



*Feeding
the Nation*

Discover Diversity



Lakshmi Puja:

With the harvest brought home the farmers feel greatly satisfied with the yield. After six months of toil in the field, they fill the granaries with the blessings of Goddess Lakshmi. So, the whole month of margashira (Dec-January) is spent in worshipping the Goddess. All the rituals connected with the festival (Manabasa Gurubara or Lakshmi Puja) is done by women themselves. On each Thursday of the month the houses are plastered with cow-dung, the floors are decorated with beautiful floral designs drawn with rice-povvder mixed with water. This is called 'Jhoti'. Footmarks are painted from the doorstep to the place of worship as if Goddess Lakshmi has entered the house. The roofs are decorated with flower garlands and festoon woven out of paddy stalks.

After purificatory bath in the morning the women worship the Goddess, not through an image but significantly through paddy-measures. **Different varieties of rice-cakes and Kshiri** (rice-soup prepared with milk and sugar) are prepared in every house hold and are offered to the deity and then taken by all.



It was domestication, not civilization that began the sowing of seeds. Simple harvesting, which hunters and gatherers had practiced for millennia, initially resulted in few if any changes to the plants involved, for it was the seeds left unharvested that fell to the ground and produced the next generation. But hunters and gatherers eventually began the process of domestication with their increasingly intensive harvesting and in due course their care and cultivation of select plants. With the advent of sowing it was the harvested seeds that came to constitute the next generation. And those seeds changed history.

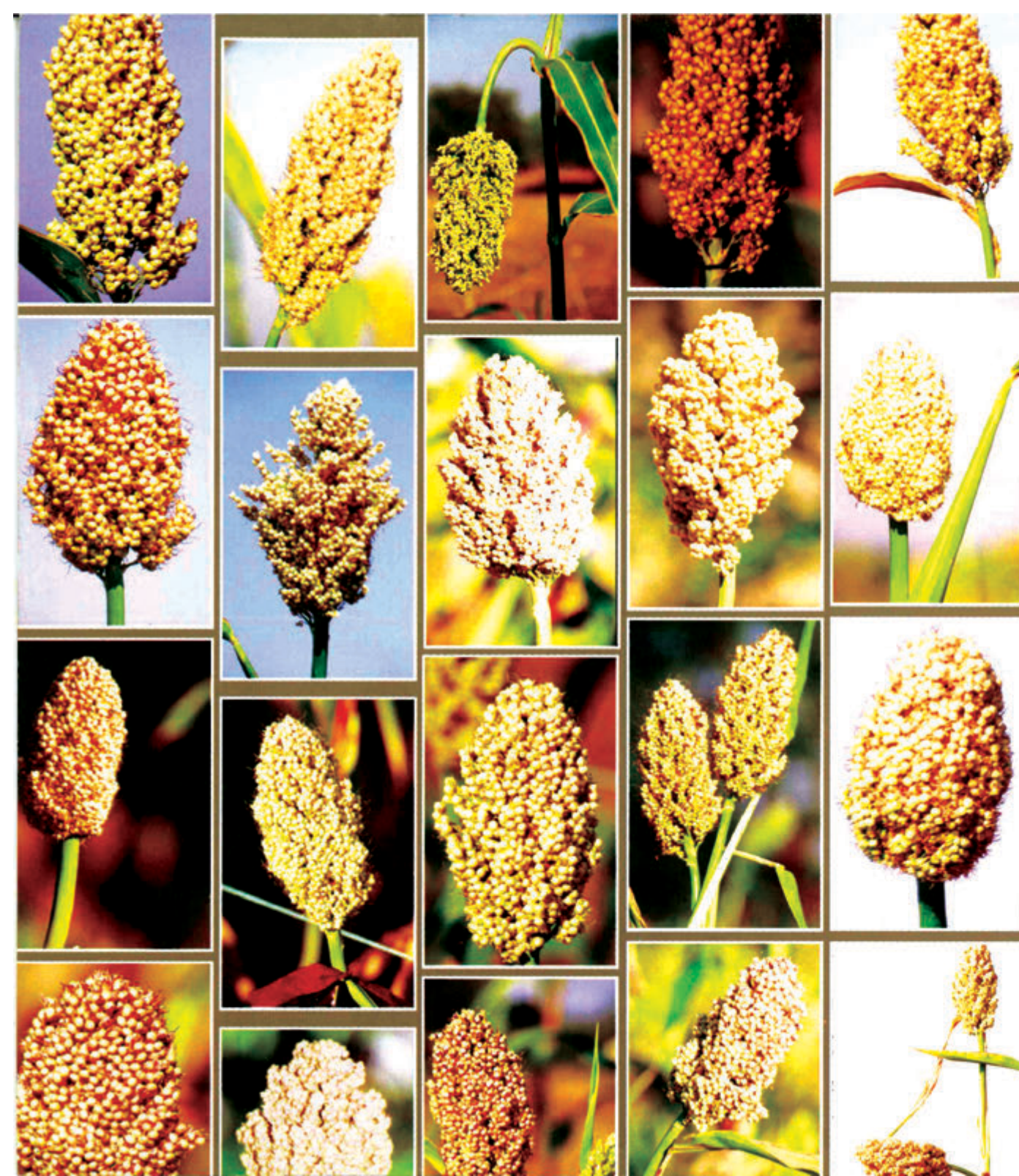
*Carry Fowler and Pat Mooney
Shattering, Food, Politics and loss of Genetic diversity.*





