PADDY
SAVE OUR RICE CAMPAIGN
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THE COUP OF THE KURUVA

As a Malayalee growing up in Pune, I missed out on learning to read and write Malayalam. And also, on eating and enjoying the traditional red rices of Kerala. The white polished rice reigned over my diet for almost 40 years, until a health setback pushed me to start eating the Chembas and the Kuruvas. Today, I not only enjoy these rices, but advocate it to friends and family, a bit too fervently, sometimes irritating them no end!

That these traditional rice varieties are more nutritious is an established fact. Growing various varieties of rice (for that matter, any crop) is also smart. It ensures bio-diversity and helps us diversify out the risks associated with any one type of rice. But our State policy of centralization and homogenization has destroyed diversity, successfully transforming a nation of rice eaters into the diabetes capital of the world. Goodbye hunger, hello diabetes!

Like any persistent State policy ably aided by technology, this one too has had its unintended consequences. The white polished rice has become the opium of the masses. Our memories of traditional rice varieties or other healthy grains (millets) have faded almost completely. Led by trends of modern living of instant gratification, growing aspirations and shrinking budgets, we are addicted to the white polished rice. And good old traditional rices now enjoyed only by the few are now relegated to being second class citizens by the State and its people alike.

To me, these traditional rice varieties are about not only health, but also heritage. There is thus a need to reclaim their erstwhile status in our lives, both personal and social. This reclamation needs a coup of sorts.

To begin with, we need to understand the consumer, for it is only with her support that we can sustain the popularity of these rice varieties over the long term. The consumer behaviour, shaped today by modern media and driven by cost and convenience, needs to change. Awareness, affordability and accessibility (AAA) is the model to be followed. While making her aware and countering the influence of popular media are important, our efforts need to be backed up by viable alternatives offering these traditional rices at affordable rates at easily accessible locations. Hunting for these rice varieties at some remote fancy store and then paying for them through one's nose are not favorite pass-time activities of most consumers. If we need to see the magic of the Mullankazhamas, then we have to make these rices easy to get and easy on the pocket.

Social enterprises committed to the lesser known PPP (the triple bottom lines of People, Planet and Profit) are part of the solution. We need hundreds of such enterprises, engaging with farmers, consumers and traders, encouraging the growing and consuming of these rices. All working in their own local areas. Not dependent on kind donations and reluctant dole outs of the State, but self-sustaining businesses presenting an attractive value proposition to those who are able and willing to give up on the white polished rice.

While these social businesses work on the ground, there is need to organize at a higher level as well. Rally all our friends, funds and forces for this cause. Form a council (say, TRIPCO - Traditional Rices of India Promotion Council), led by prominent citizens from the fields of health, food, agriculture, civil society, business and government, with the single aim to promote traditional rices of India. Let farmers, consumers, traders, and other businesses engaged with these rices unite to speak with one voice. The NDDB (National Dairy Development Board) and the NECC (National Egg Coordination Council) are examples to explore.

No, not another organization destined to be defunct. But one funded well to speak loudly and clearly to the consumers lost in the din of mindless and heartless consumption. The State needs to be nudged to initiate corrective policies; the farmers supported and trained to grow these rices; the social businesses funded to popularize them.

Let us then work to witness this coup in our lifetimes. A war this is not, but a fight against diabetes, a struggle for bio-diversity, and a movement to reclaim our long-lost heritage, this is. A fight worth fighting, indeed. A coup of the Kuruva taking over our taste buds, one no less important than preserving Malayalam on our tongues.

Ramesh Chandran is the Founder-Director of Anantha working towards promoting sustainability by building social enterprises and developing local entrepreneurs. Ramesh has corporate business experience over two decades across three continents.

RED RICE MARKETING – THE STORY FROM KARNATAKA

Where are the buyers?

Mr. Sadashivu, a farmer from Kottagarahalli, Magadi taluk, was busy since morning arranging for the milling of his paddy. Later, with the help of his wife Meenakshi, he cleaned and graded the rice. They separated the small broken rice and packed the rice into 1 kg packets and tried to write the name of the rice - Salem sanna- and the price, in English, using a sketch pen, on the packets.

The very next day he caught the early morning bus to Bangalore, to participate in the organic festival organized by Sahaja Samrudha. He was worried whether the 20kgs of rice packets he carried will find buyers or he would be forced to bring them back. In his mind he was rehearsing what he would tell the customers about the rice variety that he grew organically.

It took him three hours and changing three buses (all the while carrying the 20 kgs of rice) to reach Bangalore. He did not even stop to have breakfast and rushed to the venue. There he was given a table to display his rice. He opened the sack, took out the packets and found to his dismay that the writing on most of the packets was partially erased. He was a little upset with his wife for hastily packing the packets into the sack before the writing dried on the labels. He was worried that his effort in growing the paddy, processing and packing will be negated by the messy packets. He tried to clean the writing using a wet cloth. He sought the help of a volunteer to write the name and price of the rice on a piece of paper and placed it over the rice packets. He placed stones on the corners of the paper to prevent it from being blown away by the wind.

