



Editorial

FOOD SECURITY IS CRITICAL

Food security is in crisis. Hunger is a reality in India while food grains rot in the godowns. Ultimately the Supreme Court of India (SC) had to intervene and ask the government to give this grain free to the poor families. The response from the Planning Commission was that government can not give the rotting food to the people. How can the policy making body of the country misinterpret what the SC said about such a serious matter? On the other hand the same government is thinking of giving natural gas (for cooking) to all the BPL families free!

Can we allow food to rot in this country? How did farmers and village grain banks store grains and other food, without rotting, all these years and feed their families, neighbours and relatives? If you go to the villages, farmers will tell you how they store grains for four to five years. I remember an old farmer in a village in Karnataka proudly saying that he does not have to worry about food for the next four years. He had stored his harvest which is sufficient for the next four years. He is not a big farmer. I am sure there are hundreds of thousands of such farmers in this country. So how do they keep their food safe from rats and insects and fungus for such a long time? When you talk to them you will understand the depth of their understanding and real concern for food security.

Most of these farmers who grow and store food for their families belong to the small and marginal category (and this constitutes the majority) and they can be called sustenance farmers. It does not indicate that they do not sell their produce, but their first priority is household level food security and then that of their neighbours. Secondly they follow traditional practices of farming including conserving seeds. They have identified certain high yielding varieties from their collection of local seeds, which they cultivate for their consumption. So on an average they get around 3-4 tons of paddy (in the case of

paddy farmers) from a hectare. They also have other needs, for which special purpose varieties (in the modern language, for value added products) are cultivated in smaller quantities. So they have a clear plan for production. Most of them follow traditional processing and storage practices. These storage practices use local materials like straw, bamboo, wood, etc treated with some herbs and cow dung to prevent insect attack and fungal infestation. Hence, even during heavy rains their grains do not rot. In some villages one can also see community grain banks using bamboo and other materials which are as old as 40-50 years. Here the investment is low, but the outcome is much more productive and less wasteful and safer. When will our policy makers learn from this? Especially, to reduce wastage? How can we have a practical approach to food storage and distribution rather than saying these are all romantic and impractical?

The main stream thinking is different; it believes in mass production and modern centralized storage systems. The focus is on new technologies and infrastructure development and value addition for ensuring food security! Of course the poor have to be given 35 kg of grains so that they can continue to do the hard work and GDP can grow.

It is not to say that PDS is not needed. We have to have multiple strategies to ensure food security – which include food safety and nutritional security as well. The current PDS approach is not sufficient to ensure real food security. India is so vast with different climatic zones, cultures and food habits, any attempt to ensure food security should take these into account. This is fundamental to keep the health of our soil and people. When rice and wheat were introduced as the staple food in areas where people used to eat millets, people started losing their health. This also negatively impacted the millet production (including pulses and oil seeds). Much of the area under millet

cultivation shifted to commercial industrial or luxury crops. This has impacted the soil health directly and indirectly. Without sustaining the soil health we can not achieve food security. This is fundamental.

Conversion (forcible and otherwise) of fertile (both rain fed and irrigated) agriculture land is another issue impacting food security; both at the household level and national level. Unless this finds a place in the Food Security Bill, which is being discussed in the country, we will never achieve long term food security for the country. The Conservation of Wetlands and Paddy lands Act¹ passed by the Kerala State Assembly after a lot of debate is a right move in this direction. Usurping land from farmers in other countries is also not the solution.

Is district level planning the sensible approach to ensure food security? Many experts and officers say that district level planning is the best. This includes planning for production, storage, processing, distribution and providing livelihood in a sustainable manner. Can we have a land use policy which addresses the issues of food security and environmental security? Can we ensure decent income for our farmers, especially for food producers? Are we ready to listen to our villagers and their wisdom? Can we stop imposing our ideas and technologies on them and think of a participatory approach in planning?

Isn't it time we realize that food security is not 'their' problem but 'our' problem? Our future?

The Editors

¹ http://keralalawsect.org/acts/Act2008/act28_2008/index.html



PADDY IN THE HIMALAYAS – PEOPLE'S KNOWLEDGE IS THE WAY AHEAD

by Dr Reetu Sogani

Traditional knowledge has always played a vital role in the survival and securing of sustainable livelihoods for people in the difficult, remote areas such as the Himalayan region.

People's knowledge and wisdom, has been crucial in ensuring food security, health and cultivation of crops in this vulnerable region. It has contributed immensely to strengthening the mountain ecosystems,

which are considered the lifelines of river basins, livelihoods and economy of people, of both highland and lowlands. Moreover, their unique informal institutions and regulations ensured that interference (with nature) did not go beyond the point of natural resilience, unlike present times, when the changes happening are way (through influx of chemical farming as well as climate change) beyond the coping capacity of nature. That is also the situation with rice paddy cultivation in the Himalayan foothills.



