

PADDY

SAVE OUR RICE CAMPAIGN
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PADDY FIELDS – MARRYING ECOLOGY AND ECONOMICS!

This is the migratory season for birds. They fly over oceans and mountains and deserts to reach destinations that will offer them food and shelter for few months. In their home land it is winter time. These winged animals have been in this journey for thousands of years and south Indian paddy fields, wetlands and the surrounding landscape has always welcomed them, including farmers and bird enthusiasts. Their numbers (both variety and population) are increasing in the last so many years according to bird watchers.

Not only these birds, but our own local bird population depends on paddy ecosystem for their survival. Traditional farmers were aware of it and they had methods to engage these winged friends, without it affecting the yield. Many of these birds are friends of farmers. They feed on insects that are harmful to the crop and thus help check pests. They also contribute to fertility of the soil. But the introduction of chemicals into the fields has impacted this subtle relationship between birds, farmers and soil. The complete destruction of insects, butterflies, fish, crabs, frogs and other biodiversity in the fields through the use of pesticides is impacting the birds as well. Their survival is threatened. While focusing just on paddy productivity we have lost sight of this rich biodiversity and the impact of our actions on it. This has also impacted the sustainability of the paddy ecosystem, leading to ever more increasing use of chemicals for maintaining crop production.

We have failed to view agricultural landscapes as bio-diverse ecosystems. There are very few studies showing the inter-connectedness of ecological systems and their links to economic sustainability. While lots of money is spent on conserving biodiversity in protected areas like national parks and sanctuaries, there is hardly any focus on conservation of biodiversity in the cultivated landscapes like paddy-wetland ecosystems.

A small attempt is being made by the Save our Rice campaign in Kerala and Tamil Nadu to understand this critical issue. We think that it is important for the long term survival of farmers as well as biodiversity. The fields of organic paddy farmers in the network demonstrate that there is great potential for an approach where both farmers and biodiversity benefit. This can be achieved by changing certain practices and processes so that both the ecology and economics of agricultural systems are sustained.

A healthy ecosystem will take care of food security of both humans and other animals. But we need data to prove our point and to convince policy makers, economists and politicians. Can we start documenting this in our own areas? Can we bring out the ecosystem value of our cultivated paddy fields and thus help farmers too? Can we support farmers for undertaking such conservation work for the larger good of all?

In this PADDY the main article is based on research about birds in paddy ecosystems conducted in Kerala.

PADDY team

BIRDS IN RICE PADDY ECO-SYSTEM

Raju Kavil

Translated and adapted from Malayalam to English for PADDY by Usha S

Paddy is one of the most important grains in the developing world. It is cultivated in at least 114 countries, in an area of 156 million hectares. Half of the world population is dependent on paddy rice for their food. Hence there is an economic system developed based on paddy rice and there is a unique art and culture based on rice. Rice is thus connected to our lives intricately.

Rice culture has led to the formation of a unique ecosystem, which is dynamic due to the changes in the cultivation methods and the micro climate. Paddy lands, bunds along the field, the cultivable land lying close to the paddy fields, hedges, small streams, microbial population, fauna and flora together forms this ecosystem. It can be called the paddy ecosystem. Birds, reptiles, mammals etc are all visitors in this ecosystem. The relationship among all these components contributes to the sustainability of the paddy ecosystem.

Birds and paddy culture

Among the different kinds of animals that depend on the paddy ecosystem, birds are the most important group. Most of the paddy fields around the world are wetlands. This attracts a lot of water birds into the paddies. Apart from this paddy fields attract many birds which stay in the nearby garden lands, grass lands, scrub jungles etc.

Birds depend on paddy fields not only for their food but also for breeding at various stages. In order to protect itself from other animals birds depend on the paddy fields. Paddy fields are a good place for the birds to stay covered and undetected. Not only the paddy lands, but the nearby upland farms and the wild areas are all visited by birds. There are birds which depend on such up-land areas for breeding, but depend on paddy fields for food. There is this interconnectedness between paddy land and the surrounding landscape. Similarly birds are connected to other life forms in the paddy fields like fishes, reptiles, insects, butterflies, microbial flora and fauna etc.