People began trickling in slowly and the meeting officially began. Consumers were listening to him speak about the rice characteristics but were not buying the rice; he had managed to sell only two packets. He felt that maybe the price was high and he should reduce it. Then he dropped the idea as that would have resulted in losses for him. During lunch time some people gathered again to listen and a few among them picked the rice. By evening he was left with just two kilograms of unsold rice. Krishna Prasad, Director, Sahaja Samrudha promised him that he will buy the remaining rice and not to worry about taking it back. He also told Sadashivu to bring about 30kgs of rice for the next month's meeting. Sadashivu went home happy having sold all his rice and at a better price. The year before, he had to sell his organically grown Salem sanna rice, in the regular market, for a nominal price.

This happened in 2003. It all began with farmers like Sadashivu selling 10, 20, 30 kilograms of rice in 2003, from there the marketing of traditional red rice varieties has come a long way in Karnataka. The quantity of rice sold through the Save our Rice Campaign in Karnataka in 2013 crossed 100 tonnes. However, we realize that even this is a drop in the ocean of rice marketing in the state.

Seed saving to rice marketing!

Sahaja Samrudha[1] began its seed conservation activities in 2003 and in 2006 began coordinating the Save Our Rice Campaign[2] in Karnataka. The initial focus, rightly so, was on getting as many seed saver farmers to conserve varieties and to multiply seeds, season after season. At some point the realization dawned on us that seed conservation as an end in itself with no economic support and/or demand for the rice was not sustainable in the long run.

That's when we (the Campaign team) decided that these traditional varieties, which were being diligently conserved by farmers, should have a market and committed consumers who buy and eat it season after season.

Thus began the saga of marketing of traditional rice varieties. On one hand, it is difficult to change the taste and mentality of the urban consumers, on the other; farmers are reluctant to grow traditional rice varieties unless a good market price is assured. Traditional rice varieties are usually large in size and are normally not white in colour. However, many of these rare varieties are still being cultivated in remote villages for their excellent taste, special characteristics, performance (drought resistance, disease resistance, and salt-tolerance), health benefits and cooking qualities.

We tapped into this understanding about traditional rice varieties and gathered indigenous knowledge associated with traditional rice varieties and began highlighting these special qualities. We also undertook the process of laboratory based analysis of local varieties to assess their nutritional and other values. Even though we had gathered a lot of local wisdom about the qualities of the traditional rice varieties, we were astonished with the results of the laboratory reports.

The reports established that these varieties have greater nutritional content and properties beneficial to health compared to popular polished rice varieties available in the market. We put out these results through our posters, leaflets, and articles. The media coverage and rice melas helped spread this information which influenced many people to move to traditional rice.

Rice Melas bring in new rice lovers!

We came up with the idea of conducting regular rice melas in different regions of the state to create awareness among consumers about the

LAB ANALYSIS OF TRADITIONAL RICE VARIETIES

Red Rice

Sl no	Variety name	Moisture %	Protein %	Fat %	Total ash %	Carbohydrates %	Crude fibre %	Calcium %	Phosphorous %	Iron (mg) %	Energy /kcal/100g
1	Doddabayranellu	13.40	7.04	2.18	1.10	76.28	1.07	0.20	0.23	0.8	352.9
2	Navara	9.89	8.12	2.14	1.67	78.18	1.05	0.42	0.48	1.2	364.46
3	Jolaga	13.05	6.98	2.51	1.32	76.14	1.15	0.23	0.30	0.4	355.07
4	Karikalave	12.16	5.30	0.29	0.49	81.76	0.76	0.30	0.39	0.7	350.85
5	Bilinellu	12.29	7.00	1.35	0.59	78.77	0.91	0.11	0.12	0.1	355.23
6	Karuvai kalanji	10.33	8.92	1.97	1.44	77.34	0.82	0.41	0.43	1.1	362.77
7	Karijaddu	10.65	7.92	1.77	1.45	78.21	1.19	0.08	0.38	0.9	360.45
8	Mahanavami	11.13	7.78	1.88	1.30	77.91	1.17	0.07	0.29	0.9	359.68

Daily Rice

Sl no	Variety name	Moisture %	Protein %	Fat %	Total ash %	Carbohydrates %	Crude fibre %	Calcium %	Phosphorous %	Iron (mg) %	Energy /kcal/100g
1	Rajamudi	12.49	7.80	2.10	1.40	76.15	0.83	0.24	0.27	0.6	354.94
2	Rajabhaga	12.50	7.99	2.32	1.20	75.84	0.81	0.20	0.39	0.5	356.02
3	Ratnachudi	12.18	7.56	0.69	1.25	78.32	0.84	0.21	0.30	0.1	349.73
5	Selam Sanna	12.18	7.35	0.83	0.78	78.86	0.89	0.18	0.17	0.5	352.31
6	NMS-2	10.00	6.34	0.98	1.20	81.48	0.67	0.28	0.27	0.8	360.01
7	Ambemohar	12.24	6.47	1.00	1.45	78.84	0.97	0.29	0.31	0.8	350.24
8	Kagisali	9.65	6.67	1.89	0.95	80.84	0.66	0.26	0.24	0.6	367.05
9	Ankura Sona	9.11	5.86	0.15	0.29	84.59	0.16	0.10	0.09	0.2	363.15

health benefits of consuming these traditional varieties (which were the staple of their forefathers). We also wanted to expose people to the unique and distinctive characteristics of these rices and also facilitate the interaction between farmers and consumers at the mela. The melas were designed to provide tasting sessions of cooked rice, displays of rice, and colourful posters with interesting information about rice varieties and products with paddy rice.