* whoever would make two ears of corn; or two blades of grass to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together





*The existence of genetic diversity has special significance for the maintenance and enhancement of productivity in agricultural crops in a country like India which is characterized by highly varied agroclimates and diverse growing conditions. Such diversity provides security for the farmer against diseases, pests, drought and other stresses. Genetic diversity also allows farmers to exploit the full range of the country's highly varied micro-environment and differing in characteristics such as soil, water, temperature, altitude, slope and fertility. Diversity among species is especially significant to India as it represents an important resource to subsistence farming communities through out the country.

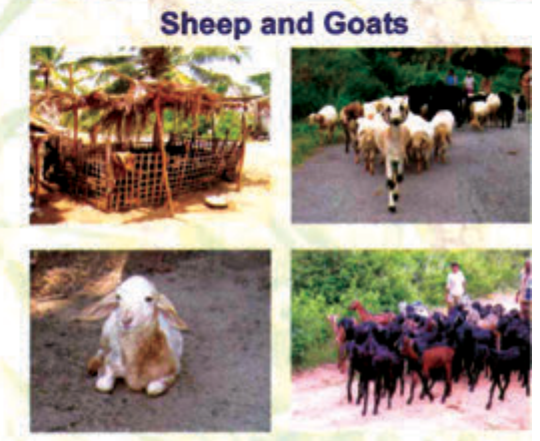
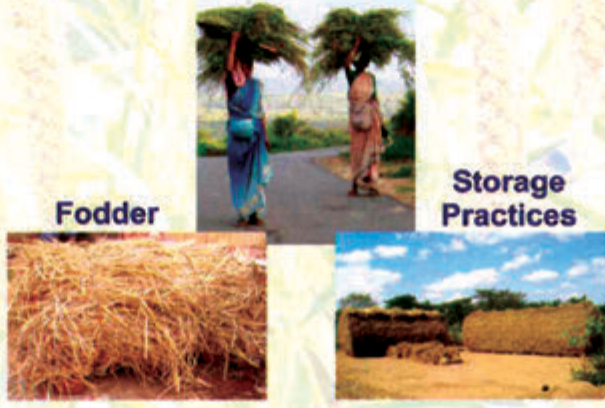
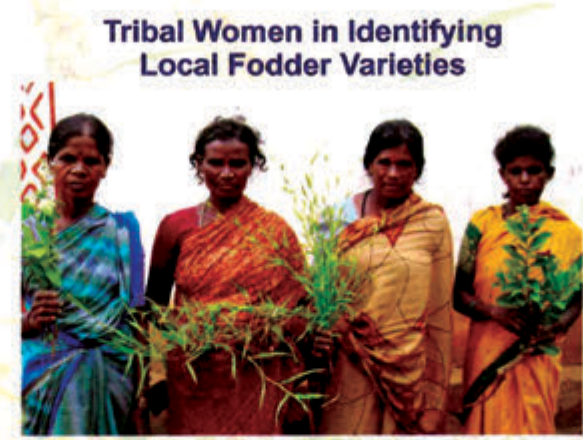


“The basic nature of living soil requires agriculture first and foremost, to preserve the integrity of the great ecological cycles. This principle embodies in traditional farming methods which were based on a profound respect for life. Farmers used to plant different crops every year, rotating them so that the balance in the soil was preserved”.