World over birds are considered as indicators of environmental change. Birds control hundreds of cycles such as water cycle,

food cycle and nutrition cycle. They indicate the health and the quality of our environment and respond quickly to environmental changes. They also have an important role in our food web. Minor changes among flora and fauna in the lower reaches is reflected in the habits and breeding patterns of birds. Therefore, studying birds consistently and over a period of time is important, particularly, in a fast changing ecosystem such as paddy.

When we start observing birds in the paddy ecosystem it can be seen that different kinds of birds come to paddy fields during different stages of growth. It is interesting to watch birds move their position along with the plough from one end of the field to other side along the furrows. During planting time when there is standing water in the fields certain types of birds come, whereas during harvest another set of birds visit the fields. During fallow periods yet another set of birds visit. Thus it varies between different cropping stages and seasons, the number of birds also varies. Traditional



Group of Northern Pintail from Kole

farmers had an understanding about when birds come, what they do etc. They treated birds as friends and part of their farming system.

Birds and pesticides

Modern farming methods using a lot of chemicals have impacted birds significantly. Most of the chemicals used in agriculture are toxic and hence poisonous. When farmers use pesticides, it will not stop acting with the target pests alone. These chemicals impact all exposed living organisms including soil organisms. When soil organisms die, other creatures that depend on them also die and their number reduce gradually. This indirectly impacts the birds. If pesticides are applied in the field during the breeding cycle of birds they do not get enough food to feed the chicks. Their prey gets killed by pesticides. Usually breeding only happens when there is enough food/prey around. With loss of food, breeding is declining among birds.

They are also directly impacted, for instance, they get poisoned through contaminated water and soil. Birds consume granular pesticides thinking that they are grains. Seeds coated with pesticides also are eaten by birds. Sometimes the birds die suddenly, sometimes the impact is slow. It depends on the kind of pesticide, season of application, exposure time, amount of pesticide that gets in to their system, and the general health of the birds.

Some of the commonly observed problems among birds that are exposed to pesticides are: egg shell thinning, deformities in the egg, slow growth of the chicks, Lack of care of chicks during breeding time, Loss of immunity, Loss of capability to protect itself from other animals, Loss of thermal regulation in the body, reproductive disorders and hormone system disorders and inability to navigate and find directions during migration.

In India large amount of pesticides of different kinds are used in paddy fields. From a study in South India it was found out that 45 different kinds of pesticides are used in paddy cultivation. This would definitely be impacting the birds, but there aren't enough studies to show the relationship between decline of certain



Group of Painted Storks from Kole

birds and pesticides. The studies that have been conducted on birds in the paddy fields is limited to twice-yearly census. This census taking does not bring out all the inter-linkages between birds and paddy eco-system. The changes to birds and biodiversity in the rapidly changing paddy eco-systems have not been studied sufficiently by researchers or farmers.

There are a few good studies done and below mentioned are a few important studies.

- In 1991 Wildlife and National Parks Department of Malaysia did a study in the paddy fields and found out 158 species of birds that are dependent on paddy ecosystem. Some of these were migrants.

- In 1998 in another study found out a lot of birds which are dependent on paddy grains like munias and sparrows

- In the year 2000 Sundar and Subramanian did a study on the birds in the paddy ecosystem in India and found 351 varieties of birds in the paddy eco-system. Out of this 34 varieties were breeding in the paddy fields.

- In 2010, in Europe, Lee Geiger did a study comparing chemical and organic paddy fields in six European countries where paddy is grown. He found out that organic paddy fields have more diversity of birds than chemical paddy fields.

In addition to pesticides, weedicides also contribute to loss of food /prey of birds. Many insects depend on weeds for their breeding. Birds also feed directly on seeds of weeds. So when weeds are removed by using weedicides birds lose their food. For example, studies in England have shown that due to the use of

weedicides the grey partridge faces extinction. Another example from England is of linnets becoming rare due to the continued use of weedicides. Their main food was the seeds of some weed plants. When weedicides are applied birds also lose their breeding spaces. Some birds breed on the hedge plants in the field and nearby wild weedy places which get removed by weedicides.