Rice for daily consumption, rice for dosa and idli, rice for pulav and biryani, diabetic rice, healthy red rice, payasam rice, and medicinal rice were introduced to the people gradually. Delicious recipes were prepared using these traditional rice varieties; they were attractively displayed and were offered for tasting during melas. We also came across many consumers who were already educated, by doctors or nutritionists, about the beneficial qualities of these varieties.

We organized (and continue to organize) numerous melas in Bangalore and other cities in Karnataka and other metros of India. Each mela has a distinctive theme for example, the organic mela, the desi (indigenous) rice mela, the red rice mela, the biodiversity mela and the safe food mela. The themes pique the curiosity of the public and supported by media coverage brings in foot falls.

On an average each Mela has been attracting about four-five thousand consumers, rice buyers and /or visitors. In addition the print media, both in English and Kannada, has helped tremendously by covering the Melas, doing interesting stories on the rice varieties, benefits of red rice and organic rice, farmers and seed saving efforts. The media coverage has helped in creating significant awareness among the public.

Almost every Mela has seen sales worth three-four lakh rupees and in 2013, in terms of quantity, annual sale of traditional rice varieties crossed 100 tonnes. However, this is only a beginning as the consumption of traditional rice varieties is only a very small fraction compared to the total consumption of rice in the state.

A challenging journey

The journey of popularizing traditional red rice varieties and reviving the culture of growing, processing, selling and eating traditional rice

varieties has been fraught with challenges. One of the major problems is the lack of working capital to procure the paddy on time from farmers. Rice millers initially refused to process small volumes of rare rice varieties. Even with the millers who were willing to do it contamination during the milling process was unavoidable. Even today we are forced to discard the first many kilos of rice. On the processing front the other problem was the unavailability, in south India, of processing units that can deal with long fine grain rice.

Since the scale of growing the rare rice varieties was (and is relatively) small, marketing this small quantity and creating demand has resulted in a chicken and egg situation. By the time we create demand we would run out of rice and when the rice arrived the next season, the consumers would have moved on and we would be forced to create fresh demand. This was partly because the farmers did not dare to grow more without an assured market, and partly because most of us have forgotten the seasonality of food. Also the other issue that we constantly battle with is the short shelf life of unpolished traditional rice. We incur losses if the rice remains unsold. Consumers are unhappy when the rice gets infested with bugs and we struggle to make them understand that because no chemicals are used and presence of bran makes it attractive for the bugs. All they need to do is to dry the rice periodically in the sun, however, "hyper-convenience" many a time triumphs over taste and health.

Climate change is also making things difficult; the percentage of recovery of rice is reducing due to erratic weather conditions and poor rain. For example there is the problem of choppy rice and broken rice both of which happen due to lack of rains or rains at the wrong time . The lack of a common pricing policy is still a big issue. Growers and buyers are fixing their own prices and margins. The minimum support price set by the Government is nowhere near being a viable price for farmers. In addition the government procurement machinery doesn't recognize the properties or unique characteristics of traditional rice varieties. As of now traditional rice growers depend on the market to sell their rice.

Conclusion

We have come a long way facing all these challenges, learning out of past experiences and finding suitable solutions for the situations today. We are giving the best possible price to our farmers and selling at a reasonable price to our consumers. With the support from the Campaign, NABARD and Deshpande Foundation, Sahaja Samrudha has created a first of its kind exclusive brand to market traditional rice. The brand is called 'Namma Anna'. Apart from rice and value added rice products, innovatively designed paddy jewellery have been introduced to the market in collaboration with Jungle Jewels. This traditional rice marketing initiative is gaining recognition and is being replicated by various groups in other states as well. Our desire is to increase the acres under traditional, climate friendly, healthy rice varieties and to reintroduce traditional rice into more homes.

Seema Prasad

Seema is the State Coordinator for the Save Our Rice campaign in Karnataka

Edited and adapted for PADDY by Sreedevi

(Footnotes)

[1] Sahaja Samrudha, an organic farmers' collective began a decade ago as a farmer initiated group to exchange ideas, seeds and share knowledge on sustainable agriculture Sahaja Samrudha works at a grassroots level with small and marginal farmers, women groups and seed savers. The organization has a certified group of 750 farmers and 15 farmers groups, primarily engaged in the promotion of organic farming.

[2] The Save Our Rice Campaign is a pan-Asian people's movement with the objective to protect traditional rice cultures and knowledge across Asia. In India the Campaign is spread across five rice growing states namely Kerala, Karnataka, Tamilnadu, Orissa and West Bengal. Sahaja Samrudha leads the movement in Karnataka.

