



The Navara Eco Farm: Growing Rice Organically

P. Narayanan Unny

The district of Palakkad is known as the granary of Kerala and is situated at the foot of the western ghats. Palakkad derives its name from the Malayalam words *pala* (*Alstonia scholaris*) and *kadu* (forest) which goes to prove that this place was once a beautiful stretch of forests covered with the sweetly scented flowers of the Pala trees. Palakkad is the gateway to Kerala from the north. Located on the banks of the Chittur Puzha (a tributary of the Bharatha Puzha), Navara Eco Farm spreads over nearly 18 acres. Apart from Navara other crops like mango, coconut, pomegranate, medicinal shrubs, and bamboos are grown on this farm. The farm is more than 75 years old and the third generation is now living on the farm.

What is Navara rice?

Navara is a rice variety endemic to Kerala, famed for its use in Ayurveda. As it seems to have originated in a limited area and did not spread appreciably, it can be considered as a crop endemic to Kerala. Due to several reasons this variety was on the verge of extinction a decade ago. There are two types of Navara rice based on differences in glume colour: the black glumed and the golden yellow glumed variety. In the black glumed variety the seed colour is red. This variety is highly resistant to drought conditions and to disease and is grown in northern Kerala. It matures in about 60-90 days and reaches more than one metre in height. The golden



yellow glumed variety is grown in the second cropping season. The grains are golden yellow and the seed colour is red. It requires 60-90 days to mature and on maturity the crop is susceptible to lodging and diseases. It has a higher yield than the black glumed variety.

The Susruta Samhita (c. 400 B.C.) praises *sastika* (the paddy which matures in 60 days) as being sweet in taste and digestion and pacifying *vayu* and *kapha*. The *sastika* is light, mild, demulcent and imparts strength and firmness to the body. The Ashtanga Samgraha of Vagbhata (c. 4th century A.D.) describes the *sastika* as being unctuous, constipating, easily digestible, sweet, cold in potency, mitigating all three *doshas* and of being two kinds—*gaura* (white) and *asita-gaura* (blackish-white).

It is believed that Navara cultivated in upland areas is more potent medicinally. The farmers speak of Navara as “gold with fragrance” because if a farmer had a stock of Navara seeds with him, he could earn a good price in any season. It has been used for curing rheumatism in the folk medicine of Kerala. The “shastikathailam” extracted from the bran of the rice is used for curing neurological diseases, body pain and eye disorders.

Nutritional and health benefits of Navara

Navara has been used traditionally to remedy the ills of the respiratory, circulatory, digestive and nervous systems in the panchakarma treatment of Ayurveda. Navarakizhi and Navaratheppu are the two major treatments in Ayurveda for conditions such as arthritis, paralysis, neurological disorders, degeneration of muscles and tuberculosis. It is also used for treating lactating mothers and anaemic children. In Navarakizhi (*pindasweda*) Navara rice is boiled in *kurunthotti kashayam* (a decoction of *sida* root and milk). It is then enclosed in cloth pouches (*kizhis*) and is used for massaging. In Navaratheppu a paste of boiled Navara rice of light warmth is applied on the body. Here again the rice is boiled in *kurunthotti kashayam*.

Navara rice is used in the treatment of psoriasis and Navara bran is used for ulcers. A paste made of Navara rice powder is

used in snake bite. For urinary tract problems, Navara root is boiled in water and the decoction is used as a diuretic. In the month of Karidakam in Kerala when the region receives the southwest monsoons, Navara gruel is included in the diet to help develop immunity. Navara rice powder cooked with jaggery and milk is found to be a nourishing food for babies. Boiled milk mixed with cooked Navara rice is easily digestible and is used as a health food for aged people.

Genesis of Navara Eco Farm

In 1999 I decided to start Navara cultivation on a large scale for

- i) preserving a traditional but nearly extinct rice variety of Kerala
- ii) making it available as a medicinal rice for Ayurvedic practitioners
- iii) making it available as a nutritional rice and as a health food for interested consumers..

The timing was very critical. This was the period when rice farmers in Kerala were shifting to other crops and paddy fields were being put to other uses as rice cultivation in Kerala had become unremunerative. From 2000 to 2003 the process of seed purification was carried out and the area under Navara cultivation was expanded. In 2003 the organic certification process commenced and in 2004 I took the initiative for the Geographical Indication registration of Navara rice. In 2005 the farm was certified as fully organic.

