

Proceedings of the National Workshop on New Paradigm for Rainfed Farming



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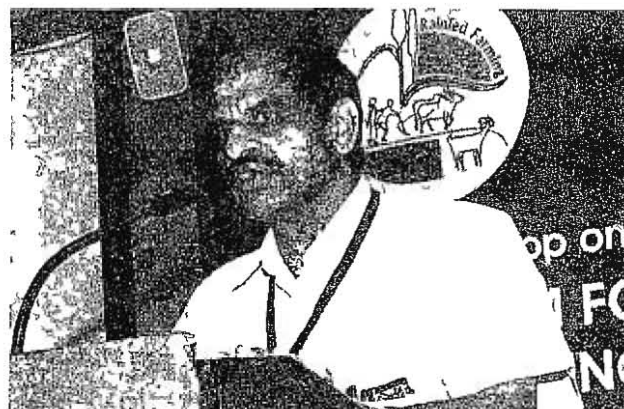
A New Paradigm for Rainfed Agriculture for Improving Livelihoods and Sustainable Development in India

Dr. S.P. Wani

Principal Scientist, ICRISAT

Dr. Wani's presentation focused on the comprehensive assessment of water for food and reducing poverty. It also stressed on the need to harness the vast potential of rainfed agriculture. It showed how IPM through a blend of chemical and organic application of fertilizers could increase the productivity of the soil. Basing on solid field research, Dr. Wani emphasized on the need to provide substantial economic incentives for promoting organic and biological nutrient sources to benefit rainfed agriculture. This allocation should not only be on area basis but also equity basis. It will lead to sustainable development and enhancing rainwater use efficiency, he argued.

Rainfed Agriculture contributes 60 percent of world's food from 80 percent of cultivated land. Dr. Wani termed it as 'home of world's poor and malnourished people'. The problem is that the yields from rain-fed agriculture are low in semi-arid tropical agro ecosystems. Though the green revolution drove away food shortage of 1960's but, 'it was at a cost'. Irrigated agriculture accounts for more than 70 percent of water withdrawals and there are competing demands for water. He boldly stated that we need to change our thinking on water and agriculture; we need to discard the artificial divide between rainfed and irrigated agriculture and there is no way that we can neglect the rainfed agriculture. He emphasized that small catchment scale water harvesting and supplemental irrigation will go a long way. Our emphasis should be on the Water Use Efficiency; otherwise we cannot meet the demand for food.



We should focus on the trade offs. Last 33 years data on large plots proved that dryland agriculture can produce more, the potential is there and the growth rate is not less than irrigated agriculture. One ha of irrigated agriculture supports only 4 persons, whereas dryland agriculture provides support to 20.

He pointed out that Rainfed agriculture depends on rainfall infiltrated in the soil and green water consumption is almost 3-fold more than blue water consumed for food production (5000 vs 1800 km³ yr⁻¹). In this context there is a need to change the way we think about water and agriculture; artificial divide between irrigated and rainfed agriculture need to be discarded. Rainfed systems are to be upgraded in a holistic way. Small catchment management could be one such effective instruments. He felt that poverty can be 'fought' by improving access to agricultural water and its use. For that there is a need to enhance water use efficiency and deal with trade-off and make different choices.

Dr. Wani suggested to harness the vast

'untapped' potential of rainfed agriculture. He said that productivity of rainfed agriculture can be doubled with the available technology, we know what to do but not how to do it. Community watersheds are silently revolutionizing the rainfed agriculture, though there are some issues that need to be addressed. In this sense, more investments in rainfed agriculture are needed to cover large area and adopt holistic livelihood approach. Convergence of watershed programs in the country and efficient sustainable institutional mechanisms from community-district-state-national level are urgently needed. Enabling policies for sustainable development and use of water and land resources also need to be evolved.

According to Dr. Wani, Indian rainfed soils are 'Thirsty and Hungry' as reflected in an analysis of 3622 soil samples from farmers' fields in Andhra Pradesh, Rajasthan, Madhya Pradesh, Gujarat, Tamil Nadu, Kerala and Karnataka.

There is widespread deficiency of micronutrients and there is also evidential participatory research and demonstration that crop yields would increase substantially with application of Zn, B and S. He suggested that in the short term 'mapping of nutrient deficiencies' country wide and measures to rectify deficiencies are needed and in the long-term, state of the art soil analysis laboratories at district level need to be established to provide necessary information to the farmers. Enabling policies for promoting organic sources of fertilizers and bio-pesticides are also needed.

In conclusion Dr. Wani observed that the 'productivity of Rainfed Agriculture could be doubled and livelihoods of small farmers can be improved substantially with the available technologies'. It needs serious efforts and investments (a new paradigm) to put suitable mechanism in place to 'translate potential into actual yield and income'.

Organic Farming through various initiatives in India - from impoverishment to Empowerment with Productivity, Profitability and Sustainability for Farmers and Farming

Shri Ashok Bang
Director, AARC, Chetana Vikas

Shri Ashok's presentation was based on experiences of farmers located in Vidharba of Maharashtra, a farmers' suicide affected area. He started by saying that modern science and technology can create problems, which are not just economic. In Vidharba more than 1000 farmers have committed suicide, which is continuing. The reasons are debt trap and this is happening not only in Vidharba but also in neighbouring states and mostly in rainfed