Women transplanting paddy in the hills - courtesy BBA

PEOPLE'S KNOWLEDGE AND PADDY CULTIVATION

Rice is one of the major staple crops of the hills. In fact it is considered to have originated in the Himalayan foothills¹. Uttarakhand hills possess a rich genetic diversity of rice. In Uttarakhand alone, there were more than 3000 varieties of rice at the time of independence, mentions Sri. Vijay Jardhari, an activist leading *Beej Bachao Aandolan*².

People's immense experience and time tested knowledge over the years has helped them cultivate a wide range of paddy varieties, with different taste and aroma, varied shapes and textures, at different altitudes and climatic zones. This has been crucial for their survival in the ecologically fragile, earthquake prone Himalayas. Being high on medicinal and nutritive value, these rice varieties have also ensured people's health in these difficult remote areas.

Rice has a huge cultural significance as well. In fact, no cultural event is considered complete without the use of rice either as simple food, or a rice based delicacy, or use in rituals and as offering to gods. It would not be wrong to say that it has a particular significance in all life events –right from birth until death. Even the food people have every day, is popularly called "dal bhat" (lentils and cooked rice).

TRADITIONAL VARIETIES AND SIGNIFICANCE

The popularity of the traditional varieties goes beyond state recognised boundaries as reflected in the experience of a local woman in Uttarkashi, “*Chatyu*, a red variety of rice is one of the more popular ones and grows in more than one region in the hills. Despite the onslaught of hybrid paddy varieties *Chatyu* is still the most sought after because of its taste, medicinal property and high nutritive value. We don’t use fertilizers at all in this crop.” Since ancient times it was traded with neighbouring states like Himachal Pradesh in exchange for some other items. Locals claim that its production level hasn’t gone down through the years.



Tall traditional rice variety found in the Hills
courtesy BBA

Likewise *Basmati* cultivated in the Dehradun (Majra) region is famous for its flavour, taste and aroma. “The entire village would know when *Basmati* rice was cooked in one of the houses in the village.”

Sav Dhan, a rice variety used in some religious rituals by locals, grows in very select areas. In Vamanswal micro water shed, there is only one village which grows it and the growing families are informed in advance of the quantity required in the following season by other families (both from within and the nearby villages). Thus intra-inter village exchange of traditional varieties was a powerful medium of interdependence and linkage amongst villages.

Apart from being accessible and a source of high nutritive value, these traditional varieties are also drought resistant, can withstand hailstorms (varieties such as *Jhedu*, *Lathmar*, *Khimanand ki Ghodi*³), can tolerate long dry spells; do not require lot of water (such as *Kanguri*). Besides, *Jhedu* is not attacked by animals and birds. Being thorny, it is left alone and not touched by animals such as boars, monkeys, etc⁴.

A variety called *Jyolia* has a wonderful aroma and is one of the favourites for Kheer⁵ preparation. Both *Jyolia* and *Longia* are brown, highly nutritive varieties. *Halmundi* variety grown in Uttarkhashi area has medicinal value (effective for treating white discharge problem which ails 90% of the women in the hills). Moreover, traditional varieties are also a good source of nutritive feed for animals (for example *Ramjyan*). All the varieties exist even today though many of them are in decline and are grown in very small areas by a few families; *Ramjyan* is one variety which is not so easily available now.

ROLE OF WOMEN

Women play a crucial role in hill agriculture. It will not be an exaggeration to say that women’s contribution constitutes more than 90% of the agrarian economy in the hills. Rice cultivation also depends predominantly on women’s labour, (except for ploughing and harrowing) right from land leveling, seed bed preparation to harvest and post harvest activities.

GREEN REVOLUTION AND ITS IMPACT

The advent of cash crops in the 1970’s has resulted, to an extent, in reduced rice production through its replacement with cash crops such as cabbage, tomatoes etc, in many areas. Besides that, the replacement of cheap, accessible, environment friendly, local inputs with costly chemical based inputs such as fertilizers, and to some extent pesticides, has had dire implications for small rice growers. In addition to adversely impacting the soil fertility and land productivity, the ever increasing costs and market dependence of these inputs has made it unviable to grow paddy in many areas. This is forcing farmers, in many cases, to replace rice cultivation with some other crop or to give up farming and migrate to become labourers.

It has also led to the erosion of the rich diversity base of the hills. Rice varieties (mostly irrigated ones but also non irrigated ones) have been hardest hit. Chemical intensive agriculture, being more vulnerable to the impact of climatic variations, has further reduced people’s resilience considerably. But thankfully, chemicals haven’t affected the agricultural system of remote and rain fed areas yet.

Villagers have been experiencing changes in weather for a long time now. Rice growing communities too are getting severely impacted in the process. But it is obvious that many of them can't relate it to increasing carbon emissions, global warming etc.

With irrigation facilities highly limited and confined, dependence on rainfall is very high. With changing rainfall pattern (frequency, duration, intensity, timing), fewer snowfalls, reduced water recharge, frequent hailstorms, the probability of paddy crop failure and subsequent consequences have increased many times over.

Higher temperatures have led to early maturity of crops, like rice, in many places and has changed harvesting timings as well- e.g. harvesting time now is end of September while earlier it was mid October. In some cases, according to some of the farmers in the valley regions of Nainital district area, they have started growing three crops in a year in the place of two, thereby affecting soil fertility adversely.