Challenges in Navara rice cultivation

The first challenge that lay before me was to produce my own Navara seed. Pure Navara seed was not available as Navara cultivation was almost extinct. This was because Navara cultivation was not an economically viable proposition. Farmers only planted one fifth of their holdings with Navara and the rest of the field was used for cultivating other rice varieties. Therefore the mixing of seeds occurred inevitably. I started the work of purifying Navara seed in an area of 40 cents and it took me nearly three years to purify the seeds. During this period I had to discontinue the cultivation of other rice varieties

for fear of contamination. A major portion of my holding was left fallow for the same reason.

Navara was being cultivated in very small areas because of the fragile nature of the plant, its susceptibility to changes in weather especially heavy rains, strong winds and even dew at times which damaged the crop. Over a period of four years I expanded the area of Navara cultivation from 15 cents to 8 acres. In order to offset the possibility of crop loss due to extreme weather I rearranged my cropping calendar, and staggered the crop in the whole area into two or three phases.

Although Navara was traditionally cultivated organically, the farmers of Kerala adopted chemical methods of farming in the 20th century because of its poor yields and difficulties faced in controlling pests and diseases. As Navara is a medicinal rice whose bran and root are also used in Ayurveda, I decided to adopt only organic methods of farming. Green manuring was chosen as the most suitable method for Navara rice. Cowdung manure, vermicompost and *panchgavya* are also used on the farm. For pest control I planted *tulsi* and marigold on the bunds of the fields. Stale fish was also used in the field for the same purpose. I had only one instance where a four acre Navara crop was completely damaged by rice pests. For the next crop I devised the use of nets to catch and control the rice pests. Rats also damage the Navara crop extensively. Manual control is employed to check this menace. Trichogramma cards have been used to control the rice case worm.

Marketing and creation of awareness

After nearly a decade of hard work spent in purifying the Navara seed, expanding the area under cultivation, value addition by certifying organic, marketing is still an uphill task. Membership of organizations of international repute like Confederation of Indian Industries (CII), The IndUS Entrepreneurs (TIE) etc. has been obtained. When a GI registration for Navara is finally obtained it will certainly add to its value. Navara can fetch a price as high as Rs. 400 per kg. The cost of production is only Rs. 60 per kg

using organic methods of cultivation. Although the profit margins are high, Navara is a delicate crop.

There was a lack of awareness among the general public and prospective consumers about what is Navara, the uses of Navara and the importance of Navara both as food and as a medicine. Therefore a website on Navara was created to educate the public (www.njavara.org). I also participated in various trade fairs, conferences and workshops and exposed the public to Navara and its products like whole rice, rice powder, beaten rice, bran and root.

Various research institutions in Kerala are now conducting research on the therapeutic aspects of Navara. The Regional Research Laboratory, Trivandrum is experimenting on the nutritional and therapeutic uses of Navara rice and bran; similarly Kerala Agriculture University is conducting its own experiments. The Rajiv Gandhi Centre for Bio Technology is doing DNA fingerprinting of Navara and the Dept. of Biochemistry, University of Kerala, Trivandrum is conducting a project on the anti-inflammatory effects of Navara. All these institutions are using Navara rice, roots and bran from the Navara EcoFarm.

The future of Navara farming in Kerala

Cultivation of Navara is an art but it requires a great deal of effort. An element of risk is always present since the crop can be damaged by inclement weather or sudden pest attack. Since Ayurveda is becoming more popular in India there is a greater demand for Navara. It is being grown by some farmers in Palakkad, Malappuram and Thrissur districts. Although Navara fetches a good price the farmers are unable to cultivate it on a large scale due to paucity of pure seeds. Considerable interest has been generated after the Navara EcoFarm's organic rice and rice products were made available to the public. But expansion of cultivation is contingent on the increase in consumer demand and on their readiness to pay a premium for organic Navara rice. Better market linkages with retailers and wholesalers will certainly help.

Author

P. Narayanan Unny is a rice farmer who has revived the organic cultivation of Navara rice in Kerala almost single handedly over the period of a decade. His farm is open to visitors and guests who wish to learn more about Navara and to taste this divine grain.

Navara Eco Farm

Karukamani Kalam

Chittur College P.O.

Palakkad 678104

Kerala

Ph: (04923)221177, 222277

Mob: 09447277749

E-mail: unny@navara.in

Web: www.njavara.org