Ecological importance of birds

1. Insectivorous birds like warblers are extremely important as they help us to control pests. One single warbler eats a minimum of 1500 insects in a single day.
2. Birds like flower peckers and sunbirds act as pollinators.
3. Seed dispersion is an important activity undertaken by birds.
4. Scavengers like crows and vultures help us cleaning up the environment
5. Raptors and owls are excellent predators. They are helpful to farmers in controlling rats and problematic insects.
6. Excreta of birds is good manure

Experience from Padetti, Palakkad, Kerala

The Kerala State Biodiversity Board had a project in Padetti village in Palakkad District, from 2008 to 2011, called the Agrobiodiversity Restoration Programme, to look at the impact of organic farming on biodiversity. The project area included 100 acres of paddy fields and 300 acres of garden land and some forest patch and 69 farming families were part of this project. While the project was implemented with the help of Thanal, a policy and research group, the Board also did a biodiversity monitoring through various agencies. Along with this a continuous monitoring of birds was undertaken



Indian Pond Heron(paddy bird)

both in the organic field and a nearby conventional field. The study brought out a good picture of bird diversity and the importance of paddy cultivation to birds and vice versa.

145 species of birds, belonging to 50 families, were identified. Out of this 21 were migratory birds and 46 were water birds. Some endangered species were also identified. Out of the 39 species that breed in this ecosystem, 21 species were found to depend on paddy fields during their breeding period.

In the organic paddy fields 55 species of birds were found while in the chemical paddy fields only 39 species were seen. The count of birds in the two fields were also different. On an average daily 230 birds were counted in the organic fields, while in the chemical field it was only 143.

One of the important observations was that of the 145 species of birds, 52 were found feeding on insects. Obviously this means these birds help in insect control in the fields. 33 species are carnivores like owls, kites egrets etc which shows that paddy lands contain a lot of biodiversity that can take care of all these birds. Six species observed are dependent on fishes.

Nineteen specialist bird species were also observed which needs special attention because these could be especially impacted by the modern farming methods and landscape changes. In this context, one observation by the Salim Ali centre for Ornithology and Natural History (SACON) is interesting. When the project began in Padayetti nests of baya weavers were absent in the area (this used to be a very common sight in Palakkad in the coconut trees along the paddy bunds). By the third year of the project the researchers and farmers noticed the appearance of baya weaver nests in the coconut trees along the bunds. Farmers were very happy to see them again in their village, and motivated many farmers to change their practices.

When the surveys of 2009 and 2011 were compared, we could find some changes in the abundance of certain bird species. The abundance rate of Indian peafowl and white-browed bulbul has increased. There was also slight increase in the abundance rate of certain other species such as red-vented bulbul, common tailorbird, jungle crow etc. To get a



Paddy field- Kanyakumari

more reasonable picture of the species diversity of the area regular, continuous monitoring has to be done for a longer period. As factors like subjectivity, number of field hours, survey time, changes in agricultural pattern, soil and climate and changes in forest management can influence the bird activity of the area, there is need for multi-variate analysis.

Conclusion

We cannot find a single piece of land or sky in this earth without birds. From the Arctic to Antarctica, from the tropical evergreens to deserts, from rivers to sea, from rural to urban areas we can see birds. There are around 10,000

species of birds seen on earth. Out of these more than 5000 species are recorded from the agricultural areas, i.e. more than 50%! Therefore, along with conserving forest and other protected areas the wetlands and agricultural areas should also get priority for conservation as most of them are under the risk of destruction due to extensive human interference.

Paddy lands cannot replace wetlands, however, when wetlands are destroyed or filled up many birds start depending on paddy fields for their survival. We need paddy fields for our food security, but these birds are also dependent on them for their survival. The question we should examine is how to co-exist and develop? In this context organic / ecological paddy cultivation gains more importance. Also it is not a one way relationship; the birds are integral to the health of the eco-system. When birds survive, it will support the paddies and us. It will also contribute to sustaining biodiversity.

