

PRESS RELEASE

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“The way out of India’s food and farming crisis can be found in farmers’ knowledge and culture which are a product of their ecological understanding of agriculture and the world around it”, says a study called **Interfacing Farmers’ science with formal science**.

The study undertaken by highly experienced senior agricultural scientists in collaboration with a group of very small scale dry land farmers was initiated by the Deccan Development Society at Pastapur village in Sangareddy district of Telangana. This unique study echoes some of the major findings of a seminal exercise undertaken by more than 400 world-class international experts on agriculture, economics, ecology, and social sciences in 2009 called IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development) cosponsored by World Bank, UNDP and FAO. The IAASTD had cautioned that ‘Business as Usual’ is no more an option for agricultural science if the world has to cope with the challenge of increasing population and diminishing food supply. Our only hope, as the IAASTD study says, lies in the knowledge systems of peasant farmers and women in resource-challenged areas of the world. The study **‘Interfacing Farmers’ Science with Formal Science’** independently comes to the same conclusion after series of anthropological workshops undertaken by the agricultural scientists Dr. Uma Reddy, Associate Director of Research, Regional Agricultural Research Station, Telangana and Dr. Suresh Reddy, Associate Professor at the Centre for Economic and Social Studies, Hyderabad along with food and agricultural activists of the Deccan Development Society.

“The cropping pattern/crop calendar designed and practiced by farmers was insurance for their food security under the harshest environmental situations. They never depended on external sources for their food grains.”

“Their agriculture was intertwined with their emotions, rituals and other facets of their culture. Every festival and ritual they were celebrating gave prime importance to their agricultural produce. This interrelation between their knowledge and culture must be clearly studied and understood by agricultural scientists and researchers. The findings of the anthropological workshops stress the need to provide strong support to the farmers’ biodiversity-based cropping systems which in turn reflect farmers’ rich experiences and wealth of knowledge systems”, is an important conclusion that the study comes to.

Covering an entire cropping cycle at various important agricultural seasons, the study examines every facet of farming from ploughing, soil types, crop selection, soil fertility, uncultivated foods, water management, pest management and harvest, in fact every single aspect of agriculture from the farmers' perspective. The study clearly opines that modern agriculture science has a lot to learn from farmers and it must be incorporated in research and the course content of agricultural universities.

Many studies in the past have highlighted that irrigated agriculture has come to the end of its course and there is no further hope left in it, especially as the climate crisis deepens. In contrast, some studies have pointed to the significance of farmers understanding from summer ploughing to crop biodiversity that is suited to the harsh agro-climatic conditions that the dry land farmers live in. In complete contrast to these warnings, the state policies in agriculture have completely ignored the farmers' knowledge. It is in this context that the understanding of the farmers' science becomes imperative for the sustainability of Indian farming say the scientists.

In Telangana, the area under food cropping has decreased up to 7.3 % from 3.4 million hectares to 3.1 million hectares according to the Advance Estimates for the year 2017-2018. This is lured with serious alarm with scientists in the study.

'Interfacing Farmers' Science with Formal Science' also highlights that many of the recommendations of the current agricultural scientists are already a part of traditional farmers' practices. For example, 'integrated farming systems' which is highly recommended by formal science is a practice that is traditionally prevalent among many dryland farmers.

Another significant area which the study brings to light is the concept of weed that is no existent among the traditional farmers. By applying farmyard manure they aerate their soils and enables it to nourish the delicate seeds such as Korra, Saama, Raagi which they sow. Their traditional ploughing system also doesn't compact the soil and helps their crops to germinate and flourish. In contrasts, the heavy tractors peddled by the government under its subsidy schemes compact the soil and prevent their germination of farmers' delicate seeds. The chemical fertilizers a lot promoted by the state further creates a hard crust on topsoil and prevents any of the farmers' seeds from cracking this hard crust and coming up. The only plants that break open this hard crust and come out are inedible and therefore they are the real weeds. In contrast, all the 'weeds' in farmers' traditional agriculture are plants that are used for food, of for fodder or for medicine. They are called uncultivated food plants and not weeds. In conclusion weeds are a gift of modern farming whereas the uncultivated food plants are part of farming heritage.

Similarly, the study found that seed selection and storage was a specialized knowledge and the farmers had amazing expertize both in selection and storage.

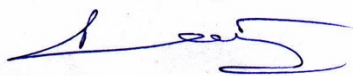
It's remarkable that the seed storage was completely non-chemical and used household 'waste' such as cow dung ash and red soil. They were stored in baskets made by village basket makers and they didn't need any special technology for this. Remarkably every farmer had their own seeds for use in the next sowing season and were never dependent on the market.

The scientists understood that the world view of farmers towards insects, 'pest' was completely different from that of agricultural science. They viewed insects from an ecological and philosophical angle and never took a position that all insects were pests. If some of them acquired pest proportions, they had a variety of ecological management techniques. Concoctions from plant and household material such as leaf extractions, fermented liquids, using neem leaf and wood ash were commonly used elements in their pest management.

An important conclusion that the study arrived at was that the package of practices recommended by agricultural establishments were embedded in the farmers' folklore itself. Specific festivals demanded specific grains for rituals thereby giving a cultural compulsion for farmers to grow all kinds of grains. Some unique festivals in fact celebrated biodiversity itself by making the concept into a lived reality. Festivals such as *Endlagatte Punnami*, *Sunyam Panduga* exhibited strong traditions of keeping biodiversity strong and alive.

All in all the study, ***Interfacing Farmers' Science with Formal Science*** resoundingly stated that farmers knowledge was unique and extremely valuable for the very survival of agriculture in the Indian Society.

The policy brief will be released by Dr. W. R. Reddy, IAS, Director General, NIRD, Hyderabad, Dr. V. Usha Rani, IAS, DG, MANAGE, in the presence of Prof. E. Revathi, Director, CESS, Prof S. Galab, Director, IDSAP, scientists Dr. Uma Reddy, Associate Director of Research, Regional Agricultural Research Station, Telangana and Dr. Suresh Reddy, Associate Professor, Centre for Economic and Social Studies, farmers Ms Chandramma, Ms Mogalamma, Ms Shyamamma, Ms Lakshamma, Ms Kamamma and food and farming activists from Deccan Development Society.



(PV Satheesh)
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