Women's work load has multiplied many times over due to degraded common property resources, reduced water levels, increased dependence on forest reserves due to reduced residue and crop production, increasing cropping cycles, as well as decline in inter-intra village cooperation in highly tedious, time consuming activities such as transplantation, weeding etc. Moreover, increasing dependence on markets for agricultural inputs and other information has also undermined and ignored women's immense knowledge and experience, and reduced the active participation that they once enjoyed in agriculture related decision making.

These changes have not only impacted the livelihood of the people adversely, but also made them vulnerable to food insecurity, disease and hunger. This is quite critical, especially in the context of already existing high levels of malnutrition and anemia amongst women and girls. With increasing workload the impact is multiplied many times over.

It is ironic that, despite being the major source of emissions (GHG), industrial agriculture is still being promoted in the hills by the government and other forces and not much effort is being made to promote traditional/sustainable agriculture. This is despite Uttarakhand being an organic state.

Thankfully, there are pockets where traditional varieties are still being grown. There are also incidents of people reverting to traditional

agriculture, but with most of the varieties either extinct or on the verge of extinction, they are having a hard time. Pursuing the cause of sustainable agriculture and preservation of traditional varieties relentlessly, over the past few decades, movements like *Beej Bachao Aandolan* provide a ray of hope, with their remarkable collection of at least one hundred paddy varieties.

Being holders and practitioners of traditional knowledge systems, small farmers and women farmers have contributed immensely to using natural resources sustainably, thereby ensuring their family and environmental health and well being. It is very unfortunate that they have been relegated to the background in the present scenario, when they can play a vital role in developing community based mitigation and adaptation strategies to address the issues of agriculture and climate change. It is imperative that urgent efforts are made by the government and policy makers to promote biodiversity based agriculture actively involving farmers and local communities.

¹ Genetic diversity of Rice in India- T. Mohapatra, IARI, India

² Which means "save seed movement", a grassroots initiative to conserve traditional seeds

³ <http://agrobiodiversityplatform.org/blog/wp-content/uploads/2009/06/kg-saxena-climate-change-biodiversity-and-livelihoods-in-indian-himalaya.pdf> & "khadya suraksha ka tootta kavach" (an article in Hindi) by Kunwar Prasoon and based on discussions with Sri Vijay Jardhari

⁴ "khadya suraksha ka tootta kavach" (an article in Hindi) by Kunwar Prasoon and based on discussions with Sri Vijay Jardhari

⁵ a favourite Indian rice delicacy cooked in milk

Dr Reetu Sogani has been working in the Middle Himalayan ranges for 12 years now, on the issue of people's empowerment, with particular focus on women and indigenous communities, and their right over their resources and knowledge systems, through a rights based approach. Dr.Sogani has also been extending technical support to organizations on the issue of gender, food security and people's knowledge. Dr.Sogani has a Masters in Management and a PhD in Environmental Management.



FOOD SECURITY BILL, 2010 AND CIVIL SOCIETY DEMANDS

One of the most discussed issues today in India is the proposed "National Food Security Bill, 2010" being considered by the Government of India. The "Right to Food Campaign"¹ has formulated an alternate "Food entitlements Act 2009". The National Advisory Council (NAC) constituted under UPA II has also been deliberating on the act.

As per the proposed bill, every family identified as below poverty line (BPL), as per section 4(2)² of the Act will be entitled to receive, every month, 25 kg food grains such as rice and / or wheat at subsidised prices fixed periodically under the act. BPL families will be identified through gram sabhas; women will be treated as head of family for BPL purposes. The bill envisages a targeted public distribution scheme (T) PDS.

Under the act the central government will be responsible for procuring food grains and conducting the scheme with transparency and accountability. In the event the central government is unable to provide the grains to any state, it will provide equivalent cash compensation for which a dedicated fund will be set up. The state governments will be responsible for identifying BPL families and implementing and monitoring the scheme. They will also have the responsibility to create adequate storage facilities and devise licensing facilities for fair price shops. The concerned state government will also be responsible for making payment of food security allowance to identified BPL families in case they fail to supply the entitled quantities of food grains in any month. The scheme will have to undergo periodic social audits.

The right to food campaign³ network began with a PIL filed in the Supreme Court, in April 2001, by the People's Union for Civil Liberties (PUCL), Rajasthan, seeking that the country's massive food stocks should be used to ameliorate hunger in the country. Since then the campaign has worked tirelessly towards this goal and demanded a comprehensive food entitlement act. The campaign has rejected the food security bill⁴ in its current form and appealed to the government that the following demands be considered: "

- Remove APL BPL and provide subsidised food for all
- Nutritional security with per head monthly entitlements of 14 kgs of cereals, 1.5 kgs of pulses and 800 gms of oil

