

# **CENTRE FOR INDIAN KNOWLEDGE SYSTEMS**

## **REPORT OF WORK DONE DURING THE PERIOD**

**APRIL 2019 - MARCH 2020**

### **1. IMPROVING THE LIVELIHOOD AND FOOD SECURITY OF SMALLHOLDER TRIBAL COMMUNITIES THROUGH WADI MODEL AND INTEGRATED SUSTAINABLE AGRICULTURAL PRACTICES**

This project is in progress in the Jawadhu hills block of Thiruvannamalai district of Tamil Nadu from May 2013 onwards with the support of NABARD (National Bank for Agriculture and Rural Development). The activities of the project are spread over 39 hamlets in Kovilur panchayat covering 1051 beneficiary households with four hundred acres of WADI fields (small orchard) with fruit crops and border crops that have been raised by 511 beneficiary households. Fruit crops in approximately 300 acres have started to yield and the farmers have got a source of steady income. A total of 551 landless beneficiaries are involved in other livelihood activities such as, rearing of cows, goats, poultry and pigs, maintaining tailoring unit, pettishops, poultry incubation unit and fodder cultivation. These microenterprises are a source of additional income for the landless beneficiaries. Backyard kitchen gardens that are being maintained by the beneficiaries are the conservation spots of the traditional varieties of vegetables and seeds. A range of sustainable agriculture techniques are being followed by the beneficiaries like, soil conservation methods, intercropping, nutrient management and vermicomposting. Nearly, 40 vermicompost production units are in place and being maintained by the farmers for their own use. The Seramarathur Village Planning Committee is maintaining a range of agricultural implements including a tractor and letting it get utilized by the beneficiaries with modest rental charges. An Integrated Centre comprising of oil extraction unit, little millet processing unit, value addition unit, storage godown and the community hall cum training centre is being utilized by the farmers. Under this programme, a Village Planning Committee, 18 Farmers' Clubs and 56 Participants Groups (PGs) are in place. Training programmes of different types comprising of technical trainings, institutional building, health and enterprises related techniques were conducted for the beneficiaries. Monitoring visits were done by the officials from NABCONS and

NABARAD. An audio visual on project activities and the impact of various components of the project has been produced.

## **2. SUSTAINABLE AGRICULTURE TECHNOLOGIES FOR FARMER PRODUCER COLLECTIVES AND ESTABLISHING MARKET LINKAGES**

This project supported by Supraja Foundation, Hong Kong was implemented in Thiruvannamalai, Nagapattinam and Ramanathapuram districts of Tamil Nadu State. It reached out to 2440 farmers from 116 panchayats. Cultivation of 14 Traditional Rice Varieties were taken up in 1116 acres. The farmers were provided with seeds and organic inputs for the cultivation. At the end of the crop season, the project facilitated the procurement and sale of 962 MT of Traditional Rice Varieties through Rice Mills and Traders both directly and through the Producer Companies. Seed production of selected traditional varieties was also taken up in 95 acres. Comprehensive trainings were also given on various Climate Resilient Agriculture Technologies. A total of about 2300 farmers belonging to five FPCs were trained. Similarly, about 250 farmers belonging to five FPCs were trained on livestock management. A Trainers' Training Programme (TTP) was organized for a period of five days on Livestock Management which was attended by 20 master trainers. Under this project, we also brought out a Tamil publication called "Traditional Rice Varieties of Tamil Nadu : A source book". A set of one hundred farmers who had participated in various project activities were selected for detailed documentation and interviews to assess the impact of the project through case studies.