"If golden rice is the best that all the wealth and expertise the biotechnology industry can bring to this issue, it doesn't bode well for the industry's case for being the protector of the poor. As Dr. Richard Horton, editor of the British science journal The Lancet, says, "Seeking a technological food fix for world hunger may be....the most commercially malevolent wild goose chase of the new century. " "

Chapter 5- Who owns rice? from Uncertain Peril- Genetic Engineering and the Future of Seeds - Claire Hope Cummings

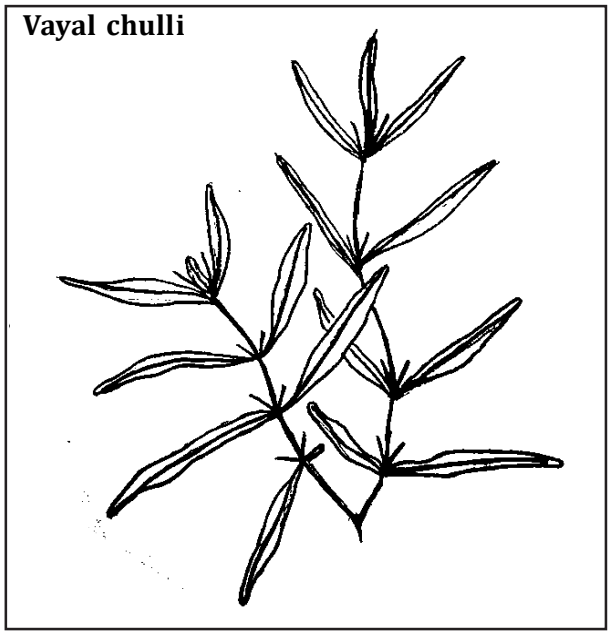
UNCULTIVATED GREENS IN A WETLAND PADDY ECOSYSTEM

Priyanka

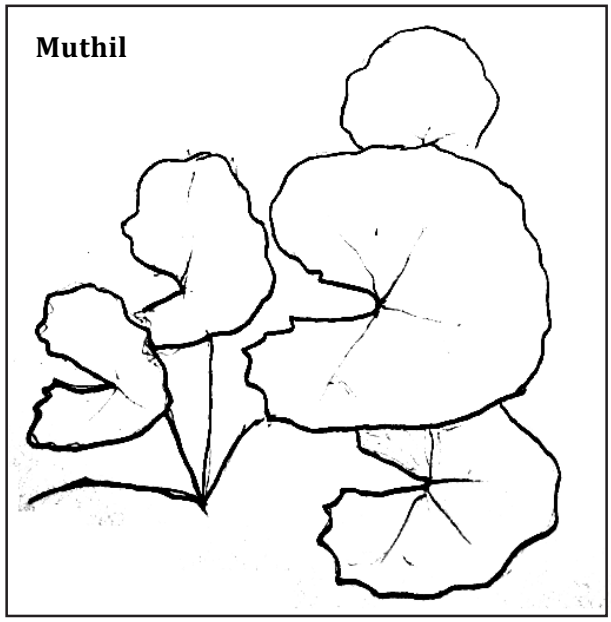
The paddy field is a wetland ecosystem, which is not only an agricultural land but also a biodiversity rich area. Different species of medicinal plants, snails, birds, butterflies, moths, dragonflies, damselflies, frogs, and fishes present in the paddy fields are interdependent and also depend on the wetland. This mutual interaction and interdependence is beneficial to human beings as well. Each species has its own role to maintain a sustainable ecosystem. In the paddy field each species has a specific role for example, snails release calcium in the soil; dragonflies are great predators, etc. Similarly there are also many plants that flourish along with paddy, which we ignore. We normally calculate the benefit of paddy cultivation by calculating only the yield of paddy and straw and ignore the value of other products and processes in paddy field. However, the rampant use of herbicides and pesticides is destroying this abundance from the paddy fields.

In a study conducted by me in Wayanad, I recorded the presence of 20 species of non cultivated leafy vegetables from paddy fields. Most of them are considered as weeds. Muthil (*Centella asiatica* L.), Karuka (*Cynodon dactylon* (L.) Pers.), Vayal choori (*Ludwigia octovalvis* (Jacq.) Raven), Chakkarathumba (*Scoparia dulcis* L.) are the major edible leaves present in paddy ridges. Unuval (*Marselia quadrifolia* L.) and Karinkoovalam (*Monochoria vaginalis* Presl.) are the major edible leaves in paddy fields. These plants are the major weeds present in the fields along with rice.

