest who have supported us and these include – historians, lawyers, accountants, school teachers, Sanskrit scholars, sailors, home makers, sociologists, ecologists, molecular biologists, textile technologists, theoretical physicists, an aerospace scientist, etc. just to give a few examples.
- We have received support from sources in various parts of Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Uttar Pradesh and other areas.
- Several of our supporters continue their support year after year. They have also played an important role in – “Spreading the Word and Creating Awareness” about this effort by sharing information and of course also rice samples with several of their family members, colleagues, friends, and acquaintances.

## I. CONTRIBUTING TO SUPPORT THE *NAMMA NELLU* INITIATIVE

*Namma Nellu* is a CIKS initiative.

Donations to CIKS are exempted under Section 80G of the Income Tax Act 1961. Vide DIN AAATC0057FF2021401 dated 28/05/2021 issued by Principal Commissioner of Income Tax (Valid up to 31st March 2026).

Further, CIKS is registered with the Ministry of Corporate Affairs, Government of India, as an entity for undertaking CSR activities. CIKS' registration number is: CSR00003078.

### Thanks and Best Wishes

Thanks for taking the time out to read this report. We hope you found it informative and useful. Please feel free to share your thoughts with us. Best wishes to you for 2022-23 from all of us at CIKS and the *Namma Nellu* team.



***CIKS Research and Conservation Farm at Sukkankollai Village, Chengalpattu District***