Fritgof Capra (year) The Turning Point. In Science, Society and the rising culture,



When farmers select random sample of seeds from a given crop for the next year they are selecting for multiple characteristics which will give the best yield under the very specific conditions of their fields. This is because the plants with the highest yield and survivability will contribute to a higher proportion to the random sample than others. The repeated collection of such samples over the years automatically give the highest yields possible for the particular eco region.



Outsiders arriving into India from the time of Alexander of Macedonia in the fourth century BC to the European observers of the late eighteenth century have all marveled at the abundance of yields obtained by the Indians and at great technological skills displayed by them in all aspects of agriculture including ploughing, manuring, watering, selection of seeds, rotation of crops following and folding of lands etc. They also marvelled at the simple yet optimally efficient tools developed for diverse agricultural operations.

Millets are a popular staple crop prevalent in the dryland tracts of South India and are highly nutritious and drought resistant and capable of cultivation in poor soils. In the recent past they were neglected in favour of other crops and became stigmatized

as a poor man's crop. GREEN Foundation has been working to reintroduce and popularise the traditional grains to strengthen food security. There are seven botanically distinct millets, many different species and even more varieties with farmer given names.



Hallu



Yamanagiri



Hariniddagadi



Hannatagi



Kavaragi Local



Neelgal



Bijapura

Sorghum (Sorghum bicolor) was domesticated in Ethiopia about 5000 years ago and brought to India around 1000 years BC. It is an important crop for various reasons-the ability of the crop to withstand drought, adjust to various soil conditions, comparative quick growth and good yields of not just grain but large quantities of fodder.



Bili tene



Jenu Muthige



Nashini



Bili Munduga



Tundu harisina



Haalu kuli



Kempu ragi

Finger millet (*Eleusine coracana*) popularly known as Ragi, originated from Africa but introduced to India more than 3,000 years ago. The only millet in India which has been able to touch an average productivity level of more than 1 tonne per acre. Ragi is nutritious and staple food crop of many regions in India.



Dodda tale



Hullu



Halu



Kari



Kempu



Kuchu



Mullu

Foxtail millet (*Setaria italica*) is popularly called as 'navane' in the vernacular. Foxtail millet is an ancient crop domesticated in Eastern Asia, mainly confined in India to the lower Deccan Plateau. Three to four decades ago, foxtail millet was consumed as the staple food. The straw yield may be 1000-2000 kg per hectare.



Mullu Sajje



Hullu Sajje



Koradu



Haaraka



Kaadu Same




Same



Panniveragu

Millets are highly nutritious and prevalent in the dryland tracts of South India. The recent past has seen the neglect of these in favour of other crops and became stigmatized as a poor man's crop. There are different distinct millets like little millet (*Panicum sumatrense*), pearl millet (*Pennisetum typhoides*), barnyard millet (*Echinochloa colona*), proso millet (*Panicum miliaceum*) and kodo millet (*Paspalum scrobiculatum*).