Vayal chulli

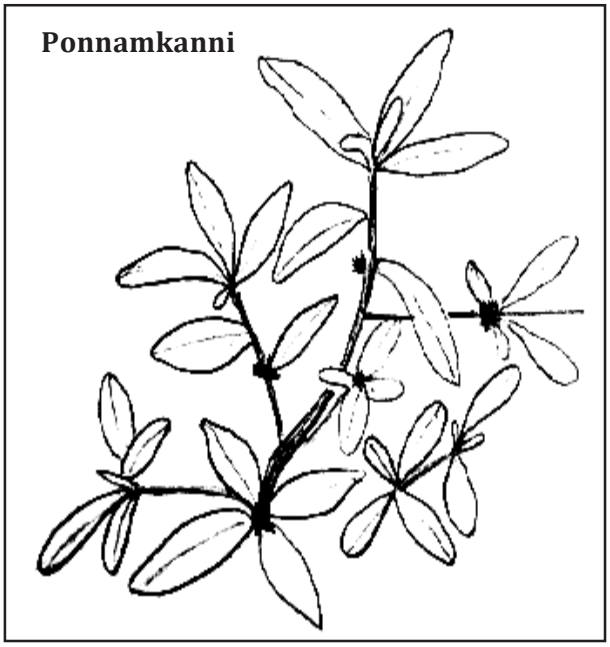


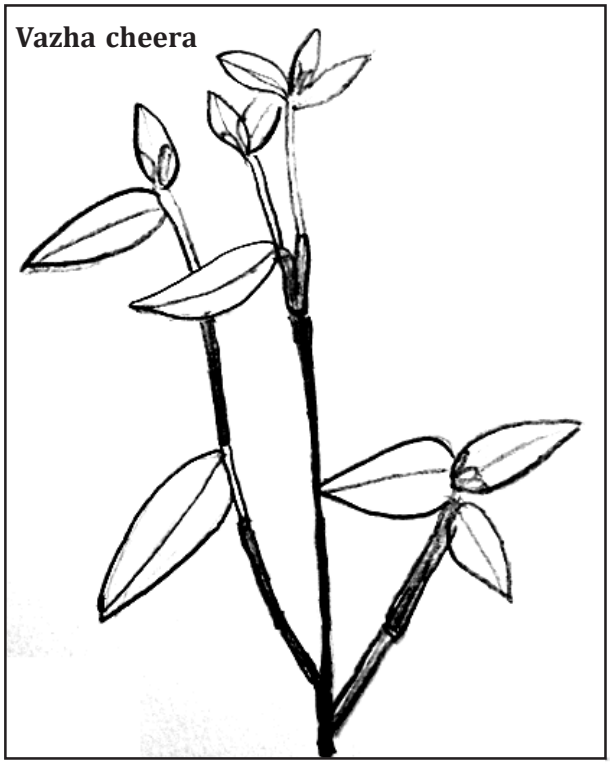
Muthil

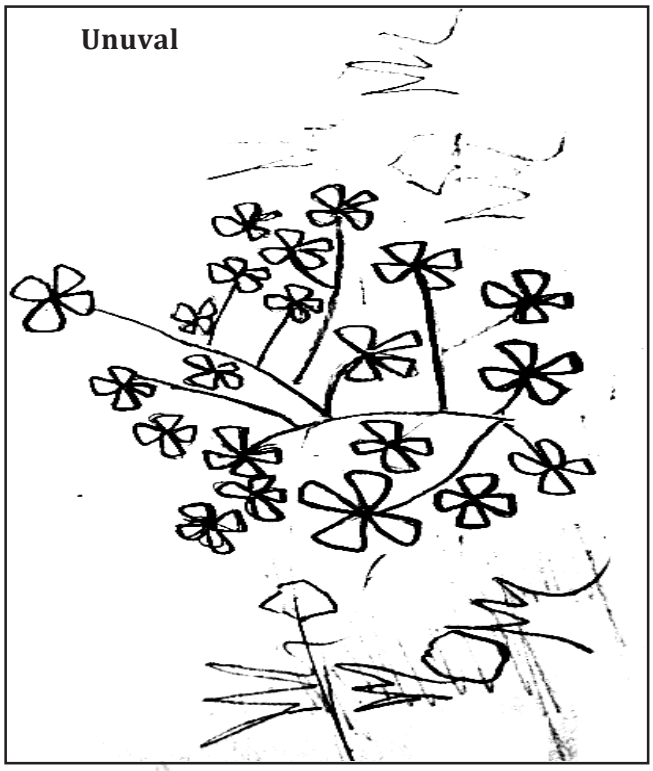


All the 20 species have their own medicinal properties along with their edible value. For example, Muthil (*Centella asiatica* L.) is an excellent medicine for brain development and memory power, Chakkarathumba (*Scoparia dulcis* L.) is used for urinary bladder stone, Kandonekuthi or Kaattappa (*Bidens biternata* (Lour.) Merr.) is used to cure abdominal pain, Muyalcheviyan (*Emilia sonchifolia* Fosberg, Ceylon J.) is a good medicine for tonsillitis, Thottarvadi (*Mimosa pudica* L.) is used to cure asthma. Among these plants, Unuval (*Marselia quadrifolia* L.) present in the wetland ecosystem is the tastiest non cultivated edible plant.

Ponnamkanni







Till a few years back, tribals in Wayanad considered these plants as an integral part of their life. Nowadays they are unable to use these plants from paddy fields because of the intensified application of herbicides and pesticides. After a few years these tasty, medicinal plants will disappear from this earth and we will not even be able to quantify the loss!

Priyanka is a researcher working on biodiversity and paddy based eco-systems issues.

COULD RICE GROWING BE THE BASIS FOR THE COOPERATIVE NATURE OF EASTERN CULTURES?

It is an accepted fact that Western societies are more individualistic while Eastern societies are more cooperative and collectivist in nature. This has intrigued researchers who have analyzed various factors to figure out why this is so. Recent research by Thomas Talhelm of the University of Virginia found that there is a strong correlation between the individualistic behavior of the West and the fact that they are predominantly wheat growing cultures and the cooperative behaviour of the Eastern societies and them being predominantly rice growing cultures.

In the pre mechanization era rice growing involved twice as much labour as wheat growing and the rice farmers had to develop cooperative mechanisms to share labour especially during the planting and harvesting seasons. They planned their crop calendars to help each other with labour and to share water. These behaviours may have become so ingrained in these cultures, ranging from rice growing societies of India to Malaysia to Japan, that they are exhibited even today, even though most people have moved away from rice cultivation.

