

Problems and Prospects of Organic Agricultural Products for Nutritional & Health Security

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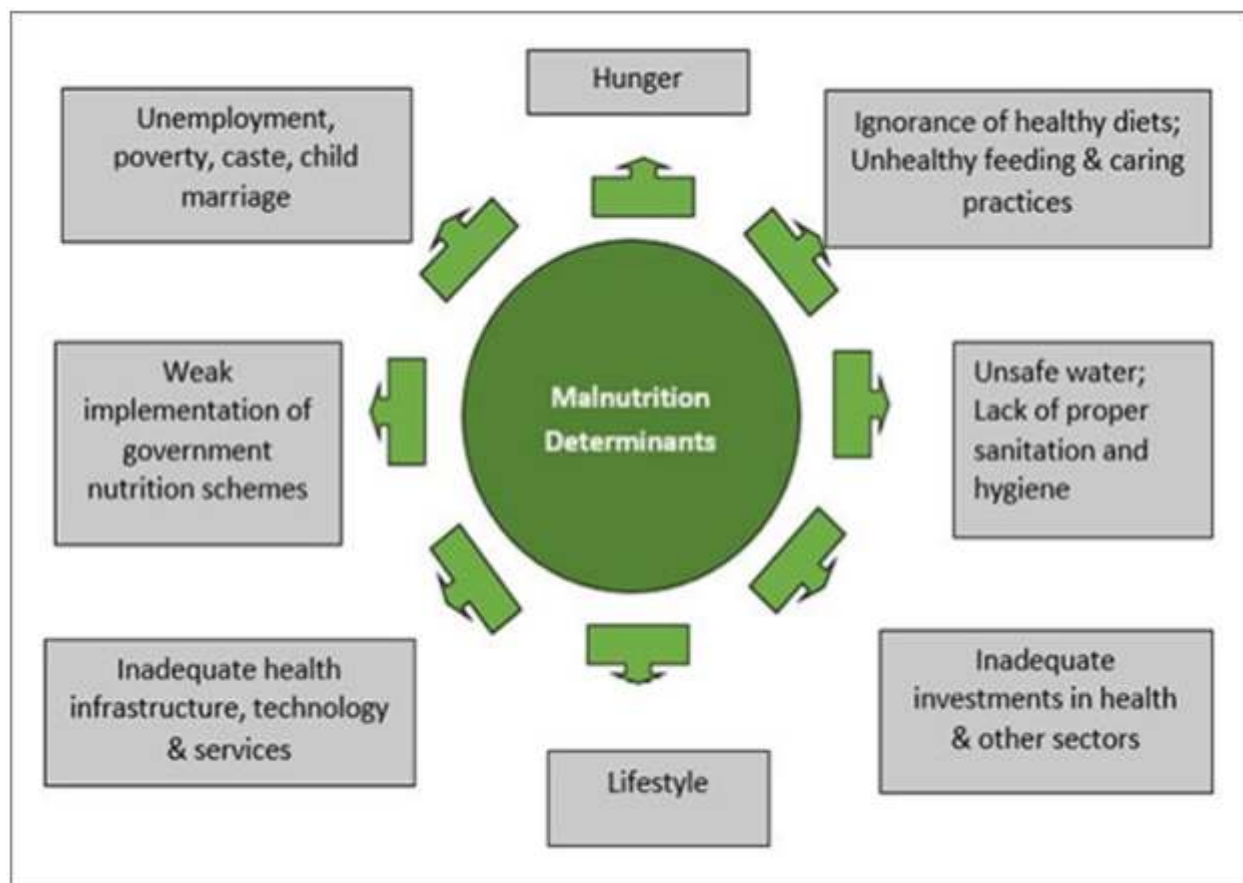
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Mission to achieve Goals: Enhancing the standards of individuals in general and rural families in particular Food security means all people at all times have both the physical and economic access to adequate supplies of good-quality and safe food needed for a healthy and active life. Food secure households can grow or gather their food or earn sufficient income to buy it and are not at risk of losing that capacity. Agriculture, fisheries and forestry provide livelihoods and improve nutrition