- Use the PDS to revitalise agriculture, by incentivising food production.
- Make procurement and distribution local and decentralised
- Children's right to food to be ensured.
- Social Security through the old age pension, maternity entitlements and family pension should be the only cash component.
- The Act should not reduce any of the entitlements of the Supreme Court orders in the Right to Food case but go beyond them.
- Special rights for vulnerable and excluded
- Food cannot be replaced by cash transfers for food schemes like PDS, ICDS, and MDMS.
- Food entitlement cards in the name of women
- Effective grievance redressal mechanisms, with punishments, penalties and compensation
- Affirmative action for Dalits, Adivasis and other socially discriminated groups"⁵

The campaign seeks a complete revamp of the PDS and says that targeted BPL coverage can't be effective as hunger /poverty figures are unreliable. Even among families with BPL cards 40% did not get their entitlement of food grains in 2004-05. In addition the campaign has demanded that the Act must enable and promote local food production and empower people with adequate rights over natural resources like land, water, forests.

The NAC headed by Smt. Sonia Gandhi has also been deliberating on the food security bill and has made the following recommendations: "

- Rollout of universal public distribution of food grains in the most disadvantaged one fourth of districts in India
- Every household in these districts to receive 35 kgs of food grain at Rs 3/kg
- In other districts, universal PDS with differential entitlements, people with BPL cards to get 35 kg of grain at Rs 3/kg, and those with APL cards to get 25 kg of grain at an appropriate price.
- Identified urban poor households will get 35 kg of grain at Rs 3 per kg
- A nutrition support programme for infants, aged, and those suffering from chronic diseases and community kitchens for the destitute
- NAC will look into reform of PDS and oversight in the implementation of the scheme"⁶

A national consultation on food security was held in June 2010, New Delhi, attended by more than 50 key people from across the country representing various farmer groups, women groups, civil society organisations, academicians, and policy makers. The meeting concluded that government's approach towards food security has been merely confined to food entitlements and proposed that any Act should reflect the following concerns:

- Look beyond PDS to ensure food security linked with local procurement, distribution and control, with key role for local communities.
- PDS should be universal (with minor exclusions) and the food should be locally produced, procured and culturally acceptable.
- Food security should include locally produced coarse grains like millets, pulses and oilseeds as well.
- The Act must deal with production systems and land.
- The Act should incorporate accountability to eradicate hunger.
- Right to have safe, nutritious, and chemical free food should be incorporated.
- 'Cash for food' schemes would force the poor to fall into debt trap further.
- The Act should have alternate food distribution mechanisms to deal with extraordinary situations like natural calamities⁷

India, where half the children are malnourished and one fifth of the population goes to bed hungry, needs a comprehensive food security act which would be an important first step in eradicating hunger and malnutrition.

¹ An informal network of organisations and individuals committed to the realisation of the right to food in India.

² Guidelines for identification of BPL families would be issued by the Central Government on the basis of poverty estimates notified by the Planning Commission of India and relevant census data from time to time.

³ <http://www.righttofoodindia.org/campaign/campaign.html>

⁴ <http://www.scoop.co.nz/stories/WO1003/S00447.htm>

⁵ http://www.righttofoodindia.org/data/report_of_dharna_cum_relay_fast_organised_by_rfc_15th_to_19th_apri_new_delhi.pdf

⁶ <http://www.financialexpress.com/news/will-food-safety-keep-pds-secure/647559/>

⁷ Report of national consultation on food security bill, 10th June 2010

FARMER SPEAK: BORKARS' BHOIRWAADI RICE (BBR)

Our history: During my graduation years of 1979-1984 as an engineer, I was fortunate and happy to carry out an entirely unrelated extra-curricular activity – visits to wildlife sanctuaries and to national parks all over India. That is what got me immensely interested in nature. And then, as a family, we -my parents and I- decided to purchase a tract of barren / fallow land, where we could carry out 'nature-friendly' activities, including tree-plantation and some farming.

The land was purchased during the period 1986-1991. From 1991 till 2004, we carried out a huge amount of tree plantation but our paddy farming was still 'chemical' type. We carried out a complete switch-over from chemical-fertiliser paddy farming to 100% organic paddy farming in 2004. It was neither a systemically planned decision nor a well thought out one. It was more like; this is what we want to do and we will bear the consequences.

Consequences we did bear in the first year itself; 100% losses, because we got no yield. We had followed, during those monsoon months Fukuoka's methods; we mulched the straw from the previous year's rice and did not carry out any de-weeding. We realized that we were blind followers / inexperienced or novice farmers.



During the second year — monsoon of 2005 — we did improve on a few techniques. We buried the previous year's rice straw immediately after ploughing operations were over. At the end of three weeks of paddy nursery or at the start of transplantation, the straw was no longer floating in the fields; rather, it had begun to decompose. We

also carried out manual de-weeding operations. Still, we had to face 70% losses, because we got poor yield. From the third year onwards, yields improved, and by then, the word had also spread about our efforts. We started getting direct consumer buyers, who were willing to pay us prices higher than paid for the chemical rice available in the market. Without doubt, our rice was distinctly different upon cooking - in taste, in texture, in aroma and in fluffiness. Fourth year onwards, we have been profitable. After that, we have not looked back. We are able to sell whatever rice we grow.

