

“Barah Anaaj” - Twelve food grains: traditional mixed farming system

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Introduction

Terrace farming is practised in the Uttarakhand district of the middle Himalayas. “*Fasal Chakra*” or Crop Circles is a method of farming adapted to the climatic conditions. Modern agriculture has tried but not succeeded in destroying this tradition of mixed cropping.

Two year rotation and mixed cropping system

Mixed cropping of the twelve food grains is done prior to the *Kharif* season. In different regions, these seeds are sown from mid-May to mid-June and harvested from mid-September to mid-October. These fields are left fallow after that, and are prepared again at the end of March. Farmyard manure is applied. Paddy and barnyard millet are sown and harvested by end September. In the *Rabi* season, wheat, barley and *masur dal* is grown and harvested by end April. Again in the third year, twelve grains mixed cropping is done.

Twelve food grains mixed system

Ragi (finger millet) is the main crop of this system. Amaranth, *rajma* (kidney beans), lobia, horse gram, *math* (traditional soya), buck wheat, sesame, *mangjeer* (*tilhan* - an oil seed), *makka*, green gram, black gram, local gram varieties etc. are sown together. In some regions, more or less than twelve grains are grown too. This method is foolish in the opinion of agricultural scientists. But, as it has been developed based on the knowledge and experience of the local people and got accepted from generation to generation, it cannot be unscientific.

Nutritional value of this system

Bread (*roti*) prepared from *ragi* flour supplies energy for a day of heavy work. It is rich in calcium, iron and iodine. *Ragi* grain extract has medicinal properties for animals. *Ragi* malt and extract can be consumed.

Amaranth is used to make bread (*roti*) and sweetmeats during the fasting and festival period. It is rich in fibre and protein. Buck wheat is used similarly. Both crops can be used as greens and have an economic value too. Traditionally, these crops were bartered for salt, but now they have good demand in the plains too.

Amaranth, maize and sorghum plants are tall. Kidney beans climb on these tall plants. These crops do not compete with each other. On the field bunds and rocky parts of the farm, lobia, black gram, local gram, horse gram, green gram and traditional soya are grown. These are consumed as *dal* and are used for other delicacies. Horse gram prevents the formation of stones in the kidney and other organs. And for those with the problem, consuming boiled horse gram water for one month can help cure it without surgery.

Traditional soya is considered the best among the *dals*. It is roasted and eaten like gram and is very delicious. Its flour is given to lactating cows to increase milk production. These cereals, pulses, and oil seeds provide all the nutritional requirements of the farmers.

The crops of the ‘Barah Anaaj’ system strengthen the inseparable relation between farming and livestock. The crops give valuable straw and husk for animal consumption.

Pest, disease and drought resistance

This system is more or less free of pests and diseases. Even if it exists, only one or two crops in the mixture are affected. The rich biodiversity protects the other crops. Even in the case of heavy wind or storm, only one or two crops are affected. The *ragi*, pulses and oil seeds also show resistance against drought. At sowing time, the fields are very dry and the air is dusty. After one ploughing, *ragi* is sown and it needs only one shower to germinate. *Ragi* can survive even an extreme drought. Again, after a light rain and sunny period, inter-cultivation is done with the help of bullocks and local implements.

Problems with modern agricultural science

Modern agricultural science, however, emphasises only mono-cropping. In the hill areas, the agricultural scientists criticise the “Barah Anaaj” system of cropping as backward and uneconomical. Instead, they promote the growing of soyabean as a monocrop. The Government and the scientists of G.B. Pant Agriculture University promoted soyabean as a cash, oil, fuel and protein crop with free seeds and fertiliser kits.

Save the Seeds Campaign

The farmers in the hill area boycotted such cash crops through “*Beej Bachao Andolan*” (Save the Seeds Campaign). This campaign posed some questions to the Department of Agriculture and the agricultural scientists: Who will process the soyabean crop into oil and milk? For whom is the rich protein? In fact, the soyabean is meant for big industries and multinational companies; farmers selling their own products to the market and buying poor quality from the market for their own consumption. Understanding this trap, the farmers are turning back to the traditional system of farming. The “Save the Seed” Campaign is not only about conserving traditional seeds; it is about saving agricultural biodiversity, organic methods of farming and local traditions. The campaign has been able to conserve about 500 crop varieties. Out of this, the farmers are successfully growing about 100 varieties of paddy, 170 varieties of kidney beans, 8 varieties of wheat, 4 varieties of barley, and about a dozen varieties of pulses and oil seeds every year.



Seeds of the twelve food grains mixed farming system. Photo: Coen Reijntjes

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