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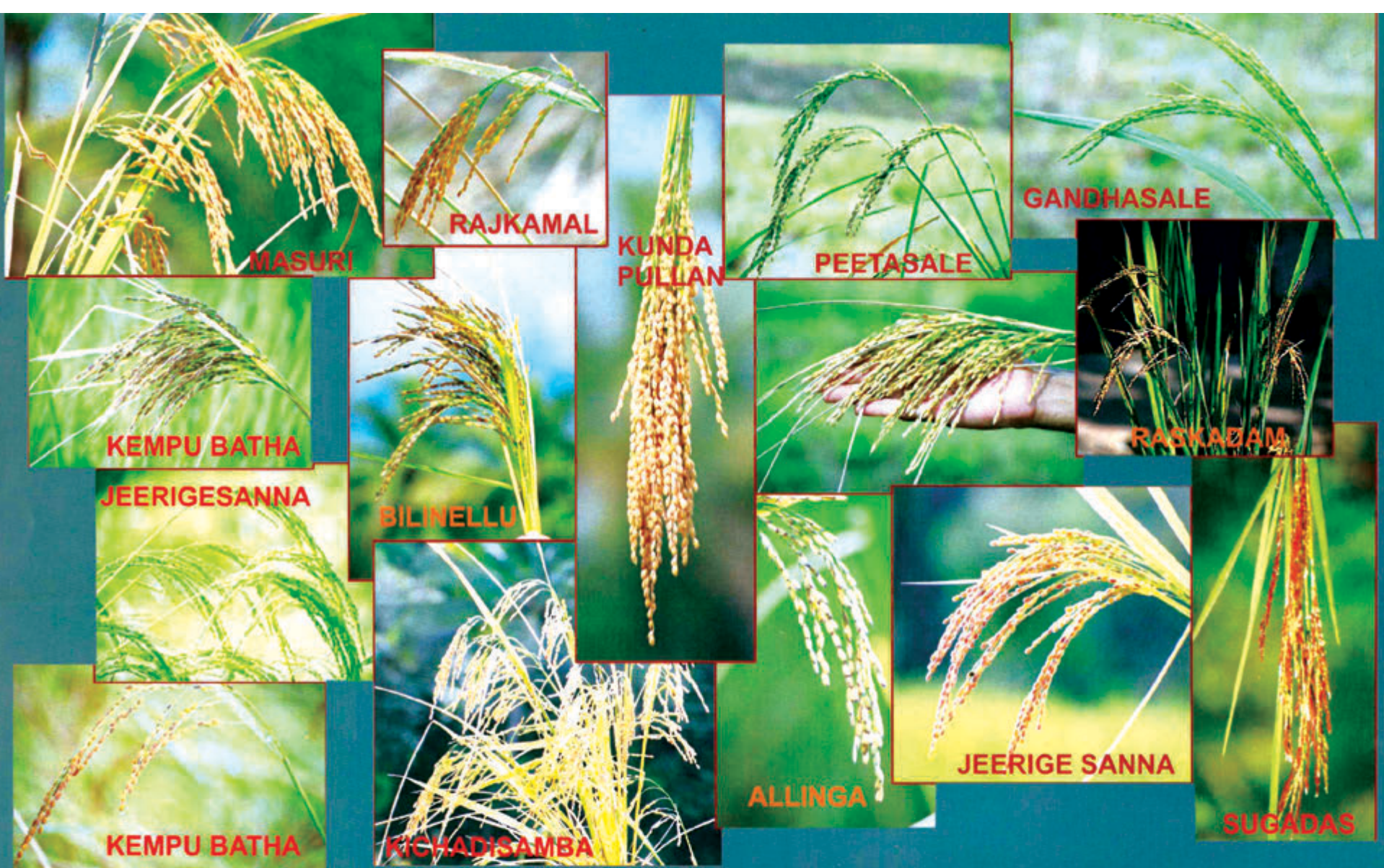
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"The grains of sorghum, wheat and ragi are the ones that fill my stomach .always .markets or no markets if I produce grains for myself I can live. To produce food grains (anna dhanya) my hard work counts , I need the help of the earth (bhumi sahaya) . we treat these organic seeds (javari)with respect (mana)It comes from God , the earth and we subsist on them "

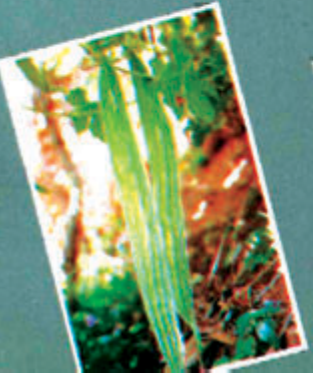
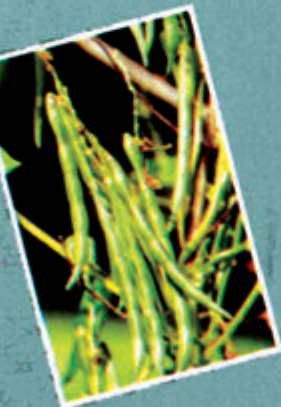
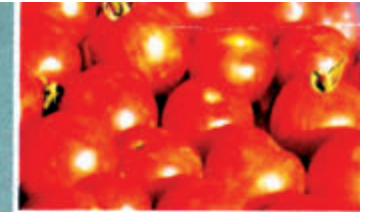
A.R.Vasavi in Harbingers of Rain Land and life in south India