Details of our eighth consecutive 100% organic rice cultivation: (January – May 2010)

Variety planted: Komal - It is a fine, small grain variety similar to traditional Kolam. Seeds used were from our last year's organic crop.

Seed treatment: 1% concentration salt water was used to remove weed-seeds and low-density paddy seeds.¹

Area planted: About 3.25 acres, versus last year's about 2.60 acres. We increased the area under cultivation due to the increased demand for our rice.

Manures applied for 3.25 acres: (a) Cow dung manure: 76 bullock carts or about 7,600 kgs (about four truck loads). This manure is produced by our own cows², which are fed the previous year's paddy straw. (b) Neem deoiled cake: 150 kgs. This was purchased from outside. This limits the spread of stem-borer.

Bio-resources applied for 3.25 acres : (a) Azospirillum or Azo (nitrogen fixing bacteria) : 5 kgs (purchased from outside - we do not grow these ourselves.), (b) Phosphorous solubilising bacteria (PSB) : 15 kgs, (c) Blue-green algae (BGA) spores, a natural nitrogen fixing algae : 20 kgs. (Azo, PSB & BGA are commonly found in nature, in a variety of settings). No chemical fertiliser / chemical insecticide or weedicide was used. The above model allows us to be almost self-sufficient in rice seeds and in manure. It boosts our profitability and lowers our break-even point. It makes us completely independent of any seed Co. — MNC or Indian.

Water source: For our summer rice cultivation, we get irrigation tail-water of Tata Power's Bhivpuri hydroelectric station. We do not carry out rainy season paddy farming (except for the purpose of carrying out some small experiments).

Methodology: Huge amount of weeds / grasses / undergrowth, which were readily available after the previous monsoon, was ploughed back and recycled as green manure / mulching material. It is the organic carbon that is fixed / contained in such recycled biomass and manures that provides food to Azo, PSB & BGA to do their job. These three and paddy saplings form a self-sustaining / symbiotic eco-system. We do our de-weeding manually, a laborious and costly job indeed, three or four times per field (rather than opt for weedicides). We recycle those removed weeds, too – We put them to decompose underneath the growing paddy crop!

Insect control: We rely on birds (drongo, bee-eater, egret, heron etc.) and predator insects (dragon fly, wasp, large red ants etc.) to control infestation. (This is where my earlier little knowledge of bird-watching proved useful). During the latter part of the crop, you will be amazed to watch a no. of dragon fly & wasp species that are present. We were expecting the crop to face a mild attack of stem-borer and to lose about 5% of our crop, based on our previous year's experience. We did not suffer any major stem – borer attack this year (just about 1% loss).

Yield: Our yield was about 800 kgs per acre or about 2,600 kgs of paddy for 3.25 acres. It should convert to about 1560 kgs of rice, after separating broken rice.

Harvest: Harvest was carried out between 15th and 21st May 2010. Paddy was threshed and is now stored in the *bardanas* (Jute Sacks). The straw is stored in the barn for cattle feed. Post harvest, we have allowed the fields to remain fallow during the monsoon months, so as to "GROW" weeds, grasses and other undergrowth! In Jan 2011, we will plant our next rice crop.

Milling time for this crop: October -November 2011 is when, this paddy, upon being allowed to mature for 18 months³, will be taken to a mill for processing it into rice for consumption.

Susheel Borkar is an IIT Mumbai and XLRI - Jamshedpur alumnus. By profession, he is a commodity trader and an exporter of agri - commodities (grains, spices, and pulses). By choice, he is an organic farmer and can be contacted at Dombivli (Near Mumbai).

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¹ In 50 litres of water, we dissolve 500 gms of ordinary salt. This is 1% concentration salt water. We throw in paddy seeds into this water and take out whatever floats, use only the seeds that have sunk to the bottom. Pour and mix about 10 kgs of fresh cow dung into these heavy, bottom-sunk seeds, and allow the same to germinate for 48 - 72 hours.

² Our cowshed, now more than two years old, has many additions to the family: Total 12 local breed cows / young ones. It provides for a 3,200 sq. ft. integrated complex, including places for vermiculture and for fodder (straw from our own previous rice crop) storage. None of our cows are ever milked. We 'reserve' a cow's milk fully for her young one.

³ We normally harvest and store the crop for 18 months. And it is allowed to fully mature in paddy form all these months. So, upon milling, it is 'ready to eat' rice - no need for any further holding period. Rice made from freshly harvested paddy has unstable / unsettled enzymes, and consuming it can cause stomach uneasiness. Hence, the traditional Indian method of allowing rice to age for at least six months before consuming it. But allowing it to mature in paddy form is a superior way to maturing it in rice form.



