

11.0. SUMMARY AND CONCLUSIONS

Over the last six decades India has undergone a slow but sustained economic, social, demographic, agricultural, nutrition and health transition. There has been a steady if slow economic growth, which is accompanied by reduction in poverty. The Green Revolution ensured that the increase in food production stayed ahead of the increase in population. The country has moved from chronic shortages to self-sufficiency and later surplus and export in most food items. Along with the steps to achieve adequate production, initiatives were taken to build up buffer stock of food grains. Public Distribution System (PDS) has ensured that foodstuffs of the right quality and quantity reach the right places and persons at the right time and at an affordable cost. The food for work programme addressed the needs of the vulnerable out-of-work persons.

The ICDS programme aimed at providing food supplementation for vulnerable groups such as pre-school children, pregnant and lactating women, nearly covers all blocks in the country. The Mid-day-meal programme aimed at improving the dietary intake of primary school children and reduction in the school drop out rates has been operationalised throughout the country. Over decades health infrastructure and manpower has been built up and there is universal access to essential primary health care. National programmes for tackling anaemia, iodine deficiency disorders and Vitamin-A deficiency are being implemented.

As a result of all these interventions, there has been a substantial reduction in severe grades of under-nutrition in children and some improvement in the nutritional status of all the segments of population. Kwashiorkor, marasmus, pellagra, beriberi and blindness due to severe Vitamin-A deficiency have become rare. However there are still many problems to be tackled and there is a need to accelerate the pace of improvement in nutrition and health status of the population.

Data reviewed so far suggest that in India there has not been much change in the predominantly cereal based dietary intakes over the last three decades except among affluent segments of population. In spite of increasing per capita income and reduction in poverty, dietary diversity is seen mainly among affluent. Though there has been reduction in poverty and improved access to food at subsidized cost under-nutrition rates continue to be high. The high under-nutrition rate begins in-utero, gets aggravated in infancy due to poor infant feeding practices and is perpetuated in childhood due to poor intra-family distribution of food and poor access to health care. The substantial reduction in severe under-nutrition in preschool children over the last three decades has occurred without any increase in dietary intake and appears to be mainly due to improved access to health care. As poverty and poor access to food are no longer the major barriers to improvement in dietary intake, the country can achieve substantial improvement in dietary intake through health and nutritional education; when coupled with improved access to health and nutrition services

there will be acceleration in the pace of improvement in nutritional status of the population.

Prevention of intrauterine growth retardation through antenatal care, early detection and correction of under-nutrition in infancy and early childhood so that children attain appropriate weight for their height are essential to promote normal growth; this can be achieved through effective implementation of ongoing intervention programmes through convergence between health and ICDS programmes utilizing the available infrastructure and manpower .

Low intake of vegetables and fruits, poor bioavailability of iron, and lack of universal use of iodised salt are responsible for micronutrient deficiencies being major public health problems even to day. Dietary diversification, better coverage under the national anaemia control programme, massive dose vitamin A administration, universal access to iodised and later iron and iodine fortified salt are some of the interventions that could help the country to achieve rapid reduction in micronutrient deficiencies.

Over the last decade there has been a progressive increase in over-nutrition. Available data indicate that the dietary intake has remained essentially unaltered except among urban affluent segments of the population. Reduction of physical activity is the major factor behind the progressive increase in over-nutrition. Currently overnutrition rates are low in rural population and among poorer segments of population in urban areas. In the urban affluent segments an increase in energy intake of fats, refined cereals and sugar and simultaneous reduction in physical activity have contributed to the rapid increase in over-nutrition in all age groups. Nutrition education that children, adolescents and adults should eat balanced diet with just adequate energy intake and lots of vegetables and health education that exercise has to become a part of daily routine to promote muscle and bone health as well as prevent development of adiposity in all age groups have to be beamed regularly through all channels of communication. As the urban affluent segments access information and services readily, they can be persuaded to change their life styles so that they regain their normal nutrition and health status. The fact that they have changed their lifestyle could stimulate the other segments to follow suit thereby combat the trend towards increasing overnutrition in the large low and middle income group population .

Indians appear to have a predisposition for adiposity especially abdominal, insulin resistance and diabetes, hyper-triglyceridaemia and cardiovascular diseases. This predisposition could be genetic or environmental; it can manifest itself at birth, in childhood, during adolescence and in adult life. The tendency for adiposity and altered metabolism have to be combated through efforts to ensure healthy dietary habits and lifestyle right from childhood in all segments of population. This is essential to prevent sharp escalation in the noncommunicable disease risk in the population and improve longevity. With the current economic growth, demographic opportunity window, increasing literacy and social transition, the country has an unparalleled opportunity to rapidly improve health

and nutritional status of the population. The dual nutrition burden can be combated through efficient implementation of time tested, effective and inexpensive interventions and the country can achieve significant reduction in both over and under nutrition and their adverse health consequences within the next two decades.