Paddy is not just food, it is life.

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RICE BUFFET

The Centre for Indian Knowledge Systems (CIKS), based in Chennai has taken up a project to research and document the nutritional and therapeutic uses of traditional rice varieties. They finished the pilot of the project as part of which they found many useful properties in popular traditional varieties. The traditionally recommended use of these varieties is in line with what modern research is identifying in terms of its properties. For instance Neelan Samba was found to be rich in calcium and traditionally this rice has been recommended for lactating mothers. Similarly many other properties have been discovered. In addition it has been established that the glycemic index of most of the traditional varieties is low, which is a very promising finding.

The CIKS began this research from scanning of technical literature about rice varieties, folklore, oral knowledge and other sources. The scientists involved in the research have one request to the governments, to promote traditional varieties of rices.

Read the full article : Rice Buffet, Hema Vijay. The Week. Oct 4, 2014. http://week.manoramaonline.com/cgi-bin/MMOnline.dll/portal/ep/theWeekContent.do?programId=10350699&contentId=17700275&BV_ID=@@@&channelId=1073908026

THROUGH KARNATAKA IN SEARCH OF RICE SEEDS, FOOD AND FARMERS

Sreedevi Lakshmi Kutty

We began our journey, Usha from Trivandrum and me joining her in Coimbatore, on the 19th of October with a detailed itinerary provided by Seema of Save Our Rice campaign, Karnataka. The first stop in the journey was appropriately enough at Seema and Krishna Prasad's house, in Mysore, where we arrived at lunch time to be served the delicious Rajamudi rice, the famed rice that has derived its name because of its popularity with the erstwhile kings of Mysore. Later while visiting the local outlet of Sahaja Samrudha, in Mysore we saw the display of various traditional rices from different parts of Karnataka, tempting us. However we restrained ourselves and were amply rewarded during the rest of our travels: picking up various traditional rices from different farmers, tasting our way through delicious rice preparations of different regions, all made from traditional rices, watching paddy fields with different hues of greens and having intense conversations on rice enriched our journey.

It was a paddy rice feast, a journey that began to meet rice farmers and seed savers also turned into a feast for the senses, convincing us more than ever that rice conservation can happen only if and when traditional rices are appreciated by rice-eaters for healthful properties, taste and tradition!

Early the next morning we started from Mysore, after some last minute problems that resulted in a change of driver, towards a small town, Kirugavulu, mandya District, 50 kms from the elegant Mysore city, which is where Syed Ghani Khan (called Ghani) farms his 18 acres of land, conserves around 800 varieties of paddy and takes care of 140 mango trees inherited from the times of Tipu Sultan. When we landed there, behind schedule, we found a bunch of high school children enthusiastically wading through the slush and mud of the paddy fields. These children along with their two enthusiastic teachers from a local school in Mysore have been visiting Ghani's farm as part of a project to do one season of paddy farming. From varied backgrounds the youngsters seemed to enjoy the slush, mud and infected with Ghani's enthusiasm.

Curator of a live museum- Syed Ghani Khan

Ghani like young people of his age was pursuing his education in archeology and aspired to become a curator of a museum. That is when his father suffered a health crisis and Ghani was forced to take care of his farm along with his education. In 1996, with his father's death he took over completely and somewhere along the way he also gave up the opportunity to work abroad. To begin with, he continued the practice of chemical based farming, adept with sprays and formulations, but an incident in 2000 when he suffered headaches, post spraying in his farm, set him thinking about the use of chemicals. At the same time he came in contact with Sahaja Samrudha and became exposed to their organic practices and seed conservation activities. He moved to organic farming in half an acre to begin with.

At that time he came across a small quantity of seeds (in fact Ghani carefully mentioned that it was 40 seeds) and grew out



Ghani growing out the rare varieties in a cement ring to demarcate each variety

that paddy variety a couple of times. When they consumed the rice his family loved it. They had no idea what the variety was and continued growing it and even wondered whether this was a new farmer bred variety. That is when he met a farmer from North Karnataka, who identified the variety as Ratna choodi. Thus his interest in traditional varieties grew.