Events

RECOGNITION FOR FARMER BRED PADDY VARIETIES

by Anitha Reddy

This small step might turn into a movement if we go by the positive response received at the "Recognition for Farmer Bred Varieties" at Davangere, Karnataka, where farmer bred paddy varieties were released on the 25th June 2010. The message was clear, "farmer-breeders should be recognized and supported for their contributions". For thousands of years farmers have been breeders. They have been selecting plant types with a keen eye for traits that would improve the landrace. The seed release function was organized by *Sahaja Samrudha*, Bangalore, in collaboration with *Karnataka Rajya Raitha Sangha (KRRS)* and *Save our Rice Campaign* at the District Collector's office premises.

Releasing popular farmer-bred paddy varieties like *Chinna Ponni*, *Mysore Mallige*, *NMS2* (Narisupura Madarahalli Shankar Guru), *HMT* and *KA1*, Sri. Kodihalli Chandrasekhar, President of KRRS said, "Today, the entire seed production and supply system

is veering towards privatization and monopolies through intellectual property rights, while public sector research bodies seem to be scripting their own suicide. In such a situation, it is important to recognize once again that it is on the basis of farmers' varieties that agriculture thrived for centuries in this country."

Rajendra from Madurai, Tamil Nadu, has developed *Chinna Ponni*, a variety that yields higher than any HYV rice varieties. Lingamadaiah's *Mysore Mallige* was developed from a Philippines landrace. The variety is well adapted to local conditions, consumes less water, is free from pests and disease and does not lodge. It has spread across Karnataka and is in great demand from farmers. Shankar Guru's *NMS 2*, is a fine rice variety of brick red colour and yields high quality straw/fodder. There is no shattering and the variety is highly resistant to pest attack and disease. Ramji of Maharashtra has developed the very popular *HMT* variety. The variety was developed from only three yellow seeded paddy spikes which he located on his fields (that were different from the rest of the plants on his field) and picked and sowed separately and re-sowed the year after. Raghuvanshi of Uttar Pradesh (featured in PADDY April 2010), has developed 25 varieties of paddy and his *KA1* is well received by the farming community. Such breeding demonstrates the innate skills that many farmers have of identifying the exact traits that are suitable for specific growing conditions and breeding appropriate seed varieties.

Krishna Prasad of Sahaja Samrudha, in his keynote address, said that farmer breeders have not received due recognition for their contribution e.g. even though the performance of varieties like *NMS2* is better than university released varieties, the government is still concentrating on distribution of seeds produced by companies and universities rather than accepting farmer varieties for distribution.

Speaking on the Seeds Bill 2004 and the amendments moved by the Union Agriculture Minister on the same, Prof.B.M.Kumara Swamy of Swadeshi Jagarana Manch said, "While the 2004 Seeds Bill version, in the garb of a statute ostensibly to protect farmers' interests, tried to clearly criminalize farmers for saving and exchanging seeds, the amendments moved by the government in the Bill that is being tabled in the upcoming Parliament Session falls woefully short of protecting farmers' interests. Equally critical is the Biotech Regulatory Authority Bill (BRAI) that seeks to curtail the authority

of state governments in regulating their own agriculture”.

Shranik Raja, Vice President of State Organic Farming Mission, traced the marginalization of farmers' role in seed breeding to the Green Revolution. He added that along with the effort to bring in “Gene Revolution” through transgenics and other such technologies, there is an attempt not only to overlook the valuable knowledge of farmers but also to criminalize them for exercising their *a priori* rights.

Shankar Guru of T.Naraispur told the gathering about how he developed and released *NMS2* at the same time as Karnataka University released *Thanu* variety. *NMS2* performed better than the *Thanu* variety, even the University had accepted this and given him a certificate of performance. Yet the government has not come forward to promote his variety while it is distributing *Thanu* variety.

The farmers thronged the venue to collect the released varieties of seeds that were made available in 5kg bags. All the speakers urged the Karnataka State Government to come forward and assert its right over agriculture by writing to the Prime Minister on both the Seeds Bill and the BRAI Bill.



KAIPPAD PADDY REVIVAL - AN INITIATIVE FROM THE KANNADIPARAMBA GOVERNMENT SCHOOL, KANNUR

by Lenish K

Kannadiparamba government higher secondary school in Kannur district of Kerala becomes a model for other schools in the state and in the country. In 2007 the students of the school, under the guidance of M Manoj, the teacher in charge of the school science club, conducted a study on the possibility of Kaippad paddy revival in the area. (Kaippad is low lying coastal paddy fields where traditional salt resistant paddy varieties are cultivated.) They made a report and approached the state government suggesting that the shutters of the irrigation project regulator across the Kattampally river should be opened and salt resistant paddy cultivation should be resumed. The state government welcomed the suggestion and appointed a commission to do a feasibility study. The commission advised the government to promote Kaippad paddy on an experimental basis.

Kannadiparambha was once famous for Kaippad paddy cultivation. Farmers were forced to abandon it following the construction of a regulator across the Kattampally river. The regulator was built to prevent salt water intrusion into the area from the sea and make it a three crop paddy area. However, the area behind the regulator became rocky since it was exposed to fresh water. So the farmers had left the paddy fields fallow for nearly 40 years.

