Food for future through sustainable intensification of agriculture

Food for future demands addressing issues related to multiple dimensions of food security that include food availability; physical and economic access to sufficient, safe and nutritious food and its proper utilization for an active and healthy life. Based on FAO’s estimates, some food and nutritional facts at global level include 842 million people (2011-13) suffered from chronic hunger; over two billion people affected by micronutrient deficiencies or hidden hunger and 162 million children under five years of age chronically malnourished (stunted) while one in six under weight and one in four stunted. Food crisis and price rise like situation has arisen in many parts of the world including Sub Saharan Africa and Asia leading to hunger and hidden hunger. The key reasons for such a situation include consumption overtaking production; lower annual crop yield growth; poor investments in agriculture over a long period of time; inadequate and poor infrastructure and continued post harvest losses. At global level, demand for food is likely to increase due to population growth and stability in production. It could lead to increased mal and under nutrition problems in rural and urban poor. The situation can become complicated due to foreseen water and energy supply crunch; reducing per capita available land and other natural resources; emerging climate change and variability problems; uncertainty about biotic and abiotic stress coupled with its changing patterns and changing consumer/market preferences. Massive efforts are required at global, national and regional levels for sustainable intensification of agriculture for increasing production per unit area of land; reducing ‘yield gaps’ on underperforming lands or rain fed areas; increasing cropping efficiency especially in irrigated areas and hill regions; reducing natural resources loss; making efficient use of ecosystem services and ensuring safety to environment. At national level, efforts for sustainable intensification of agriculture require proper agro climatic and land use planning; increasing productivity of cereals (paddy, wheat, maize ) especially in irrigated areas; increasing productivity of coarse grains, local legumes/oilseeds and fodders especially in rain fed areas and hill regions; adoption of tested and validated technological interventions; natural resources conservation and their sustainable utilization; diversification with horticulture, live stock and other allied sectors; efficient post harvest management and storage; intelligent marketing efforts. Multi dimension challenges of food and nutrition security can best be addressed by developing and adopting holistic approach supported by appropriate public policies and strategic political interventions while considering use of best traditional wisdom and newer technologies; making sensible use of cutting edge sciences including biotechnology; judicial blending of traditional approaches with modern technologies; involvement of rural women and youth in time bound implementation of recommendations; careful monitoring of public distribution system through quantifiable measures, addressing needs of poor farmers and consumers, political commitment, effective governance systems and involvement of stakeholders in policy decisions and their implementation with transparency.

Biography

R K Gupta is currently a Dean and Faculty at SKUAST-J, Jammu, India. He has completed his MSc in Plant Breeding from PAU Ludhiana, India in 1984 and PhD from HPAU, India in 1989. He has started his professional career in 1982 in Horticulture and then served in various capacities. He has been conferred many awards and honors’ like JRF/SRF (ICAR), FAO Fellowship (UN), Young Scientist Fellowship (J&K DST), Prof BM Johri Award, President Society for Plant Research, India and Vice President, Crop Improvement Society of India. He is life Member of many scientific societies. He is well known for his scientific communications on food security, biodiversity and biotechnology as evident from lead/invited/expert lectures or keynote speeches delivered in SAU’s, Central Universities, IIM and other institutions across the country. His work is on biotic and abiotic stress tolerance, plant tissue culture, vegetable breeding, seed production and a bio resource has been documented in journal of repute.

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