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## PROMISING TECHNOLOGY

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## Breeding for Drought Resistance in Groundnut

The groundnut crop in India is primarily grown under rainfed conditions. Hence, breeding and selection of drought resistant/tolerant genotypes of groundnut offer the best long term solution to minimize the risks and impact of limited water availability especially under rainfed production system.

Drought severely limits the productivity of groundnut and other food legumes grown in rainfed production systems throughout the world. Groundnut is one

of the most drought tolerant of all the grain legumes, as is evident by its widespread production in many of the world's semi-arid cropping regions.

A novel project on Selection for Water-use Efficiency in Food Legumes involving the Australian Centre for International Agricultural Research (ACIAR), the International Crops Research Institute for Semi-arid Tropics (ICRISAT) and Indian Council of Agricultural Research (ICAR) was launched in 1963 for a period

Installing Rain Out Shelter at Regional Agricultural Research Station, Tirupati



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*I*N the past, agricultural development, mainly through green-revolution technologies, has been greatly benefitted from the supportive government policies. These policies provided a framework and an enabling environment for full manifestation of the science for the service of mankind.

Agricultural development will be a formidable challenge in the future, particularly considering that land frontiers are closed and favourable factors of the past may not be available. Thus, it becomes imperative that the developmental strategies for agriculture shall focus mainly on income generation through productivity and profitability and through creation of on-farm and off-farm employment opportunities so that people can produce as well as purchase essential requirements for a productive and healthy life.

In the early 1990s, Indian agriculture moved to a constraint regime. The second generation problems/constraints of diminishing as well as deteriorating land and water resources, increasing biotic and abiotic stresses, indications of factor productivity decline, threatened loss of biodiversity, global climate change, issues relating to globalization such as IPR, competition for quality and cost in the international trade, widening of economic inequality, besides burgeoning population, have all become important. All these issues will be at the heart of the agricultural policy in the early years of 21st century. The policies in the new millennium should address society, natural resource management,

economy, and science and technology. The agricultural policies will have to be synergistic with policies related to industry, EXIM, fiscal, price, employment and poverty reduction.

The macro policy reforms in the agriculture were introduced more slowly and cautiously as agriculture is dominated by small and marginal holdings. However, to ensure an accelerated and sustained growth in agriculture, of at least 4% per annum in future, it is essential to have an agricultural policy docu-

policies and programmes for efficient use and conservation of land (soil) and water resources, survey, evaluation, conservation and optimum utilization of genetic resources, controlled use of chemicals through Integrated Plant Nutrient System (IPNS) and Integrated Pest Management (IPM), and utilization of traditional practices, knowledge and wisdom need to be emphasized.

India should have population policy, strong women empowerment


programme, input-subsidies linked to efficiency in production, vigorous land-reform programmes, administered prices, not as instrument of income transfer but as signal for resource allocation, viable crop insurance scheme and future markets. The country should liberalize international trade cautiously, phase out all remaining hurdles in domestic

market, ensure mandatory lending to agriculture, promote cooperatives and self-help groups, give attention to non-price measures such as institutional development, good governance and also required investment in the Human Resource Development. Lack of foresight on these policy reforms will obviously prove costly in future. Thus, the importance of policy reforms cannot be over-emphasized to make India a developed nation, through growth in agriculture.



**Dr R.S. Paroda, Director-General, ICAR**

ment sooner that provides focussed thrusts and a clear direction. The issue of considering agriculture on a par with industry needs to be settled. Adequate public investments in agriculture especially for research and development (at least 1% now and 2 to 3% eventually of the agricultural GDP) become imperative. Policies, programmes and activities to harness new science, including biotechnology, information technology and space technology, enlightened human resource, and strengthening of the national and international partnerships, need to be duly emphasized. Diversification of agriculture with emphasis on the horticulture, animal husbandry, fishery, processing and value-addition, wherever possible, needs attention. Similarly,

  
(R.S. Paroda)