In 2009 farmers started Kaippad paddy cultivation again. Now it is in its second year. The students are justifiably proud of their achievement. The students have started a new project to train themselves in Kaippad paddy cultivation with the help of Kerala State Department of Agriculture. “We assume Kaippad paddy cultivation is highly profitable and has low risk. We need to prove it within three years” says Akhila, a student. Students do all the work from tilling the land to harvesting with the help and advice from farmers, agricultural experts and teachers. “Students are the assets of a nation. Our aim is to make sure that the country's food security is safe in their hands” say M Manoj. The school science club is coordinating the programme.



News

THANJAVUR FARMERS FEAR PADDY CROP FAILURE.

Farmers in the Kavery delta region, the rice bowl of the state, are heading for a second year of crop failure. The water from the Mettur reservoir was released 45 days late due to poor rains in the catchment areas. To be able to plant the current paddy crop the farmers have already sacrificed the short season kuruvai crop in 73000 acres of land and the losses incurred during the last two seasons by the farmers is a whopping 1000 crores, causing untold misery in the farming families. The government claims that, even though the farmers have had to sacrifice the kuruvai, they will be able to have a successful samba season. The farmers are not happy and are seeking compensation for the losses incurred.

Adapted from: NDTV July 31, 2010

RAINS WASH AWAY INDIA'S RICE STORES!

After the crippling drought last year the Government of India bought rice and wheat at a high price from farmers to shore up the national grain buffer stock.

The large buffer stocks of rice and wheat, which the government has bought, is sitting in the open in sacks covered merely with plastic sheets. The state run warehouses are overflowing and more rice and wheat stocks are expected this year.

Ironically this loss of grain is happening at a time when food inflation in India is at an unprecedented level and 250 million Indians go to bed hungry or are malnourished. No official estimates have been made about the amount of grains lost due to the lack of adequate storage. The Food Corporation of India has invited tenders to construct new warehouses and also rent warehouses from private companies.

According to FT India has an estimated 59m tonnes of food grains – including about 33m tonnes of wheat and 24m tonnes of rice – in its custody. However, “only 42m tonnes of this national stock are in covered warehouses, while at least 17m tonnes are piling up outdoors under tarpaulins, inadequately protected from the elements. Experts say about 10m tonnes – enough to feed 140m people for a month – risks being totally ruined.”

Adapted from: Wall Street Journal July 19, 2010 & Financial Times, August 26, 2010 (<http://www.ft.com/cms/s/0/cc0fae50-9a27-11df-8346-00144feab49a.html>)

GREENPEACE FINDS EVIDENCE OF GM CONTAMINATION IN CHINA'S EMERGENCY RICE STORES

Greenpeace testing of two samples from processing units that were accessing grains from the state emergency stock found that the rice was contaminated by illegal strains of GE rice which are not approved for consumption. The group said that they are afraid that unapproved illegal strains of GE rice would spread around the country as the grains from the emergency stocks are supplied to people at various places. The origin of the contamination is believed to be the Hubei province which is one of the grain production centres in China and was the site for testing for BT63 –insect repellent rice.

Earlier GE rice was found on the shelves of Walmart and Zhongbai supermarkets. Most provinces in China screen rice supplies to prevent illegal GE contamination, however the Hubei province has been slow to do it. Many activists fear that the

contamination may be deliberate and a ploy by the industry and scientists to spread the GE rice into the fields and grain stocks and then get de facto approval for it.

Adapted from Guardian, 20 July 2010 (<http://www.guardian.co.uk/environment/2010/jul/20/china-gm-rice-contamination>)

GREENPEACE SUES WAL-MART CHINA OVER GE RICE

Greenpeace has sued the retail chain in China, over selling the unapproved GE rice in its stores. Earlier in the year Greenpeace had reported that Walmart stores in Changsa and Wuhan were selling GE rice after third party inspection revealed the same, consequently the Chinese government inspected the stores and Walmart removed the rice from its shelves. Greenpeace spokesperson said that they have filed the suit so that the store improves its supply chain and such incidences do not occur in the future.

Adapted from <http://www.cnn.go.com/shanghai/life/buying-rice-think-twice-china-479311> , July 6, 2010.

Editors' note: The issue of GE rice in China has been a tussle since sometime with the industry and some scientists trying very hard to create a fait accompli that GE rice is already all over China and now there is no choice but to approve it. Constant vigil on the part of civil society is helping bring many of these attempts to light. Considering that China is one of the leading rice growing and consuming nations in the world , the industry is very keen on entering the Chinese market, through legal or other means.

BROWN RICE EATERS HAVE LOWER RISK OF DIABETES.

A study by researchers from the Harvard School of Health has found that eating white rice is associated with higher incidence of type 2 diabetes. The study was conducted across 22 years analyzing 220,000 adults. The consumption of rice among Americans has increased three fold since the 1930s, but they mostly eat white rice which is devoid of fibre, vitamins and minerals. The researchers observed that replacing white rice with brown rice or whole grains was associated with a reduced risk of type 2 diabetes.

Editor's Note: In India until machine milling became popular, hand pounded brown and red rice were consumed by the rice eating populations in the south.

