PADDY

SAVE OUR RICE CAMPAIGN

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From the Campaign desk

Rice ecology to seed heritage – The journey from Kumbalangi to Odisha

Save our Rice campaign, a pan-India campaign to protect rice culture and farmers' wisdom, began its journey from Kumbalangi, Kochi, Kerala in 2004. This was the 2nd International Year of Rice, and Food and Agriculture Organisation (FAO) in that year came out with a slogan 'Rice is Life'. Yes, Rice is Life to millions of farmers, farm workers and also to consumers in Asia. But is this connection intact or fraying? This question was raised by many in the first Indian Workshop on Rice organised by Thanal at Kumbalangi.

The Green Revolution and paddy development programmes run by the state machinery had brought paddy cultivation into a critical state by then. Decreasing productivity, general fatigue of the scientific establishments , un-viability of paddy cultivation, over exploitation of ground water, all had resulted in farmers losing interest in paddy as a crop. But the government kept pushing for more paddy production since the current paradigm espouses that food security of the nation depends on paddy (and wheat) productivity alone. This is the underlying principle in India – farmers have to sacrifice for the nation!

During the workshop in Kumbalangi various experiences of sustainable paddy production from various states were discussed. This gave us the conviction and strength that sustainable paddy production is possible to produce sufficient rice. You do not need tons of chemical fertilizers and pesticides, HYV seeds and heavy machinery for increasing productivity. We realized that there is a lot to be learnt from traditional farmers' wisdom and based on that we have to do trials to identify what will suit the current situation : climate, soil, land use and labour. We needed to understand the science and philosophy of land and seed better. It required resources, participatory research with farmers, scientific analysis of the changes and support from consumers. We began our exploration and work in different states to re connect all these and re-create rice ecology!

In 2010 the Planning Commission revealed its plans to unveil Green Revolution in Eastern India, with hybrid rice as the foundation. All the eastern states, Bihar, Bengal, Orissa, Chhattisgarh, Jharkhand , Assam and Eastern Uttar Pradesh are covered under this programme. The Central government has pumped enormous amounts of money to these states in the last two years. Organisations working on sustainable agriculture, organic farming , biodiversity conservation, traditional seeds etc in the eastern states were alarmed by this action of the government. They organized discussions with the state authorities and expressed their concerns, but government has paid little heed. While the Green Revolution in Eastern India gets all the support from the government, there is another slow revolution or evolution happening in the south; supported by farmers, women SHGs , various organizations , and even students , without any significant support from the government . Hundreds of native seeds have been collected and conserved and multiplied and distributed by them. Farmers who have adopted it tell us that these are the seeds of hope. Our heritage!

We wanted to share this hope with people and the governments in the eastern states. So when it was time to organize a second Indian workshop on Rice there was only one choice- Odisha in Eastern India, the birth place of rice and the centre of rice diversity.

This issue of PADDY is about the second Indian Workshop on Rice . We thank all organizations , seed savers and farmers ,the experts and, the Minister for Agriculture of Odisha, Director of Agriculture Department of Odisha and others who made this workshop meaningful. We profusely thank Living Farms, who run the Save our Rice campaign in Orissa, for hosting this workshop.

From the PADDY desk

SECOND INDIAN WORKSHOP ON RICE – 7th & 8th September 2012
Bhubaneswar, Odisha

Photo : Thanal

This issue of PADDY will cover the proceedings of the Second Indian Workshop on Rice which was conducted on 7th and 8th September, 2012 in Odisha. The workshop was organised by the Save Our Rice campaign and was attended by all the campaign partners in India, numerous farmers, seed savers, seed breeders, scientists, environmentalists, policy makers, teachers, students, bureaucrats and voluntary and community–based organisations from 10 states.

The gathering was welcomed by Debjeet Sarangi of Living Farms, Odisha and Sridhar Radhakrishnan, Deputy National co–ordinator, Save Our Rice (SOR) Campaign set the context; he briefly described the Save Our Rice Campaign and its activities. He also explained the importance of having the 2nd Indian workshop on rice in Odisha in the context of 2nd Green Revolution which has already been initiated in the eastern states of India. The conference was organised around four central themes of: **Living, evolving seeds, The science of seeds, Land is food and life and Green revolution in Eastern India.**

Each of the themes were explored in depth by the experts who participated and the conference resulted in a resolution to support and promote paddy eco–systems in a sustainable manner to provide food security, protect seed sovereignty and ensure farmer livelihood protection.

Sri. Debiprasad Mishra, Honourable Minister of Agriculture, Odisha inaugurated the workshop and informed the gathering that the Govt. of Odisha has a plan to conserve its native rice varieties which number about 900. He raised the question of how the productivity of native varieties can be doubled to sustain livelihood of farmers and food security of the state. He added that the capabilities of native varieties have to be harnessed to mitigate the effects of climate change and global warming. He assured that the govt. will undertake attempts to ensure sustainable and responsible agriculture and sufficient nutrition for the state.