How old is rice as a foodgrain? Dr. Nene in his article says: "Archaeological findings of the Indus-Saraswati civilisation reveals that wild rice was eaten in advanced Mesolithic or pre-Neolithic (c 8080 plus/minus 115 B.C.) period at Chopani Mando. Prolific use of rice (cultivated *Oryza sativa*; wild annual *Oryza nivara*; and wild perennial (*Oryza rufigopon*) husk and chaff as pottery temper at Koldiwah (5440 plus/minus 240 B.C. and the discovery of grains of cultivated rice at Mahagara establish the cultivation of *Oryza sativa*. Incidentally, all three locations, Chopani Mando, Koldiwah and Mahagara are in the Ganga region of central Uttar Pradesh. These dates were again confirmed in recent studies. Rice cultivation apparently diffused in all directions from the Ganga valley..."

We thus have information from an agricultural science regarding the antiquity and location of the first cultivation of rice which affects life of half of humanity.



The great miracle of agriculture is that, at its core, human beings shape the world with their minds. Before agriculture, people collected from the wild and growing food that they needed. Then, it is thought, they began to plant seeds of the plants that they favoured. It did not take long for people to notice that if they saved the seeds from the biggest or sweetest or strongest plants, the next generation of plants would tend to have characteristics.

And when the best food was saved from the daughter crop, the next generation was even better.

Changing the Nature of Nature



In addition to cereals , there grows through out India much millet , which is kept well watered by the profusion of river streams and much pulse of superior quality. And rice and many other plants useful for food of which many are native to the country.

It is accordingly confirmed that famine has never visited India and that there has never been a general scarcity in the supply of nourishing food.

Diodorus Siculus (Circa 1st Century BC)





To be of the earth is to know
the restlessness of being a seed
the darkness of being planted the struggle towards light
the pain of growth in to light
the joy of bursting and bearing fruit
the love of being food for someone
the scattering of your seeds
the decay of the seasons
the mystery of death
the miracle of birth “