Slowly he got involved with the Sahaja seed conservation program and began conserving various traditional rice varieties from 2001 onwards. Every first Sunday of the month a few interested farmers began meeting to exchange seeds and discuss organic practices. Ghani used to sell his vegetable seeds in this meeting to make a small income. He also slowly started building up his rice seed trove. In 2010, he had 250 varieties, in 2013, 700 and 800 varieties in 2014. To our question what motivates him to carry out this arduous task of conserving 800 varieties, Ghani said: *if we conserve these varieties it will come in handy for climate change, pest control, productivity, and it will also allow us to create data to identify which are the best varieties for our conditions.*

By a quirk of fate the young man who aspired to be a museum curator has achieved his ambition, his farm is a live museum where he curates traditional paddy seeds, his inherited mango orchard is another museum of rare and ancient trees, which he is nurturing and coaxing to longevity. In addition, under the Save Our Rice initiative he has also started a small rice museum in a part of his house, where 100s of paddy varieties are displayed and more rice related artifacts are being artistically put together with the help of his family members.

Mango orchards from Tipu

Ghani is also the proud inheritor of a mango orchard that has existed from the times of Tipu Sultan. The orchard now has 116 mango trees, varieties of various hues and flavours stand cheek by jowl with paddy fields. According to lore Tipu Sultan who was a great fruit lover collected mango varieties from various regions and planted orchards. The groves were then handed over to local soldiers in his army to be taken care of. One of Ghani's fore-fathers, incidentally whose name Ghani carries was one of the people who were bestowed with an orchard which has come down to Ghani over the generations.

While being shown around the paddy seed diversity blocks, the patches creatively delineated with a rare paddy variety with red leaves, thereby forming a natural visible boundary to demarcate the different varieties, and the little cement rings within which the rarest varieties (varieties for which Ghani had less than a handful of seeds) were being grown out, we walked around observing the paddy growing amidst the majestic trunks and branches of the mango trees reputed to be over 200 years old.

Next on the agenda was a simple lunch of vegetable biriyani made from an assortment of rices, a result of Ghani's large variety of paddies.



Ghani's paddy seed conservation plots demarcated by purple coloured paddy plants

By the time we reached the small grove to partake of the lunch in large leaves, the teens had hungrily wolfed down their lunch (what a difference from young people who are normally supposed to be fussy over food) post their morning exertions.

Lunch and post lunch session was enlivened by conversations with seed saver farmers who had come from nearby: Rechanna and Srinivas. Each of them had an inspiring story leaving us humbled with their commitment to traditional rices and their struggle to keep it going.

From Kirigavulu we drove to Sivalli Taluk, in Mandya District, to the home, museum, and the farm of Bore Gowda, the farmer who released Siddha Sanna variety.

Since it was getting dark by the time we reached Bore Gowda's village, where we were directed to his home by the villagers, we walked around the beautiful rice museum he has created on the top floor of his family home. With a large wall mural depicting the village, farming and farming activities forming a colourful backdrop, the museum has rices and millets seeds displayed on tables and hanging from the ceiling.



Then we walked across to his new-old home, a beautiful traditional structure with pillars around a central courtyard with a small attic, Seema (who knows Bore Gowda and family since many years) was pleasantly surprised with the new addition to the family, a new born who arrived just a few weeks before our visit.

The family insisted on serving us dinner, which began with what is called kashayam (a concoction made with milk and assorted herbs, which are mixed and stored). After that we were served ragi mudde (ragi is finger millet, ragi mudde is cooked ragi flour balls) with sambar. This was followed by Siddha Sanna rice. Earlier in our conversation with Bore Gowda he told us about how he found a particular distinctive variety of rice in his field, selected, cultivated and refined it further and this led to the farmer bred variety, now popularly known as Siddha Sanna. He named it after his father Siddhappa and mother Sannamma. Currently, this fine rice variety, easy to cook, tasty, is the flavour among many traditional rice farmers. They find it high yielding and it has a ready market.