but government policies create the broader framework for food security

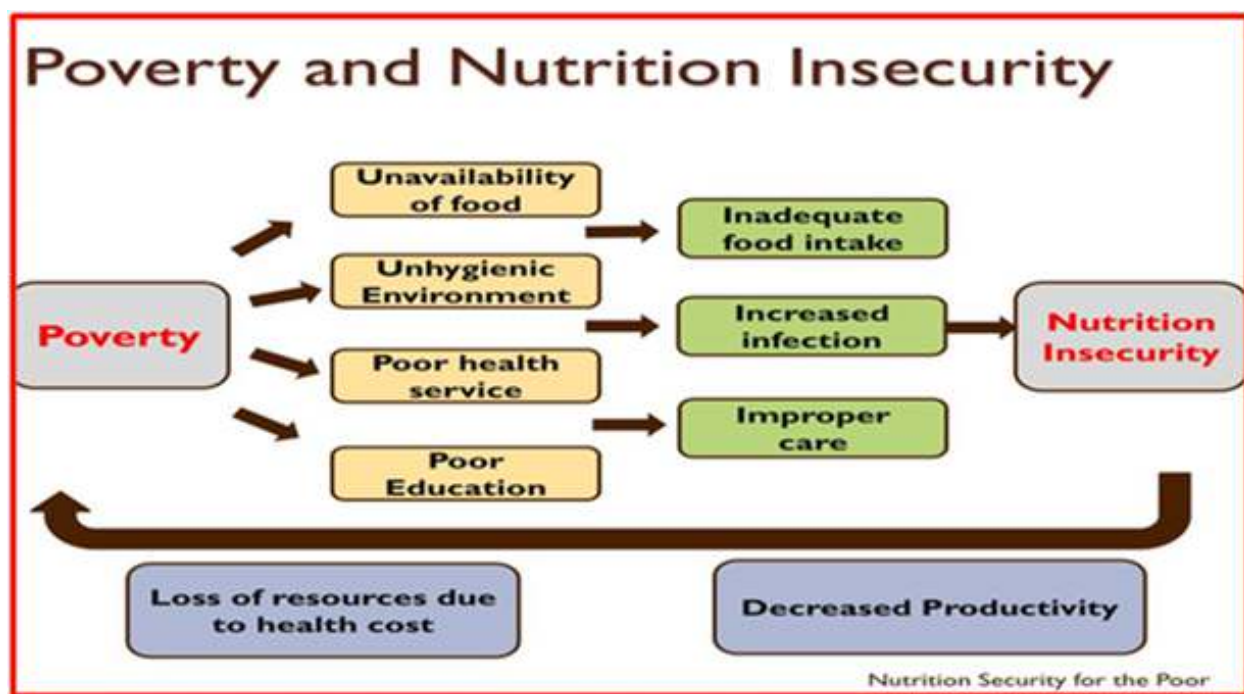
A number of critical factors affect household food insecurity, including: Pressure on agricultural land; Low soil fertility; Restricted access to wetlands; Poor diversity of food crop production; Poor post-harvest practices ; Poor access to fertile farmland and fishing areas.

Common Reasons for Prevalence of Malnutrition



Major Thrust: Nutritional status, Economic Empowerment, Entrepreneur Development, Education, Awareness programs through T.V.,

Technology on Value addition, Health, Education Material on Child Care, Food & Health.



Missing link between Agriculture and Nutrition :In spite of increase in production of food grains, fruit and vegetables malnutrition in children stunting (36.1%) , wasting (19.3%) , anemia (67.1%) and obesity (3.4%) .

Global Challenges: Biodiversity loss, pollution, land and environmental degradation, water scarcity, population growth, poverty, food insecurity, malnutrition and climate change.

Inter cropping, Integrated crop management, Modern Agriculture diversify production & achieve sustainable food security.

Several Programs such as National Nutrition Policy (1993) ,National Nutrition Plan of Action (1995) and National Nutrition Mission (2001) Not yet achieved nutrition goals.

Reasons:

Nutrition is a not a stated goal with measurable parameters in health and agriculture planning and execution in National Food Security Mission, national Horticulture Mission and National Rural Health Mission.

Dr. M. S. Swaminathan mentioned Brining Agriculture, Nutrition and Health together will make A Major Contribution to Achieving the Goal of Freedom From malnutrition .

Hon'ble Prime Minister Sri Narendra Modi at Indian National Science Congress 2016 said Science & Technology has helped to Reduce poverty and advance prosperity ;Fight hunger & improve nutrition and Conquer diseases ,improve health.

India produced around 2.9 million MT (2022-23) of certified organic products which includes all varieties of food products namely Oil Seeds, fibre, Sugar cane, Cereals & Millets, Cotton, Pulses, Aromatic & Medicinal Plants, Tea, Coffee, Fruits, Spices, Dry Fruits, Vegetables, Processed foods etc. Among different states Madhya Pradesh is the largest producer followed by Maharashtra, Rajasthan, Karnataka, and Odisha. In terms of commodities, Fiber crops are the single largest category followed by Oil Seeds, Sugar crops, Cereals and Millets, Medicinal/ Herbal and Aromatic plants, Spices & Condiments, Fresh Fruit Vegetable, Pulses

The total volume of export during 2022-23 was 312800.51 MT. The organic food export realization was around INR 5525.18 Crore (708.33 million USD). Organic products are exported to USA, European Union, Canada, Great Britain, Switzerland, Turkey, Australia, Ecuador, Korea Republic, Vietnam, Japan, etc.

