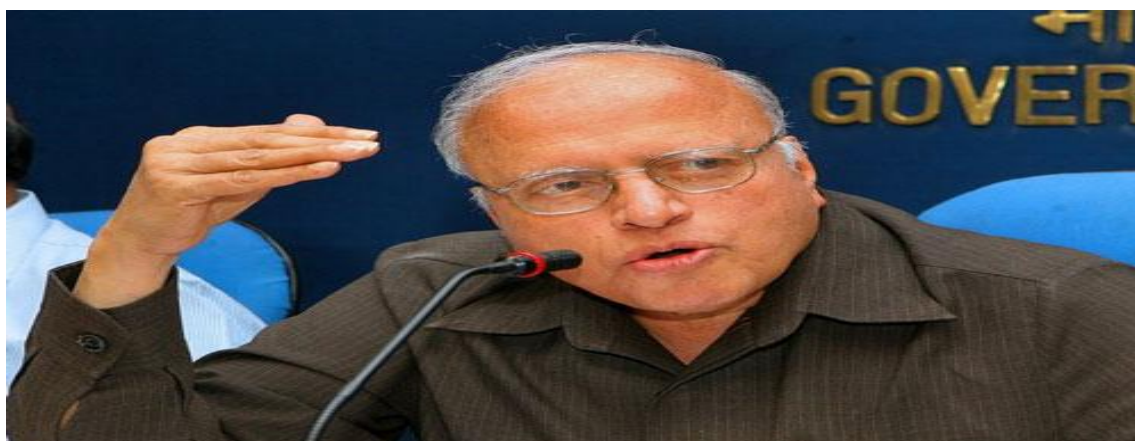


## Patron Prof. M. S. Swaminathan's Message



Indian agriculture is at the crossroads; on the one hand, there are bright spots, as in the fields of milk, cotton and horticulture production. On the other, there are dark spots, as for example, stagnation in the productivity of major food crops, fall in factor productivity, inadequate storage facilities and poor post-harvest technology. On the human side, over 40 per cent of farmers would like to quit farming, if they have another option. It is also becoming difficult to attract and retain youth in farming. The ecological foundations of sustainable agriculture, such as land, water and biodiversity, are in a state of distress largely due to improper public policies like the supply of free electricity to pump ground water. Population pressure on land is increasing and we have no option except to produce more agricultural commodities under conditions of deteriorating per capita availability of arable land and irrigation water, and expanding biotic and abiotic stresses.

While there are many location-specific problems which need attention, I would like to highlight two issues relating to the future of our agriculture. There are: youth in farming, and providing the economy and power of scale to farm families operating small and marginal holdings.

### **Reaping the demographic dividend in agriculture**

Technological upgrading as well as social engineering will be essential for improving the productivity, profitability and sustainability of small farms. This is where agriculture, animal sciences, fisheries, agribusiness and home science graduates can play a pivotal role. We should launch a Youth for Agricultural Transformation Movement in rural India. Educated youth can provide a wide range of demand-driven services such as Farm Health Monitoring and Enhancement, production and marketing of the biological software essential for sustainable agriculture, climate risk management, organization of bio-parks, food parks, bio-villages, bio-industrial watersheds, and improved post-harvest technology. Home science graduates can establish nutrition clinics to help end hidden hunger through appropriate local grains and vegetables. A combination of millet and moringa (drumstick) can provide all the needed macro and micro-nutrients. Educated youth can establish Gyan chaupals (or Village Knowledge Centers) to provide the right information at the right time and spread knowledge about food safety, codex alimentarius standards and home and external markets.

For youth to be persuaded to take to farming, agriculture must be both economically rewarding and intellectually stimulating. The development of the services sector in rural India will increase income and improve the efficiency of farming. So far, outsourcing of work involving information technology has been from foreign countries to urban IT companies. Once a large number of educated youth settle in villages, much of the work can be outsourced from urban to rural areas. This will help in

maintaining our global leadership in this area, by making the undertaking of such assignments very cost effective.

To overcome the prevailing widespread malnutrition, several steps are urgently needed for linking agriculture with nutrition and health. First, nutritional considerations must be incorporated in Farming System Research. For example, pulses or grain legumes should find a place in crop rotation. Crop-livestock integrated production systems as well as coastal and inland capture and culture fisheries will help immensely in ensuring that the needed macro and micro-nutrients are available in the diet. ICAR's All India Coordinated Project on Farming System Research should have a competent Nutritionist on its staff, so that appropriate agriculture remedies are introduced for the nutritional maladies of the area.

The National Horticulture Mission affords uncommon opportunities for addressing the problem of micro-nutrient malnutrition i.e., the deficiency of iron, iodine, zinc, Vitamin A, Vitamin B12, etc in the diet. What is important is the addition of the nutritional dimension in the programmes designed to promote the cultivation of vegetables and fruits in different parts of the country. A Home Science graduate well versed in nutrition can be added to the staff of the Mission in every district. They could also promote nutritional literacy in the area.

### **Giving the Power and Economy of Scale to Small farmers**

The average size of a farm holding is going down. Over 80 per cent of farm holdings belong to small and marginal farm categories. A small farm has potential for intensive agriculture, but a small farmer suffers from many handicaps arising from the cost, risk and return structure of farming. An urgent need relates to conferring the power of scale to small producers both at the production and post-harvest ends of farming. In the case of milk, this has been achieved through cooperatives. We should foster appropriate strategies for improving the efficiency of small farm management, through a variety of methods like Farmers' Companies, Self-help Groups, Contract Cultivation, etc. In the case of contract cultivation, it should be ensured that the partnership involves a win-win situation for both the producer and the purchaser. A small farm management revolution is essential for ensuring the economic viability of small holdings. If this does not happen, prime farm land will get increasingly diverted to non-farm purposes.

The global food price situation is grim. We have to depend on home grown food and feed to meet the needs of 1.2 billion human beings and 1 billion farm animals. The prevailing global food scenario makes it clear that the future belongs to nations with grains and not guns.

It is in the above context that the work of the All India Agricultural Students Association assumes great significance. I wish the Association great success in helping our country to achieve the goal of Food for All and Forever.

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