An interesting thing we observed in his

house was the cattle shed which was positioned in the main house with a door from outside, just behind the main bedroom; obviously the cows are an integral part of the family. This was quite a surprise for me; I always thought that cow sheds were never part of the main house.

After settling down at the famous Adi Chinchigiri mutt guest house for the night, we set out the next morning towards Shimoga through Tiptur, Kadur and Bhadravati. Seema left us to go back to Mysore and Shanta Kumar (who was formerly the state coordinator of SOR Karnataka and now in-charge of the organic village project, for the villages allocated to Sahaja Samruddha, under the Organic Village project of the Karnataka State government). Satish, the veteran driver who came to ferry us through the rest of the journey, turned out to be not only an expert driver but also a stubborn time keeper, herding us from one meeting to another and making it possible not to be insanely behind schedule.

TUNGA & BHADRA

As this was my first trip through interior Karnataka I was fascinated by the fields we passed and the vegetation. Tiptur, a major coconut exporting district offered us un-interrupted views of coconut trees, for both of us from the Kerala, the land of coconuts this was a familiar sight. The other feature we noticed was the new crop of modern India - Engineering colleges. Then we crossed Arsikere, a dry, dusty town and to Kadur through roads lined with beautiful lantana plants with multi-hued flowers. (I was thinking about my meeting in Mysore with Murali and his project of creating handicrafts made with Lantana). As we drove along, the dry areas began to give way to lush paddy and sugar cane fields as we approached Bhadravathi, on the banks of the river Bhadra. River Bhadra meets the River Tunga, together to form the Tungabhadra. Bhadravathi is famous for its paper mills. Incidentally, two days later we came near the Varada river, one of the tributaries of the bountiful Tungabhadra river which meanders through much of Karnataka.

Jyoti Prakash, a seed saver paddy farmer, was waiting for us with his full family (wife and two children) along with other seed savers of the area and a sumptuous lunch. We walked through his verdant green paddy fields where he showed us his three and half acres with Siddha Sanna, Karigalu Sanna and HMT, looking



The traditional rice delights served at lunch at Jyoti Prakash's farm : Puliogarahe made of Siddha Sanna rice, Sambar Budhi made from the Karigajavalli, pappadam made from Siddha Sanna rice , curd rice made chittika rice and payasam made from Karigajavalli rice.

green and healthy. By then lunch was being served, this was the most sumptuous lunch during our whole journey bringing home to us the tastes of rice varieties, the delicious dishes that can be prepared and the inextricable link between rice farmers and rice eaters. Rice conservers need rice lovers and vice versa.

However, without this breed of desi rice seed savers and indefatigable rice farmers, none of us who are experimenting and falling in love with desi rice varieties would have had the opportunity to do so. But these farmer- seed savers need the rice lovers to keep conserving varieties. This understanding has been dawning on us since sometime and that is the primary reason why the SOR campaign, which originated with seed saving and paddy land protection, is moving inexorably towards creating sustainable, vibrant markets for traditional rices. This was reflected in the conversations of the farmers there who were battling to hold on their rice paddies in the face of converting the lands to more lucrative arecanut groves or leasing the land for ginger cultivation (with very high usage of fungicides) for a huge remuneration.

The delicious aromas from the food

brought me out of these musings. The lunch was a collective effort each farmer gathered there brought one dish and I can't but share the menu here. It was served in leaf plates under the arecanut orchard alongside the glistening green paddies. We began with a spicy sweet rasam like drink and then moved to Puliogarahe rice made of Siddha Sanna rice, with Sambar Budhi made from the Karigajavalli (the name reminded me of a fragrant flower), with pappadam , believe it or not made from Siddha Sanna rice , curd rice made from the incomparable chittika rice, and delicious rice payasam made from Karigajavalli. Usha and I couldn't believe the amount we ate and then followed it up with buttermilk to facilitate digestion.

The conversation during lunch and post lunch went from food to health to markets. We



Jyoti Prakash's lush green organic paddy fields

heard anecdotes about Rajesh, one of the farmers in the group, who has had a speech deficiency since birth and has seen tremendous improvement after eating the medicinal njavara rice regularly. Jyoti Prakash's wife shared her experience of eating traditional varieties while carrying her second child , who she feels is in better health than her elder one. All these farmers eat the traditional rice varieties they grow, which is not the practice with conventional farmers who sell their crop in full and buy rice from the market.