## **3. SETTING UP THE AGRICULTURE FACILITATION CENTER (AFC) UNDER THE PROJECT "CAPACITY BUILDING SUPPORT FOR SMALL AND MARGINAL FARMERS PRODUCERS COLLECTIVES IN TAMIL NADU"**

This project supported by Friends of Women's World Banking (FWWB), Ahmedabad was implemented from May 2019 onwards covering 12 FPCs from five districts of Tamil Nadu. Various kinds of support were extended to these FPCs including - training programmes to shareholders, Board of Directors (BoDs) and Chief Executive Officers (CEOs) on sustainable agriculture technologies, financial management, livestock management etc. Proposals for Matching Equity Grant support were submitted for all 12 FPCs to SFAC, New Delhi and six of these FPCs obtained

support to the tune of Rs. 44.395 lakhs. CIKS has also submitted credit proposals to NABKISAN, FWWB, Samunnati, Caspian, Ananya Finance, SBI, IOB, Pallavan Bank, Union Bank of India and KVB for all 12 FPCs and availed Rs. 357 lakhs for five FPCs. In addition, three FPCs obtained sanction of grant assistance as a part of loan support from NABKISAN. CIKS had submitted proposals to NABARD to obtain Business Development Assistance for 10 FPCs and we have received the sanction for five FPCs and availed assistance for one FPC. We have also applied to NABKISAN for three FPCs for Mezzanine capital assistance. Through this project we provided supports for all 12 FPCs for the finalization of 2019 - 2020 accounts and for the current financial year 2020 - 2021 accounts. Provided supports for updating of statutory compliances. Six FPCs obtained partial financial support for accessing the services of the Company Secretary, through a programme supported by AFC.

#### **4. PROMOTION OF FARMER PRODUCER ORGANIZATIONS IN TAMIL NADU – SFAC**

The Small Farmers Agri Business Consortium (SFAC) has identified CIKS as a Resource Institution for the Formation and Strengthening of Farmer Producer Organizations (FPOs) and several phases of this work have been in progress from December 2014. The Perambalur District Maize and Small Onion Producer Company in Perambalur district is working in collaboration with the IIFPT (Indian Institute of Food Processing Technology) in Thanjavur towards value addition. In collaboration with IIFPT Thanjavur, an onion value addition centre has been set up in the Chettikulam village and necessary trainings have been provided. Exposure visits were organized for the BoDs and selected shareholders of this FPC and various training programmes were organized for the CEO and BODs on Business plan preparation, demand assessment, Equity grant assistance – procedures, accounting procedures etc.

Under the fourth phase of this project, activities are being implemented in Cuddalore, Thanjavur, Thiruvannamalai and Kancheepuram districts of Tamil Nadu. A total of five FPOs have been promoted and strengthened in these districts. Veerananarayanan FPC has constructed a seed processing unit in Pinnalur village under the scheme on “Sub-Mission for Planting Material - Development of Seed Processing Units”. Fifteen farmers covering 85.4 acres were involved in the production of three paddy varieties with proper registration with the Department of Seed Certification. Peravoorani FPC

is involved in the production of Neera. The shareholders of this FPC are being involved in the setting up of coconut nurseries (post GAJA cyclone) in selected villages for the supply of coconut saplings. This FPC has got the grant of Rs. 10 lakhs from SFAC, New Delhi in May 2019. They have also obtained and utilized a loan of Rs. 20 lakhs from Friends of Women World Banking (FWWB) in Ahmedabad, which they have repaid. Various other training programmes on accounting procedures and good governance, coconut planting and nursery raising, coconut value addition, Neera production and business planning were organized for the shareholders of both the FPCs. Three FPCs – Cheyyar and Groundnut FPC in Thiruvannamalai district and Kanchi FPC in Kancheepuram district have been promoted and strengthened through this project. Technical, orientation, business and management trainings were organized for the shareholders, BoDs and CEOs. Cheyyar FPC has constructed a seed processing unit under the scheme on “Sub-Mission for Planting Material - Development of Seed Processing Units”. Cheyyar and Groundnut FPC has constructed an Oil Extraction unit through Mission on Sustainable Dryland Agriculture (MSDA) scheme and involved in the extraction and marketing of groundnut oil. Kanchi FPC has constructed an oil extraction unit on their own and involved in the regular extraction and marketing of groundnut oil. All the three FPCs are involved in the certified paddy seed production and marketing. They are also involved in the trading of seeds, fertilizers and pesticides through the Agro Service Centers promoted in their respective working areas. All these three FPCs received working capital and also milch animal loan from FWWB, Ahmedabad and repaid their entire loan. Kanchi FPC has received a loan from NABKISAN, Chennai. All the FPCs under this programme have completed their various statutory compliances. Annual General Body meetings were conducted by all the FPCs.