Why is it important to eat organic foods?

Organic products reduce public health risks to farm workers, their families, and consumers by minimizing their exposure to toxic and persistent chemicals on the farm and in food, the soil in which they work and play, the air they breathe, and the water they drink.

Benefits of Eating Organic Food: Organic produce is purchased fresh from farmers., It is free from chemical and pesticides, It is free from GMOs. ,It is seasonal ,It is healthier for you and more nutrient dense ,Organic produce is more sustainable ,It supports local farmers directly and It preserves the environment.

Is organic food safer?

Organic foods have been shown to have lower levels of toxic metabolites, including heavy metals such as cadmium, and synthetic fertilizer and pesticide residues. Consumption of organic foods may also reduce exposure to antibiotic-resistant bacteria. To date, there are no long-term clinical trials measuring direct health outcomes from organic diet intervention. The short time frame of currently available clinical trials is a serious limitation in assessing demonstrable health benefits. Additionally, only surrogate markers of health have been applied to the majority of clinical trials, with most trials measuring antioxidant levels or pesticide metabolite excretion.

Safety and quality of organically produced food

- There is a growing demand for organic foods by the consumer's perceptions of the quality and safety
- It has been demonstrated that organically produced foods have lower levels of pesticides

and medicinal and hormonal residues and in many cases lower nitrate contents.

- Quality after storage has been reported to be better in organic produce .
- Labelling term that denotes products that have been produced in accordance with certain predefined parameters and certified by a duly constituted certification agency or authority.
- Organic standard will not exempt producer and processors from compliance with general regularity requirements such as food safety regulation, pesticide registration, general food and nutrition labelling rules.
- Significant positive outcomes were seen in longitudinal studies where increased organic intake was associated with reduced incidence of infertility, birth defects, allergic sensitisation, otitis media, pre-eclampsia, metabolic syndrome, high BMI, and non-Hodgkin lymphoma.
- The current evidence base does not allow a definitive statement on the health benefits of organic dietary intake.
- Future clinical research should focus on using long-term whole-diet substitution with certified organic interventions.
- This approach is more likely to determine whether or not true measurable health benefits exist.

Majority of the clinical trials were conducted in Europe, Germany, Denmark, Italy, France, and Switzerland, with other countries including: the United States, Turkey, Brazil, and Australia. Organic farming revolves around sustainable practices and animal welfare, emphasizing natural fertilizers while steering clear of synthetic chemicals and pesticides. Techniques like crop rotation, intercropping, and companion planting are employed to maintain soil nutrients and manage pests and weeds naturally. One of the significant advantages of organic farming lies in the reduced presence of harmful chemicals in our food.

Professor Jayasekara Telangana State Agricultural University: Impact of Organic Farming on soil health and productivity different crops in Telangana. The results indicate no major significant

differences were observed in the nutrients. Foods produced by organic methods are usually believed to have a better taste and a better balance of vitamins and minerals than conventionally grown crops. However, evidence from many greenhouse and field experiments with different crops do not always support this point of view. Under severe moisture stress, the application of fertilizer N can increase wheat grain protein contents. When moisture stress is moderate, both grain yield and protein concentration may increase with N application. The relationships between soil moisture and grain yield or protein concentration have been reported in many studies.

Centre for sustainable Agriculture: Supporting farmers transitioning to organic / natural farming in the area of vegetables, fruits, grains and chillies. Innovation to market for farmers through Sahaja Aharam, organic retail certification system, market linkages and legal complians.

Uday Aqua Connects: Integrated Farming through aqua culture, horticulture, paddy and soya crop net income per one crop Rs. 99,000. A farmer gets 3 crops per year.

Deccan Development Society: 2,700 women involved in cultivation of 10, 000 acers by 40 communities to improve household food security through millet cultivation. 30% of more food, fodder and vegetables providing new social status for women. Seed bank and Organic mobile van are also run by village women.

CONCLUSIONS

Organic agriculture implies growing of agricultural and horticultural crops without chemical fertilizer, herbicide, pesticides, regulators, livestock feed additive and genetically modified organisms. Organic farmers rely on crop rotation, green manures, compost, biological pest control, and mechanical cultivation to maintain soil productivity. Organic agricultural methods are internationally regulated and legally enforced by many nations. International Federation of Organic Agriculture Movements (IFOAM), an international umbrella organization for organic organizations established in 1972. Most of developed countries and few developing countries are returning to harmless Organic Agriculture practice during the last 15 years. In India, organic farming practice is less than 2 percent since Government, Agricultural Universities and Research Institutes are not prepared to support organic agriculture in whole heartedly.

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