Talhelm's research was undertaken in two parts of China, one a rice growing region and the other a wheat growing region. They interviewed 1200 people and found that their responses to assess for individualism or collectivism showed a strong correlation to whether the respondents were from a rice growing region or a wheat growing region. If we go by the example of modernized Japan and fast modernizing Korea, Taiwan or Singapore, which are still cooperative in nature, it seems like this is ingrained in these societies.

You are what you eat- Or rather what you grow to eat. The Economist, May 10, 2014. http://www.economist.com/news/science-and-technology/21601812-or-rather-what-you-grow-eat-you-are-what-you-eat.

THE LANDLESS DAIRY FARMER OF KOLE

S Raju, S Unnikrishnan

Walking through the bund road from Kodannur to Manakkodi in Kole Wetlands [1] we (Unnichettan and I) were watching birds as part of the routine surverys of the study on birds in paddy fields. There were a large mixed group of egrets, cormorants and storks. The process of draining the water from the fields was taking place in preparation for the next season . It was a pleasant January evening with a clear sky. A group of cows and buffalows were grazing on the remaining vegetation on the bund road. The man herding them was curiously watching us with a friendly attitude. He walked towards us and started talking, enquiring about us and our study and sharing his worries, concerns and snippets about his life. He said his name was Kumaran and was 60 years Old, but looked much younger. For the last 30 years he has been herding cattle - the only job he knows. He lived with his family in a nearby village about 3 kms away. His only son was working in a private company in Dubai.

He described his typical day to us: His job starts early in the morning at 3 o' clock with cleaning the barn, the cows and milking them. After that he distributes the milk to the nearby houses and small tea shops. This gets completed by 8 o' clock. He reaches the bund roads of Kole by 9 AM to graze his cows. The cows graze on the vegetation on the bund roads until noon. He returns home with the cows, has his food, tends to the cows, milks them, repeats the distribution cycle and is back again on the bund road with the cows for their evening grazing. He has lived this routine for the last 30 years. Without a piece of land, depending only on the bund road grazing, he has managed to make a living with his cows. He managed to build his own house, educate his son and take care of his family. Along with selling milk, he also rears buffalo calves for sale, which he said was more profitable than the milk business.

Bund roads are the only grazing ground for his cows and buffaloes. He told us that now almost all the bund roads are tarred connecting the small villages in and around the Kole wetlands. In addition, it has become a regular practice to burn the vegetation and due to labour shortage the farmers are also using herbicides extensively. When farming activities reach their peak, whatever remaining vegetation is cleared for ease of transportation. As each year passes the grass and edible plants are becoming scarce.

There are many hundreds or thousands of people like him who earn their livelihood from cattle rearing, fishing, poultry (duck), vegetable farming etc in these types of wetlands. Therefore, it is of utmost importance to conserve the bund roads and the vegetation on the edges and fringes of the paddy fields. In turn the cattle/birds etc fertilize the paddy lands. Any type of developmental activities and threats, conservation issues related to wetlands will directly affect these people. And the saddest part is that they are not visible, accounted for, and heard in the decision making process. At this rate of change, along with many life forms, these people and occupations and the symbiotic eco-systems will also become extinct.

(Footnotes)

[1] *It is a unique wetlands lying in Thrissur District in Kerala, India. It gives 40 per cent of the Kerala's rice requirement and acts as a natural drainage system for Thrissur city and Thrissur District. The Kole Wetlands is one of the largest, highly productive and threatened wetlands in Kerala and has been declared as a Ramsar site in the Convention for Protection of Wetlands. It comes in the Central Asian Flyway of migratory birds. (adapted from Wikipedia)*

Roughly 40 years back rice farmers in Asia (97% of rice is grown in Asia) were asked to shift from direct sowing to transplanting. This shift brought in new instruments that could be sold along with a tractor, also required a lot of labour for transplanting the seedlings. But scientists encouraged this saying transplanting increases yield. In late 1980s, International Rice Research Institute in a study said that there is no difference in yield whether you directly sow or transplant. But scientists/policy makers kept quiet. Now with the water table going down drastically because of water mining through transplanting of paddy, farmers are again being told to shift to direct sowing. Punjab has fixed a target of bringing 2 lakh hectares under direct sowing this year. Interestingly, this shifting of sowing methodology back and forth is technological development !!

Devinder Sharma

"STAIRWAYS TO HEAVEN"

The Honghe Hani Rice Terraces in Southern Yunan, China , is a beautiful and magnificent cultural and ecological landscape , spread across over 16,000 hectares. These rice terraces are found on the slopes of the majestic Ailao mountains in China. In some places there are almost 3000 terraces from the forest at the mountain top to the valley below. The terraces are called the stairway to heaven because of its height which sometimes goes upto 2000 metres above sea level.

The Hani people have developed this integrated, sophisticated system over the last 1300 years, carving out the terraces from the thick jungles . The system involves the forests, rivers, homes and intricate terraces that house the paddy fields. Each family has a few terraces and it is sustained through what is called the 'Man-God Unity social system'.