Farmers expressed that they need better prices to make a comparable livelihood near a

city and economic pressures on them are tremendous with their village being so close to the city. Mallikarjun who runs an organic store in Shimoga was very vehement that the SOR campaign should have some plans to keep these paddy farmers from converting to arecanut, which is irreversible and externally damaging. He also suggested that marketing and awareness creation is required in smaller towns to grow the organic market and market for traditional rices.

After the lunch and delayed for our next appointment we were briskly ferried by Satish to the farm agriculture research institute at ...which has collected seeds from the campaign and is growing it out.

From the farm to the Organic farming research Station, Navelle in where the scientists showed us around their seed diversity block of 180 seeds, many of them procured from SOR farmers. From there to Mallikarjun's organic

shop was another short ride across the river. Located in the heart of Shimoga city, the shop is an attempt by Mallikarjun, formerly a staff of Sahaja Samruddha, along with a friend, to introduce organic food and traditional rices in a small town. It is a daunting and challenging task with people being wary of the higher prices and not being fully convinced of the merits of organic, desi etc... We bought some lovely brown Sidda Sanna rice from there.

We were running short of time and there was heavy traffic so our planned visit to Easwar's, an old associate of Sahaja Samrudha, home didn't materialize. It was disappointing, however for those of you interested in his work, the Hindu has covered his work in the following article: (<http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/popularising-the-organic-way/article6483754.ece>).

*To be continued in the next issue :
Shikaripura, here we come!*

SHGS PROCURE PADDY

As part of an innovative initiative, self help groups, known as Swashakthi groups, in Karimnagar Andhra Pradesh, have been doing paddy procurement at minimum support price from farmers on behalf of the government. This began in 2006 and as of 2014 the government expects to buy 4.75 lakh metric tonnes of paddy with the help of these groups. There are over 55,000 SHGs in the district and they are buying over 50% of the paddy produced from farmers, every season. Since the involvement of the SHGs in the procurement process, the farmers have also been able to sell their paddy without hassle and receive payments in time.

Currently over 300 buying centres are operating in the district and the SHG members are involved in all steps of the procurement process from identification of farmers, quality check, weighing and packing of produce and transportation. The groups earn about 2.5% as commission for every quintal they handle. These funds have become the seed capital for their lending activities. The group members feel that this venture has helped them showcase their competence in handling a business and earn money while supporting the farmers and helping the government.

Full article at : SHGs set to buy paddy, Oct 22, 2014. Deccan Chronicle. <http://www.deccanchronicle.com/141022/nation-current-affairs/article/shgs-set-buy-paddy>

FARMERS IN PHILIPPINES SAY NO(AGAIN) TO GOLDEN RICE

Farmers in Philippines have renewed their call to stop golden rice, the fortified GM rice producing higher levels of beta-carotene. This protest is happening a year after farmers had last year uprooted golden rice. There is deep concern among farmers in the Philippines about the introduction of golden rice both in terms of contamination of their rice heritage and its potential health impacts.

This is happening while IRRI has admitted that during field trials of the latest version of golden rice, the yields were found to be poor. Philrice the local partner in Philippines of IRRI has said that this has set back the release of golden rice by 2-3 years. However, the farmers are still concerned as there could be more open air trials which they fear will contaminate their varieties.

In the meantime there is also discussion about the retraction of the paper on human feeding trials of golden rice due to ethical lapses.

Read full story : Philippines: farmers call to stop "Golden Rice" trials, The Ecologist. September 8, 2014. http://www.theecologist.org/News/news_analysis/2546891/philippines_farmers_call_to_stop_golden_rice_trials.html

SAVING POKKALI RICE

It was water everywhere and we were being rowed on a boat to reach the coconut lined edges, as we stepped into the grassy bunds overgrown with shrubs, we could see to our amazement – golden panicles of POKKALI Paddy waving at the light wind growing on a pool of water....