#### **5. AGRO-BIODIVERSITY CONSERVATION THROUGH SEED PRODUCTION, CHARACTERIZATION, DOCUMENTATION AND DEVELOPING MARKETING LINKAGES FOR TRADITIONAL RICE VARIETIES OF TAMIL NADU**

The German Agency for International Cooperation (GIZ), Germany had sanctioned a project entitled “Agro-biodiversity conservation through seed production, characterization, documentation and developing marketing linkages for traditional rice varieties of Tamil Nadu” for a period of four months from July to November

2019. Under this project, 58 farmers were involved in the conservation of 49 traditional paddy varieties in 66 acres in Thiruvannamalai and Kancheepuram districts. Two training programmes on seed production techniques, each of which were of two days duration, were conducted in September and October 2019. Fifty four traditional rice samples were tested for their Nutritional properties. We participated in two Agri Exhibitions held in various parts of Tamil Nadu. On 20<sup>th</sup> October, we had also organized a ‘Traditional rice food festival’ at Hotel Crowne Plaza in Chennai. This was in the nature of a celebration of Traditional Rice Varieties. The Chief Chef of Crowne Plaza, Mr. Deva had curated a lunch with a spread of various items made with 11 selected traditional rice varieties. Mr. Deva, Chief Chef of Crowne Plaza hotel and Ms. Revathy Shanmugam, well known culinary expert, were honoured by CIKS during the event. A publication entitled “Traditional Rice Varieties of Tamil Nadu – A Source Book” has been brought out in English. This publication has been widely circulated and well received.

**6. A PILOT PROGRAMME FOR INITIATING RURAL WOMEN INTO AN ENTERPRISE USING BIOMASS DRYERS UNDER AICRP ON BIOMASS BASED TRAY DRYERS - DINDIGUL DISTRICT, TAMIL NADU**

This pilot project implemented with the support of the Department of Science and Technology (DST) in Kalathupatty and Mallanayakkanpatty villages of Natham taluk in Dindigul district since August 2016 has concluded in July 2019. Two women’s groups were selected from these two villages and trained to become entrepreneurs by using the biomass dryers. Two biomass dryers were installed in these villages after preliminary trials and standardization of raw materials. Dried products were standardized through various trials and a techno economic feasibility study was carried out. Regular production is in progress. Microenterprises development training was given to the members of both the groups. Packaging and labeling are being done through Kurinji Sustainable Agricultural Producer Company Limited in Dindigul. Products are being sold through the local markets and outlets of Kurinji FPC and the women entrepreneurs are able to earn income out of it. The company also obtained licenses like TIN, GST, FSSAI and shop license needed for trading. The women groups have received credit supports from FWWB, NABKISSAN and Samunnati by linking with the Producer Company. They have participated and displayed their products in various melas and exhibitions. The Group monitoring workshop convened

by the DST (The Department of Science and Technology) was attended by the Principal Investigator of the project at New Delhi on 5<sup>th</sup> July 2019. The project completion report was prepared and it has been shared with the DST.

#### **7. PROJECT ON GRAIN STORAGE, NUTRITION AND BIOLOGICAL ACTIVITY OF OILS**

This is a project funded through the donations and we have taken up research under following topics namely - Experiments with the preparation of solid and liquid soaps using various oils and Nutritional analysis of traditional rice varieties in the laboratory. In terms of soaps, three varieties were prepared, namely - Neem liquid soap, *pongam* liquid soap and Neem and *Pongam* mixed liquid soap. In addition, Mustard oil soap was also prepared. These were tested out with promising results on some crop pests in the Sirkazhi and Chengalpet field areas as well as in home gardens. Preliminary testing of nutritional analysis was carried out with 20 traditional rice varieties and rice products that were shortlisted for testing.

