



Short Review Paper

Ensuring nutritional security: imperatives from agriculture

Josily Samuel*, Pushpanjali, C.A. Rama Rao, B.M.K. Raju and Nagarjuna Kumar

ICAR-Central Research Institute for Dryland Agriculture (CRIDA), Santhoshnagar, Hyderabad, Telangana-500059, India
josilysamuel@gmail.com

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Abstract

Improving status of farmers and enhancing agricultural incomes would improve the welfare of people. Contribution of agriculture to total GDP is 16-17 per cent, while the work force employed in agriculture is about 50 per cent. Agriculture is the major source of employment to majority of population of our country. Agriculture is affected with different problems such as small and fragmented holding, lack of mechanisation, erosion, depletion and pollution leading to unhealthy soils, negligence of natural resources, improper use of pesticides and chemicals, affects the quality of crops harvested. Agricultural growth in our country needs to be tuned and revived in order to meet the nutrition requirements of a large population. The small and marginal farmers belong to resource poor areas, with higher climate variability, low input and technology use which leads to low incomes. Under nutrition is concentrated in these areas, requiring specific attention as they contribute nearly 40 per cent of the food production of the country. In recent times our food basket has been changing with demand to quality and health. In order to maintain a balanced nutrition and inclusive agriculture growth there is need to diversify agriculture considering the changing trend thereby increasing their incomes and meeting the nutritional requirements.

Keywords: Nutrition, agriculture, rainfed, millets, small and marginal farmers.

Introduction

Enhancing agriculture productivity and profitability is important for the well being of humans. Across decades India has been focussing on self sufficiency in food grains, wherein India has progressed significantly. Ensuring nutritional security has become the most crucial issue for the well being of global community in recent times. Stunting, wasting, infant mortality, obesity are also different forms of malnutrition manifested which impede the quality life¹. In spite of significant growth achieved in agriculture in the country, the nutrition and hunger are among the major obstacles in overall development. The word food security needs to be understood in wider perspective as it includes not just having enough to eat but also the ability to assimilate and get the required amount of nutritional security. Nutrition also depends on the intake of minerals, vitamins not only calories and it includes issues related to required standards of sanitation, drinking water availability and health care.

Role of agriculture in nutritional security

Although the share of agriculture to GDP declining with contribution of 16-17 per cent, while the work force employed in agriculture is about 50 per cent². Agriculture is the major source of employment to majority of population of our country. Agriculture is affected with different problems such as small and fragmented holding, lack of mechanisation, erosion, depletion and pollution leading to unhealthy soils, negligence of natural resources, improper use of pesticides and chemicals,

etc., deteriorates the quality of food produced. Improvements in nutrition of a country depend on agriculture as it is the primary source of employment and income generator for majority of the rural population in our country. In order to improve the nutritional status of a country like India it is essential to revive agriculture in a way that improves the health. Any strategy reviving the agricultural development will help in ensuring nutritional security of the region. The government has recognized malnutrition as a serious problem as there is no comprehensive and functioning national nutrition strategy for the country. Before 1970s, nutritional security was very much related to food shortages, food available to the masses by increasing grain production thus was given priority. "Mobile food and nutrition extension services" was the first nutrition specific intervention scheme by Department of Food and Public Distribution, India. Nutrition education and fortification of some food items, such as iodization of salt under the Ministry of Rural Development had nutrition education activities and assistance in production and preparation of foods through community gardens, poultry farming, fish culture, etc.

Direct nutrition intervention through various programmes like Food for Work Programme under the National Rural Employment Scheme and awareness camp under the Integrated Child Development Scheme (ICDS; now called the Supplementary Nutrition Programme) and the Mid-Day Meals Scheme (MDMS) which address the nutritional needs of children and women are worth to mention for food-based nutritional safety and security^{3,4}.

Nutritional crops have been ignored and the production and consumption wheat and rice increased significantly, but pulse production and consumption declined. Though these are the major crops considered for food security and India has reached surplus food grains status and need to look into the other major millets to ensure nutritional security. Procurement of rice and wheat by the government has also indirectly led to farmers to grow more. The production has also been influenced by the adoption of high-yielding varieties, promotion and adopting of improved technologies, making them more profitable to produce relative to pulses. More production and less prices of rice and wheat replaced other widely consumed coarse grains⁵.

Table-1 gives growth in Agriculture and area occupied by small holders in major rainfed states of India. Improving status of farmers and enhancing agricultural incomes would improve the welfare of people. The data shows the incidence of rural poverty in states were more in states with more small and marginal farmer and their nutritional status were also low.

Rainfed agriculture for food secure India

Dev and Kadiyala, 2011 stated, "Inclusiveness and equity in agriculture can be achieved by increasing agricultural productivity in rainfed and resource-poor areas, thereby raising the productivity and income of small and marginal farmers⁷." Small and marginal farmers who are the major rural poor, hailing from resource-poor areas, are more nutritionally stressed. If the rainfed rural poor farmers are our focus for improvements in agricultural performance, it can lead to increased food availability bringing down food prices, and

stimulating the growth and well being of the rural non-farm sector⁸.

Millets are the major crops that could be grown in resource poor and rainfed areas of our country and they are rich source calcium, iron, zinc etc., and dietary fibres⁹. The regular consumption of millets help in improving nutrition and healthy life. body-mass-index is higher for people whose diet includes millets when compared with those who don't diet did not include¹⁰. Though the benefits of millets have been known they are not consumed due to problems of lack of value addition and lack of processed, consumer friendly packages and products. The changes in consumption patterns affect agriculture, as they determine what the farmer grows and their profitability. A rainfed farmer benefits from the changes in consumption pattern / a move of consumers' towards millets products. And millets can be grown under adverse conditions, drought and poor soils and could be grown as fooder and food crop acting as a famine or stress relief crop. Therefore there is need for substantial investments in rainfed agriculture specifically to encourage farmers to go for millets.

The small and marginal farmers of rainfed areas could be the beneficiaries of the present move of consumption pattern of people towards non- cereals. Farmers have to diversify their cropping patterns and go for a farming system approach for balanced nutrition of their families. Agriculture is the primary occupation of majority of the poor and malnourished live in rural areas. From this perspective, agriculture can impact nutritional outcomes by augmenting incomes from agriculture as it impacts nutritional outcomes of farm households.

Table-1: Growth in Agriculture and area occupied by small holders in major rainfed states⁶ (Percent).

States	Agricultural growth, 2000-2008	Area of small and marginal farmers, 2005-06	Incidence of rural poverty, 2004-05	Underweight, 2005-06
Andhra Pradesh	6.27	48	32.3	32.7
Bihar	4.38	73	55.7	56
Chhattisgarh	6.6	37	55.1	47.6
Gujarat	11.61	27	39.1	44.7
Haryana	3.86	22	24.8	39.7
Karnataka	0.12	37	37.5	37.6
Madhya Pradesh	3.45	29	53.6	59.8
Maharashtra	5.76	40	47.9	36.7
Rajasthan	4.89	14	35.8	40.4
Tamil Nadu	2.77	59	37.5	30
All-India	2.68	41	41.8	42.5

Conclusion

Food security is a situation of having easy access to the required food through different ways of supply, its affordability and acceptability. Inclusiveness is required for a strong linkage between agriculture and nutrition. We need to relook into policies which target the lagging areas like rainfed regions of the country for the raising productivity and income and nutrition of especially small and marginal farmers. In recent times our food basket has been changing with demand to quality and health. There is need to maintain a balanced nutrition and inclusive agriculture growth considering the changing trend. There is need to focus on a revolution in agriculture for better nutrition and welfare.

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