The paddy fields that grow red rice are fed by a complex set of canals from the mountain top forests and are part of an integrated system comprised of snails, fishes, ducks, pigs and buffaloes. About 450 kilometers of canals that water the terraces are maintained collectively by the villagers. The young paddy plants are fertilized

Are paddy fields carbon sinks? – Yes, say scientists from CRRI, Cuttack

In the last IPCC report paddy fields were identified as a major culprit adding to the green house gases (GHG) tally. Paddy fields emit methane, a GHG which is capable of trapping heat at 21 times the rate of carbon., making paddy a major climate villain among the various staple crops. The IPCC estimated that paddy fields account for almost 11 percent of the human induced methane emissions. However, recent research by a team at the Central Rice Research Institute (CRRI) at Cuttack questions this calculation. Using a technique, popularly used by climate scientists around the world, eddy covariance (EC) , the team has determined that paddy fields are actually net carbon sinks (i.e store carbon instead of releasing it into the atmosphere). According to the team of scientists, "a hectare of lowland ecosystem has the potential to store as much as 910 kg of carbon during the wet season while in the dry season, it can hold up to 590 kg." If this is established this could be a major contribution from the Indian agricultural science community towards fixing climate change accountability. Sometime back, Indian scientists had established that methane emissions from rice paddy fields are much less than earlier estimated, leading to revised calculations of emissions.

In addition they state that normally low lying paddy fields are found in the coastal areas and these flooded fields act as perfect water harvesting structures, recharging the ground water and preventing the intrusion of saline water in these lands. However, other scientists have criticised the study on the point that the team has only calculated the net carbon mass balance rather than calculating the GHG balance. Also that carbon sequestration in the paddy ecosystem is a finite process and can't go on infinitely. Also the paper does not discuss the issue of methane.

Rice fields as carbon sinks, Down to Earth, July 15, 2014. http://www.downtoearth.org.in/content/rice-fields-carbon-sinks & Rice is not guilty, The telegraph, April 28, 2014. http://www.telegraphindia.com/1140428/jsp/knowhow/story_18284795.jsp#.U3MHXfmSw1M]

by ducks, the mature plants are fed chicken and pig manure and the buffaloes plough the fields for planting and the snails eat the pests.

The farmers who are part of this beautiful eco system live in 82 villages above the terraced paddy fields. Each village has between 50 to 100 households who live in mud walled houses with conical thatch roofs. The four tier system (forest, water, terraces, and houses) are fairly self sufficient with the families depending on the forests for timber, firewood and food and the terraces for their paddy and cash income. The forests are also home to the village god "Angma" (the soul of the village) and for "Misong", the land protection god.

The terraces have proven to be highly resilient and able to withstand climate change and it was proven during a devastating drought in 2005. However, they are prone to landslides. Livelihoods are supported through the sale of red rice. As of now adverse impacts from tourism are not evident but if unchecked tourism could prove to be a challenge for this finely balanced eco system.

The Honghe Hani rice terraces have been declared as a UNESCO heritage site and are protected under the Chinese law as well.

Adapted from the UNESCO website: http://whc.unesco.org/en/list/1111. Some magnificent photographs of the terraces can be viewed at this link http://whc.unesco.org/en/list/1111/gallery/ here: http://www.dailymail.co.uk/news/article-2276624/Dont-fooled-painting-Incredible-views-rice-terraces-look-like-stairway-heaven.html and here: http://www.chinadaily.com.cn/life/2013-06/26/content_16664894.htm

ASIAN FARMERS' CONFERENCE ON GOLDEN RICE

Masipag[1] in Philippines organized a pan Asian conference on Golden Rice from April 27- 30 , 2014. The conference was in the backdrop of field trials of Golden Rice undertaken in Philippines and the plans to introduce Golden rice in many Asian countries. The conference brought together rice farmers and people working on indigenous rice, health professionals and others to understand the implications of Golden rice and the Philippines experience with field trials, the issue of Vitamin A deficiency (VAD) and who owns Golden rice.

The two day conference had a series of expert speakers from various fields. Dr. Debal Deb, rice breeder and conservationist, from India, spoke about the potential impact of Golden rice on rice biodiversity. Dr. Chito Medina the convener of Masipag talked about the history of introduction of Golden rice in Philippines. Martin Frid and Michiyo Koketsu of Consumers Union Japan spoke about how Japanese consumers are extremely concerned about GMOs in their food. Sarojeni Rengam of PAN AP informed the gathering that the transnational corporations that promote pesticides have been promoting GM crops including Golden rice. Dr. Gene Nisperos, a public health professional, pointed out that the availability of and access to Vitamin A was not enough to solve VAD, assimilation requires sufficient quantity of zinc and body fats.

An interesting fact that was pointed out was that South Asia has many commonly eaten vegetables and fruits that can provide enough Vitamin A. Papaya, drumstick (moringa), sweet potato, red amaranth leaves and many other edible crops are excellent sources of Vitamin A. We need to promote these fruits, vegetables and greens in the villages and in kitchen gardens.

The meeting pointed out that Golden rice is an expensive distraction from investing time, money and efforts into real, simple and easy to implement and locally appropriate solutions for VAD. Despite the claims of the biotechnology industry that Golden rice is ready, IRRI has recently announced that Golden rice is only in the trial stage after the gene was introduced into the Indica lines of rice. The gene was first genetically engineered into the japonica rice lines. The agronomical performance and nutritional efficacy of the Golden rice in Indica lines have still not been established.

Two members from the Save Our Rice campaign team. Jayaraman, the state coordinator of the Campaign in Tamil Nadu and Sreedevi, Consultant to the Campaign, attended the conference in Quezon City, Philippines.