Regrettably that situation has changed and now white rice is the favoured grain everywhere in India. This also coincides with the huge increase in diabetes; we have discussed this in our editorial of PADDY October 2009 issue of PADDY. (http://save-our-rice.net/uploads/media/PADDYOct2009online_01.pdf). These are clear pointers to us to move to healthy sustainable ways of growing and processing our food grains.

Adapted from Reuters, June 15, 2010 (<http://www.reuters.com/article/idUSTRE65D5DY20100614>)

RICE EXPORTERS SEEK MANDATORY ADVISORY ON PESTICIDE PACKS

Rice exporters have requested the government to “kindly issue strict guidelines to manufactures of pesticides that while selling their products, they should ensure that every package of the chemicals is accompanied by an advisory in a local language.” This request has been made post the European Union banning imports of Indian honey due to high pesticide content and reports that rice exported from India has more than acceptable levels of pesticide.

This was reported by a German laboratory which tested Indian rice exports; the exporters have successfully challenged the report. However, they want to take abundant precautions so that similar occurrences in the future do not jeopardize their export consignments.

Editors' Note: Incidence of high pesticide use in paddy is an issue that various grassroots and environmental groups have been fighting since decades. Even among the different rice varieties, reportedly basmati rice is the most contaminated. Pesticide use is not only a trade issue, it is an issue of food safety for a large number of Indians for whom rice is the staple food, an issue of farmer safety (refer PADDY, April 2009, report about the unsafe practices followed by farmers while using pesticides in their paddy fields) and an environmental issue.

Adapted from Business Standard, August 15, 2010 (<http://www.business-standard.com/india/news/rice-exporters-seek-mandatory-advisorypesticide-packs/105217/on>)



RICE YIELD MAY FALL DUE TO RISE IN TEMPERATURES

A study conducted under the leadership of Jarrod Welch of the University of California, San Diego found that rice yields diminish when night time temperatures increase. The long term study was conducted based on real life data from irrigated, farmer-managed paddy fields in tropical and sub tropical Asia. The study, first of its kind, has analysed daily maximum and minimum temperature impact on rice yields and was conducted in 227 paddy fields across 6 Asian countries.

The team which included researchers from IRRI Manila, found, “that rising temperatures during the past 25 years have already cut the yield growth rate by 10-20 percent in several locations in the study areas.” They found consistent increases in night time temperatures in the area studied. Earlier studies had suggested that slight increase in day time temperatures would improve paddy yields, up to a point. However in the light of this new study researchers claim that yield losses through higher night time temperatures would be more than the gains through small increase in daytime temperatures. Welch suggests that farmers could shift paddy cultivation to cooler months.

Editors' Note: The above report also adds that IRRI is doing on research on heat tolerant varieties of rice. What is unfortunate is that the paradigm in agriculture research seems to recognize only laboratory breeding of the last 100 years or so and completely ignores the farmer breeding and nature's selection over the last 5000 years. The Asian paddy growing regions have a 5000 year history of paddy cultivation and have hundreds of thousands of varieties of paddy suited to deal with many climatic and geographical conditions. The modern research paradigm seems to find no value in exploring these or identifying the existing varieties and doing participative research along with farmers. Any problem is addressed with another techno-fix. Maybe the solution is already in nature and all we need to do is find it!

The study was published in “Proceedings in the National Academy of Sciences” and the abstract can be accessed at the following link. Adapted from: <http://www.pnas.org/content/early/2010/07/26/1001222107.abstract?sid=b15adb0e-3bf5-4afd-868c-9037c181aef4> & Zee News, August 10, 2010

ENVIRONMENTAL JOURNALIST AWARD – 2007

Environmental Journalist of the Year 2007 Award was awarded to G. Krishnaprasad, Director, Sahaja Samrudha, Bangalore, by the Government of Karnataka in recognition for serious development journalistic efforts. The Chief Minister Mr.Yedurappa presented the award in Bangalore. This award given by Government of Karnataka is the most prestigious accolade for journalists producing crucial environmental coverage through their articles. Krishna Prasad has written prolifically on seed conservation. He is a regular contributor to the most widely read Newspapers and Magazines like Vijay Karnataka, Prajavani and Adike Patrike. Krishna Prasad has brought many seed savers into the limelight through his articles.

KP, as he is popularly known, has been leading a movement to conserve indigenous varieties of seeds since the last 17 years. What is remarkable about KP is that he is not merely a chronicler of the movement; he is an active part of the movement and leads the movement for conservation of seeds. KP is a consultant for the "Save Our Rice" campaign and leads many of its seed conservation activities. PADDY congratulates KP on his achievement !



Published for private circulation by Save our Rice Campaign, Thanal and Create
c/o Thanal, H-3, Jawahar Nagar, Kawdiar P.O., Thiruvananthapuram, Kerala, India - 695003
Tel/Fax: 91-471-2727150

Editorial Board: Usha S., Sridhar R., Sreedevi Lakshmikutty.

Layout: Christine Wittstock Printed at: Arsha Printers, Tvm-10 Published with support from EED