POKKALI - A unique salt tolerant, flood resistant variety that is endemic to coastal taluks of Alapuzha, Ernakulum & Thrisur districts in the southern Indian state of Kerala; grown across a few hundred acres, this variety was awarded the Geographical Indication (GI) tag in 2008 as well as Plant Genome Savior Award in 2011. Pokkali rice is large grained rice with distinct flavor and commands higher price than ordinary varieties. It is cultivated without need/ use of any external inputs- fertilizers or pesticides. The rice is cultivated from June to November, followed by fish prawn culture in the same field after harvest of paddy. The prawn fishlings swim in from the sea and the backwaters after rice harvest and feed on the leftovers of the harvested crop. The rice crop further gets nutrients from the prawn excrements and other remnants, thus making rice-prawn mutually complimentary.

The prawn-fish crop is harvested by the middle of March, the outer bunds are then strengthened to prevent any seepage of saline water and by end of March -saline water is completely drained/pumped out, and by June paddy seeds are sown. After a month they are transplanted in the same field, completely

through human labor (without using cattle), further harvesting the paddy in mid Nov. The cultivation is highly dependent on the south-west monsoon and the tidal action of the Arabian Sea, the high salinity of the water-logged fields caused by high tide is washed off by the plentiful monsoon rains.

40 years ago 26,000 ha were under pokkali cultivation however today only 5000 ha is left and 500 ha cultivated; due to the high cost of paddy cultivation. This is despite the increased demand, export potential and income from prawn cultivation.

Currently saline water is let into the paddy fields before mid-Nov , resulting in intolerable levels of salinity that is not only causing the destruction of one of the highly nutritious indigenous rice traditions but also destroying the houses in and around. This is being done to facilitate the prawn industry at the cost of rice farming.

The high levels of salt is destroying the plaster, brick and cement of the homes, paint (which contains lead) dust is being inhaled by the families residing in the area on a continuous basis further resulting in asthma, liver and kidney ailments and a number of other complications. Even drinking water is no longer consumable as an acre of paddy field would recharge 3 lakh litres of sweet rainwater into the ground and with the collapse of the rice-prawn system and intensification of salinity families are forced to buy drinking water (in one of the highest rainfall regions in the country) from water tankers paying hefty sums.

Most of the landowners in the area are absentees; thus it is the common people who suffer; they have lost the ability to produce highly nutritious chemical free rice for themselves, lost employment opportunities during rice cultivation, in addition to facing the health and drinking water access problems.

In this backdrop the Pokkali Samrakshana Samara Samiti (PSSS), translating to Pokkali Conservation Agitation





Pokkali rice fields



Committee, was initiated, in 2009, under the leadership of Francis Kalathunkal, a Professor, in an Engineering College, who has been struggling to revive Pokkali rice cultivation. After numerous appeals- the Govt proposed one rice-one fish approach meaning 6 months of rice followed by 4 months of prawn/fish. However this is not being adhered to primarily due to the greed of the powerful and well entrenched prawn establishment which does not want to wait for the Nov 15 deadline of keeping saline water off the paddy fields. .

In the year 2013, PSSS initiated a unique approach to revive Pokkali rice by floating one



houses damaged by salinity

thousand rupee bonds. After harvest (in 6 months) the investments are returned through highly nutritious, organically grown Pokkali rice or in cash without interest.

Though this approach was quite successful, in 2014 the landowners, under pressure from the prawn establishment, refused to lease out lands for Pokkali rice and thus the bonds could not be floated.

Currently thousands of families in the area are affected and in spite of the efforts of the PSSS and even some support from the district administration Pokkali rice continues to be affected and destroyed.

At the time of our visit, the Pokkali Samrakshana Samara Samiti had registered an FIR to protest the release of saline water into the rice fields before the stipulated deadline resulting in complete ruin of the maturing crop.

Thanks to the Pokkali farmers, Francis Kalathunkal, Gasper Kalathunkal and all those who helped us to document this unique tradition and their struggle for its revival.

Soumik Banerjee is an independent researcher

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