(Footnotes)

[1] MASIPAG is a farmer-led network of people's organizations, NGOs and scientists working towards the sustainable use and management of biodiversity through farmers' control of genetic and biological resources, agricultural production and associated knowledge.

ADIRENGAM PADDY SEED FESTIVAL - 2014

The annual seed festival organized by the Save Our Rice (SOR) campaign was held at Adirengham, Tamilnadu on May 30 & 31, 2014. This seed festival has become an important fixture in the farmers' calendar, with farmers from far and wide attending it. The festival was attended by all the SOR team members and many prominent people .[1]

This was the first seed festival after the demise of Dr. Nammalwar , our beloved Ayya, in December 2013. He had constantly inspired us in this journey and a remembrance meeting was held on the 30th May. On the second day i.e. May 31, Mr.Devinder Sharma presided over the meeting and the Tiruvarur District Collector Mr.C.Natarajan I.A.S was also present.

The farmers from different districts of Tamil Nadu attended the festival and many of them shared their experiences of using traditional seeds. 3929 people participated in the festival, out of these 3814 farmers collected paddy seeds from the SOR collection. 137 varieties of traditional paddy seeds were made available for distribution.

It was my first experience of the seed festival. I was very impressed by the seed conservation work and seed distribution done by Shri R. Jayaraman , the SOR state co-ordinator of Tamilnadu. Also the efforts made by his team to organize this function, which was attended by almost 4000 people, was really remarkable.

Now he is popularly known as Nel Jayaraman, in recognition of his efforts in paddy seed conservation. The success of the seed festival is a recognition for the Campaign which is nearing its 10th year. For me personally, it was a great opportunity to be part of the festival and the rice campaign.

Manju is the Administrative Officer supporting the Campaign Secretariat .

(Footnotes)

[1] CREATE Chairman Mr. P.Duraisingham CREATE Managing Trustee Mr.R.Ponnambalam, Shri.Sridhar.R, Deputy National Co-ordinator of SoR Campaign, government officials from Tiruvarur,office bearers and team members from other NGOs and social activitists from all over Tamil Nadu and organic farmers from various Districts of Tamil Nadu participated in the festival.

ORGANIC RICE MARKETING – PERSPECTIVE FROM ORGANIC BAZAAR , THANAL, TRIVANDRUM

The Organic bazaar run by Thanal in Trivandrum partners with the Save Our Rice Campaign in Kerala to market traditional rice varieties. Since the last few years the Campaign has been working on reviving traditional rice varieties and in the last three years the focus has also encompassed marketing and popularizing traditional rice among consumers. The Campaign conserves 208 varieties in its trial farm in Wayanad of which 140 varieties belong to Kerala and 68 varieties are from other regions. On the rice marketing end, 10 farmers regularly supply around 12 varieties of traditional rices to the Bazaar. These include *Mullankazhama, Gandhakasala, Thondi, Thavalakannan, Kuruva, Urunikazhama, Karutha navara, Palthondi, Mappilaisamba, Chenellu, Virippu and Kalladiyaryan*.

In this context to understand the challenges of marketing traditional organic rice PADDY spoke with Sangeetha and Usha. Below are excerpts from the conversation:

Kerala has the comparative advantage that the tradition of eating red rice has continued despite the huge influx of polished white rice (which has been adopted in the last decade or two due to the ease of cooking and before that purchased by a large number of people through the public distribution system due to the very low prices). Therefore, the problem of reintroducing red rice is not as severe as in the neighbouring

states. Yet, many of the younger people have moved away to white rice and the efforts of the Save Our Rice campaign and the organic bazaar have been directed at introducing red rice to the younger population.

In a way it seems strange that we have to market rice in Kerala , where the staple food is rice. However, the reality is that today people pick up a single variety of rice for regular use and a Basmati for special occasions. Most people have forgotten the numerous varieties they have eaten as children or were grown by their grandparents or even parents. Another problem with red rice is that it takes longer to cook. Having said that, increasingly, people are aware of the health consequences of white rice and many would like to move to the healthier option of red rice. However, busy lives and schedules keep them shackled to the habit of white rice.

We found that most people do not have the patience or time to research the variety and figure out what to do. So they may buy it if we give them information on how to use the variety. The other serious problem we discovered is the erosion of the "cooking culture" in many of the younger households and the resultant preference for ready to eat foods.

Initially when the Bazaar began stocking rice, we found that the tendency of the regular customers was to try one or more of the traditional varieties in small quantities. We realized that this was a slow process and we needed to attract more customers , more quickly to these varieties. That was the time we began to organize Melas in the city (thiruvananthapuram) . We found that the Melas, which also received media coverage, brought in many new people who checked out the traditional varieties and a few were willing to buy them. We have also introduced different kinds of rice flour that are widely used by keralites for preparing dishes like Puttu, Appam, Idiyappam and Ada. The media stories about the speciality of the rice, their unique properties have helped bring in people , also rice preparations have generated interest in the varieties.

The ideas which are under consideration are: a speciality rice mela featuring delicacies made with the different kinds of traditional rices, a recipe book in Malayalam and cooking demos. The team believes that getting hotels in Kerala to introduce these rice varieties will also be rewarding as many people will be willing to try foods they have tasted outside home.

In conversation with Usha and Sangeetha

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