Dr. Debal Deb, Basudha, Odisha delivered the keynote address on the topic '*our rice, our food security*'. According to him, agriculture today faces a number of challenges such as longer droughts, frequent floods, longer and hotter summers, colder and shorter winters, increased salinity of coastal farmlands etc. He spoke about the necessity to have adaptive resilience in seeds. He said that there are a number of varieties which have tolerance to drought, flood, salinity, submergence etc. Rather than spending billions to develop resistant genes we have to explore and identify resistant varieties which already exist in the gene pool.

He pointed out that *Oryza sativa* var. *indica* was domesticated about 14,000 years ago and 110,000 landraces are estimated to have existed in India until the advent of the Green Revolution. NBPGR has documented 65,000 landraces that existed until 1970. Less than 7000 varieties exist today, on farm. The diversity among native varieties were identified and developed by unknown, illiterate farmer–scientists over the centuries. Thousands of native varieties were lost in the name of agriculture modernisation and development. Studies have shown that a plethora of folk rice varieties have inherent OSMOTIC STRESS TOLERANCE–an indication of built–in insurance among native varieties. 85% of genes stored in gene banks are not viable and the viability of seeds will not last over 35 years even in cold storage of –20°C. Therefore, instead of saving varieties in gene banks they need to be conserved on farms.

Despite, over 60 years of rice research during the course of the first green revolution, not a stable modern variety has been developed for substantial yield improvements in upland, rain fed, low land or farms with saline soils. The contribution of green

revolution seeds to yield increase in Asia does not exceed 17%, crop area expansion, irrigation and intensification made the largest contribution.

Hybrid rice is not a magic bullet to solve all the problems of food security and it is not preferred in summer as it is susceptible to blast. All the green revolution varieties need extensive irrigation and


Photo : Thanal

declining productivity of modern rice in irrigated rice systems in India is being observed.

Erosion of crop diversity has forced our government to import many food commodities. Restoration of on-farm biodiversity, agro forestry, multi-cropping, use of legumes and green manures, varietal mixture and local selection, associating crops and animals are the solutions for ensuring food and nutritional security.

Dr. Nammalvar, scientist and organic farmer, who gave the Chairperson address, began his talk by raising a question: how are we going to survive in future in the context of important threats we are facing, such as global warming and lack of resource persons to advice policy makers. The country lacks a clear agriculture policy since the last 60 years. He emphasised the need for human and farmer-welfare centred production rather than market centred production.

Though the country has enough grains in our godowns, the country imports edible oils and other food commodities and becomes a beggar in case of food. He emphasized that agriculture is 'harvesting sunlight, recycling waste and feeding bacteria that help plants to grow better'. He commented, pointing to the current construction boom, buildings are the burial grounds of biodiversity and the world.

The proceedings were transcribed by Leneesh K, Priyanka M, Dileep Kumar A. D. and edited for PADDY by Dileep Kumar & Sreedevi lakshmi Kutty.

Living Evolving Seeds

Seeds evolve through centuries of careful selection and improvement by farmers. In this session, seed breeders and savers from seven states shared their experiences and activities undertaken by them to conserve indigenous rice varieties.

Sri. Karikaalan, Thiruvaroor, Tamilnadu: He was a drama artist who became a farmer and is conserving 7 traditional varieties. He got the inspiration of moving into traditional farming from Nammalvar; Jayaraman gave him a plot and he started farming with traditional varieties without using chemical fertilizers and pesticides. According to him, the local rice varieties flourish without chemical inputs. Also fewer weeds are observed in traditional rice varieties. He has the variety named Kattuyanam which grows to eight feet and his neighbouring farmers, he explained with delight, have not seen such varieties in the last 30 years. Though, the area experiences shortage of farm workers Sri. Karikalan gets labour as the workers prefer to work on his land than the neighbouring fields (that use chemicals).

Sri Leneesh, Wayanad, Kerala: Conserves around 100 indigenous rice varieties in Wayanad, as part of the Save Our Rice campaign in Kerala. These rice varieties were collected from various parts of Kerala, but a good number are from Wayanad District. As part of the SOR campaign a net work of traditional paddy farmers has also been formed to share knowledge and experiences in farm management along with traditional and organic farming practices.

