Chapter 18

Technologies for Food, Health, Livelihood, and Nutrition Security

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ABSTRACT

Intervention of various technologies to improve the food and nutritional status of the population proved the following facts: Promotion of malt based small scale food industry not only provides opportunity for rural women to develop entrepreneurship and employment, but also provides food and nutritional security through income generation. Several technologies were developed under NATP like value addition to fish and prawn products, artificial pearl culture, processing of salted fish, which helped the self help group women of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu to improve their economic status. Received two patents and licensed the technology which helped the women to reduce their drudgery and also preserve the fresh fish for a longer time without getting spoiled. Product development can be taken as income generating activity in the rural areas by the illiterate women. Products can be included in supplementary feeding programs in order to improve the nutritional status of the vulnerable groups of the population. The horse gram which is commonly used for cattle feed can be diversified for human consumption with less investment. Mothers as well as Anganwadi workers preferred amylase rich supplementary foods which reduced Grade 3 and grade 4 malnutrition in Preschool children significantly. The studies revealed that spawn multiplication can be done by women as a co-operative venture and mushroom cultivation can be undertaken at household level as an income-generating activity. Introducing red palm oil is beneficial to overcome vitamin A deficiency. Impact of women’s supplementary income on family’s nutritional status showed that the supplementary income of women has a positive impact on the socioeconomic status of the family. This impact is particularly felt on the food and nutrient intake of the family contributing towards food and nutrition security.

INTRODUCTION

Agriculture retains the dominant role in Indian economy even after 65 years of independence—contributing 14% to Gross Domestic Product (GDP); providing 60% of jobs and 70% of primary source of income in rural areas. Agriculture contributes to development as an economic activity, as a livelihood, and as a provider of environmental services, making the sector a unique instrument for development. Climate change, environmental degradation, rising competition for land and water, higher energy prices, and doubts about future adoption rates for new technologies all present huge challenges and risks that make predictions difficult. Despite rapid strides in the agriculture front, still there exist many grey areas which require immediate attention. Favorable policy environment for maximizing the benefits from technological and developmental interventions. The following are some of the issues and areas, where clear and pro-growth policy directions are important to sustain farming and the farmer.

The concept of food and nutrition security implies that every individual has the physical, economic, social and environmental access to a balanced diet that includes the necessary macro & micro nutrients, safe drinking water, sanitation, environmental hygiene, primary health care and education so as to lead a healthy and productive life. A sustainable national nutrition security system should address the three issues of availability, access and absorption. The decline in per capita food grain availability and its unequal distribution have serious implications for food security in both rural and urban areas. The world will have to produce 60% more food than it currently does, while coping with the negative impact of climate change and increasingly degraded soil and water resources. On top of that, in spite of good progress, 800 million people remain undernourished in the most basic sense, in addition to serious micronutrient deficiencies and growing obesity. Achieving sustainability in food and agriculture is a major global challenge and necessarily a long – term process. It must be underpinned by the best available science and it requires conviction, political commitment, knowledge and people’s participation- which is often lacking. There is also increasing demand for diversified production. By 2030 in India, cereal demands expected to grow by 11%, but demand for vegetables will grow by 37%. Milk and dairy by 52% and poultry by over 100%. Innovation happens when individuals and groups adopt new ideas, technologies or processes that, when successful, spread through communities and societies. 21st century Agriculture will be knowledge intensive. Knowledge connectivity should there be a key component of Bharat Nirman, designed to provide a new deal for Rural India. There is a need for convergence and synergy among numerous initiatives of Central and State Governments in the area of ICT for good governess and development. The most recent estimates from FAO indicate that 840 million people do not receive enough energy from their diets to meet their needs. Grave consequences, including continued and sustained loss of productivity, permanent mental disability, blindness, depressed immune system function and increased infant and maternal mortality can result from micronutrient deficiencies. Supplementation is most appropriate for targeted population with a high risk deficiency or under special circumstances such as during pregnancy or in an acute food shortage. Nutrition literacy should be promoted at the school level. High priority should go to the elimination of iron deficiency anemia among pregnant women through fortification of salt and kitchen gardens.

Norman Borlaug, the architect of Green Revolution in Asia observed “High yield technology of the 60’s, if fully exploited would help us succeed in our war against hunger by the end of this (20th) century. The balance sheet by end of the century, from food-nutrition security angle, is far from encouraging given that over 1.2 billion people around the world go to bed hungry – more than 1200 children die of malnutrition each hour and two billion women and children suffer from one or more nutrient deficiency