John Soos



Agricultural abundance of India Dazzled the World

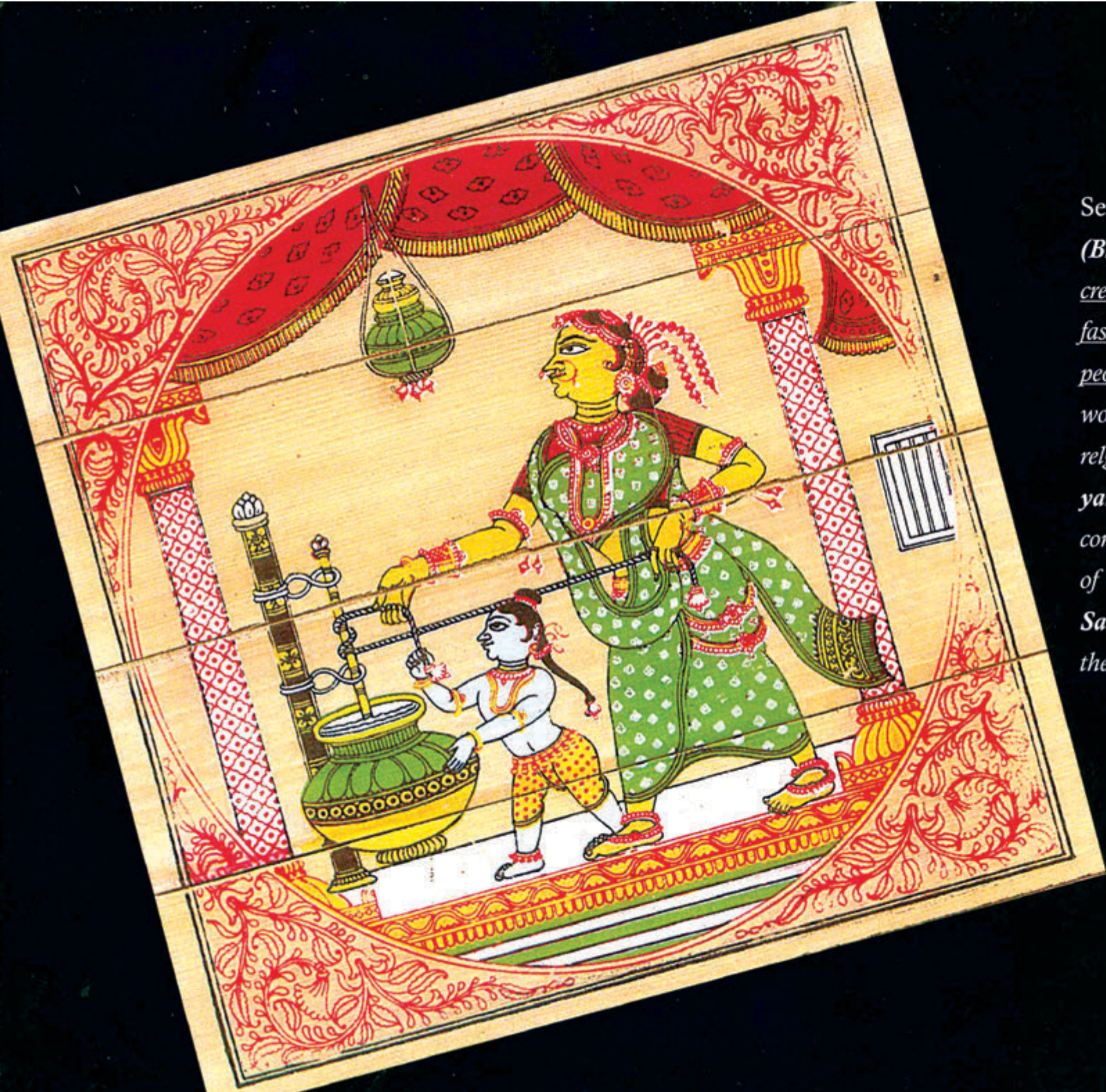
The lands of India have been blessed with great natural fertility , abundant water and unlimited sunshine. The people of India have gratefully accepted these natural blessings. They have from the most ancient times developed high agricultural skills to put what nature has so bountifully endowed to the best possible use.



"In India there are over 500,000 villages each of which is surrounded by a zone of very fertile land. If we examine the crops grown on this land we find that the yields are high and crops are remarkably free from diseases Although half a million examples of the connection between a fertile soil and a healthy plant exist in India alone and these natural experiments have been in operation for centuries before experiment stations like Rothamsted were thought of modern agriculture refuses to take note of the results largely because they lack support furnished by higher mathematics."


Sir Albert Howard, An agricultural testament





Seed is the gift of *Srushtikarta* (*Brhama the creator*) who created seeds in primordial fashion The puranas refer to people getting phala by worshipping Gods through religious sacrifices like Yagas, or yangnas, In the event of complete extinction of any form of matter people performed *Samudra manthana* (churning the ocean) to get it back





Genetic Resource, Energy, Ecology and Nutrition Foundation shares with you this colourful presentation of India's agricultural biodiversity, maintained for centuries, selected and improved by thousands of farmers.

Women have played a special role in conserving the rare varieties despite several odds.

But for their tireless efforts to toil day in and day out many of the crops that have rare qualities would have disappeared from the fields.

Green Foundation has worked with the small and marginal farmers in the rain fed areas of south India and particularly in the state of Karnataka over the last decade in conserving the genetic resources that are basic to survival of farmers and sustainability of farming. We have a significant presence in the different eco regions of Karnataka with an array of species and varieties.

We dedicate this publication to the scores of farmers who have contributed to this cause.

We network with institutions, individuals, and all those who would like to contribute to this cause. We welcome your participation in this journey.

Visit us at www.greenconserve.com where you can take a virtual tour of our effort to conserve the vanishing diversity.

Contact us at 30, Surya,
19th Cross, N.S.Palya, Bangalore 560076
Tel: 26784509 Mobile : 9449861040/43



GREEN Foundation

Post Box No. 7651, 570/1, PADMASHRI NILAYAM
3rd main, 4th cross, N.S. Palya, BTM II Stage,
Bangalore-560076, Karnataka
Phone: (080) 2678 4509 Fax: (080) 2659 1729
Website: www.greenconserve.com E-mail: greenfound@vsnl.net