Sri. Dadaji Ramaji Khobragade, Maharashtra: is a farmer breeder who has revolutionised paddy farming by developing the highly successful variety of paddy – HMT– that gives better yield than other varieties and has become a household name. Khobragade began

Sri. Jayaraman, CREATE, Save Our Rice Campaign, Tamil Nadu: CREATE maintains a local seed bank and conserves 63 varieties of seeds including saline and drought resistant varieties. The seed bank has been established to help the farmers to ensure the availability – collection, conservation, purification and distribution– of seeds. Calamities like drought and flood have been a regular occurrence in the last 14 years in the delta region of Kaveri, drought and flood resistant varieties which they conserved are very helpful to combat these types of calamities. They have trained farmers on seed purification, conservation and organic farming methods. During every May they conduct a paddy festival and supply seeds to farmers on the condition that they return double the quantity. Till now, they have given seeds to 16000 farmers for conservation and 13000 farmers are in direct contact with them. In the last season, 62% of the farmers have given back four kilograms of seeds each for further distribution.

experimental breeding of a new variety of rice several years back. He began his experiments with the conventional rice variety 'Patel 3'. After five years of experiments and research, he succeeded in developing one in 1989, which is now known as HMT rice. However, the name of the variety –HMT– happened quite by accident. While people took their bumper paddy harvest from the seeds given by Khobragade for sale in the market yard, the authorities asked for the name of the variety. One of Khobragade's companions suggested the name HMT, the brand of wrist watch he was wearing at the time, and the farmer innocently accepted it.

He started his conservation programme in 1991 and now conserves 43 traditional rice varieties. He has won several awards, including the Rashtrapati award, state government's Krishi Bhushan award and the award given by National Innovative Foundation for his contribution in the field of agriculture.

Sri. Narayanan, West Bengal: He started organic farming in 1996, until then he used chemical fertilizers and pesticides along with HYVs in his farm. He conserves scented and folk varieties in his field and has a total of 65 varieties. Now he also conserves low land and upland varieties. He has a variety named Lalkameri (scented variety) which is very tasty and can be grown under different climatic conditions. He practices multiple cropping system and follows the double transplanting method[1].

Sri. Srinivasamoorthy–Mysore: conserves 200 varieties and is constantly searching for peculiar rice varieties like scented, medicinal and rice varieties with better yields among traditional varieties. Initially he conducted a demonstration programme with 30 varieties and farmers were allowed to visit the farm. His demo plots have proven that traditional varieties have more characteristics than hybrid varieties.

Sri. Shamal Chakravarthi & Smt. Chandana, Atgorah, West Bengal: He moved to organic farming 15 years back and grows rice as the main crop along with vegetables. He observed that yields were decreasing among the farmers who have been using chemical fertilizers and pesticides. He has been conserving 20 traditional paddy varieties including a salt tolerant variety and some vegetables since the last 15 years. He collected paddy seeds from Dr. Debal Deb and would like to also cultivate medicinal rices. As part of a conservation programme he has established seed centres among farmers and one in his own house.

Sri. Natbar Sarangi, Odisha: conserves 365 traditional rice varieties through organic cultivation and began this work 15 years back. He does not use vermicompost but retains the straw in the field for 3 to 4 months and it produces earthworms. He maintains a seed bank and conserves black rice, drought tolerant varieties (20), varieties that can withstand water logging (30–40), and 20 scented rice varieties among others. According to him, usually pests were not observed in indigenous varieties and if pest attack occurs, it can be controlled by applying cow urine, neem oil, etc. Along with conserving the varieties, he has been distributing seeds to farmers and encouraging them to take up local varieties and organic farming. According to him the major challenge for the conservation activity is that government agencies are giving HYV seeds, chemical fertilizers and pesticides to farmers free of cost, thereby attracting farmers, which has resulted in neglecting traditional varieties and practices.

Sri. Srinivasamoorthy from Mysore – SOR, Karnataka: He explained that through SOR in Karnataka they could move many farmers from hybrid rice varieties into traditional varieties without using agrochemicals. As part of the programme, they supply seeds to farmers for multiplication and also could market 100 quintals of organic paddy during 2011. As part of the seed mapping programme they maintain germplasm of 200 rice varieties and conserve a total of 360 rice varieties. Various government departments, NGOs, other institutions have became a part of their on–farm conservation programme. As of October 2011 they have estimated that the network includes 2180 farmers who conserve between them a total of 200 paddy varieties. They also conserve six farmer bred varieties. They maintain 19 rice diversity blocks spread across nine districts in which they conserve 150 varieties. They also conserve deep water rice varieties. Now they have also initiated the paperwork on IPR protection for some important rice varieties like Rajamudi.

Sri. Loknath, Rayagada, Odisha: is a tenant farmer who attended the Rice Congress as a representative of 1200 farmers from his region. He conserves varieties of crops suited for both hilly area and plains. He grows around 25 varieties of crops to take care of his family and follows multi–cropping. Agrochemicals are not used in the farm. He conserves three varieties each of rice, corn, legumes, two varieties of millet, etc. he grows these crops on leased land. He said that local varieties have the capabilities to withstand any climate change. If he uses hybrid varieties they will not be able to withstand climate change and then he cannot save his family from hunger. He painfully recounted that the village extension officer in his region often laughs at him for his practices of mixed cropping.

Smt. Sabarmathee, Sambhav, Odisha: described the conservation activities in her farm '*Sambhav*'. Smt.Sabarmatee, along with several farmers has been engaged in conserving rice and pulse varieties. She said that farmers are interested in conserving the varieties. Yield is not only the factor that attracted