#### **8. DOCUMENTATION OF PLANT DATA UNDER THE “NATIONAL MISSION ON BIODIVERSITY AND HUMAN WELL-BEING” PROGRAMME**

CIKS has entered into a collaboration with FRLHT – TDU (Foundation for Revitalization of Local Health Traditions - Trans Disciplinary University) in Bengaluru, which is implementing a project under “National Mission on Biodiversity and Human Well-Being” programme. Under this programme, CIKS will be involved in the documentation and reporting with respect to the component on the use of biodiversity for plants and agriculture. Specifically, CIKS would be responsible for the preparation of entries relating to the sub-area of agriculture, providing planning inputs and participate in the review of field reports and the preparation of final report with respect to the field survey relating to agriculture that will be taken up in the specified field area. While the major focus of the effort would be in the area of agriculture, CIKS would also provide suggestions about possible sources of information from classical and folk literatures relating to animal husbandry. The work is in progress.

## 9. **NAMMA NELLU - CONSERVING INDIGENOUS RICE VARIETIES IN TAMIL NADU**

*Namma Nellu* is an initiative of Centre for Indian Knowledge Systems (CIKS) to conserve traditional rice varieties in Tamil Nadu. Under this programme, we are conserving 140 traditional paddy varieties at CIKS Research Farm in Sukkankollai village in Kancheepuram district during the year 2019-2020. In *Samba* 2019 season (August 2019 – February 2020), all the 140 varieties were cultivated and harvested. During this cultivation process, we have documented the important properties - nursery duration, sowing date, number of tillers per hill, number of productive tillers per hill, flowering date, date of harvest, number of grains per panicle, yield per hill, total yield per plot, paddy straw yield and 1000 grain weight. In the same period, we have also cultivated 10 traditional paddy varieties viz., *Thengaipoo samba*, *Kitchili samba*, *Kalanamak*, *Mullankaima*, *Karuppukowni*, *GEB24*, *Mapillai samba*, *Thooyamalli*, *Rasakadam* and *Athurkitchili* at Sukkankollai in relatively larger area of about 3.5 acres. Out of 10 varieties, two varieties namely *Thengaipoo samba* and *Kalanamak* varieties were harvested and cleaning work is in process. Another eight varieties are in the field now and the crop is nearing the harvest stage. In *Navarai* 2020 season (January – April 2020), *Kullakaar* traditional paddy variety has been cultivated. In the *Samba* 2019 season, seeds of 48 different traditional paddy varieties were distributed to 55 farmers covering an area of about 66 acres in Kancheepuram and Thiruvannamalai districts under this programme for conservation purpose. Important varieties distributed to our farmers are, *Kalanamak*, *Karuppukowni*, *Mullankaima*, *Rasakadam*, *Illupaipoo samba*, *Seeraga samba*, *Kitchili samba*, *Samba mosanam*, *Karunkuruvai*, *Garudan samba*, *Kothamali samba*, *Sivappukuruvikaar*, *Kadaikazuthan*, *Kandagasalae*, *Kalarpalai*, *Sivappukowni*, *Pisini*, *Navara*, *Mozhikaruppu samba*, *Vellaimilagu samba* etc. Marketing arrangements were facilitated by CIKS through the Producer Companies. Till March 2020, over 47 Metric Tonnes of different traditional paddy varieties were procured and kept ready for marketing. Details about this programme can be found in a website ([www.nammanellu.com](http://www.nammanellu.com)) that is dedicated to this programme.



#### **10. NURTURING OF SUSTAINABLE AGRICULTURE PRODUCER COMPANIES (SECOND PHASE 2020 - 2022)**

Under this programme on Nurturing of Sustainable Agriculture Producer Companies, a group of four Producer Companies namely, Kurinji in Natham block of Dindigul district, Mullai in Reddiarchatram block of Dindigul district, Seeds in Chethpet block of Thiruvannamalai district and Pudupalayam Producer Company in Pudupalayam block of Thiruvannamalai district are being supported by NABARD (National Bank for Agriculture and Rural Development) from March 2020 for a period of two years. Activities planned under this programme are, capacity building of BoDs and CEOs, strengthening of business activities, digitalization of the data of the Producer Companies and statutory compliances.