

# **Achieving the Sustainable Development Goals 2030 with special Reference to Agriculture from Indian Perspective**

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## **Abstract**

*India has been witnessing a blind pace of growth and development in recent times Experts are now calling for “sustainable development” and the term has gained currency in the last few years. In spite of fast growth in various sectors, agriculture remains the backbone of the Indian economy. India being an agrarian country, agriculture sector is most significant sector which is major contributor in GDP of India on one hand and provides employment for a large section of population on the other hand. Both governments at centre as well as state level put their constant efforts for development of agriculture sector in India since long time. The paper aims to study the extent and importance of sustainable development its impact and effect on the agricultural practices in India, and how the production policies are changing in accordance with changing scenario of the world.*

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## **I. Introduction**

Vasudhaiva Kutumbakam, an ancient Indian phrase meaning “world is one family” concisely captures the spirit of India’s approach to all aspects of life including economic development. The sustainable development Goals (SDGs) are, thus, part and parcel of the country’s longstanding tradition and heritage. Indeed the goals substantially reflect the development agenda of India, as Prime Minister Narendra Modi himself noted in his speech at the United Nations Sustainable Development Summit in September 2015. To quote him, “Much of India’s development agenda is mirrored in the Sustainable Development Goals. Our nation plans are ambitious and purposeful; Sustainable development of one-sixth of humanity will be of great consequence to the world and our beautiful planet”

Agricultural Sector, world over, has experienced a phenomenal growth since the mid-twentieth century. The growth, driven by Green Revolution technology, has made a significant dent on aggregate supply of food grains, ensuring food security to the growing population. The next stage of growth however, faces a serious challenge in terms of sustainability. Whereas the main problem faced by the developing countries in the south pertains to sustainability of resource use, the main challenge facing the developed economies in the north is overuse of inputs. These problems have led to increasing awareness and a felt need for moving away from the input intensive agriculture perused during the Green revolution phase, to sustainable in different parts of the world. While the need for a paradigmatic shift in the growth strategy is well recognized, the transition from input intensive to sustainable farming however, has certain inherent difficulties. Notwithstanding these limitations, policies in both the north as well as the south have led increased emphasis on promoting sustainable agriculture. India can safely be characterized as an agricultural country despite the recent spurt in manufacturing and services and the declining share of agriculture in the national income, since majority of its workforce (48%) are still engaged in agriculture and allied activities.

It has been the noblest profession in India since the time immemorial and has been carried out on sustainable basis. It is only relatively recent phenomenon that large-scale forest areas, grazing lands and waste lands have been converted into croplands to support the rising population, which has caused ecological imbalance and atmospheric pollution. With no further scope for expansion of agricultural land efforts have been made to enhance the production of food grains using high-yielding variety of seeds, fertilizers and irrigation along with advanced farm equipments.

Naturally much work is needed to lift the agriculture to a level where it is least affected by vagaries of monsoon and needs little from outside the farm, i.e., lesser dependence on chemical fertilizers and water. The limited success of green revolution has been a mixed bag in that it has given rise to new set of problems: overuse of water and fertilizers. Excessive use of water results in water logging and Stalinization whereas excess of fertilizers and pesticide cause pollution of water bodies contamination of ground water. India has the largest area of irrigated land (55 million hectares) of which about one-third land is already degraded and 7 million

hectare have been abandoned. In such a situation a renewable and lasting alternative, sustainable agriculture, has to emerge for successful agricultural revolution. In the present paper the need for sustainable agriculture has been emphasized. Policies for sustainable agriculture and possible actions in India are discussed.

### **Objectives of the Study**

- To analyze the extent of sustainable development in the agricultural sector in India.
- To analyze that how and to what extent sustainable development is affecting the production policy in agricultural sector in India.
- To analyze the Government schemes and policies for Sustainable development in India.

### **Definitions of Sustainable Development**

United Nations along with other international organizations put their efforts to eradicate poverty and providing basic needs of life for all. For overall sustainable development of whole world, United Nations Development Programme (UNDP) has set 17 goals to achieve "2030 Agenda". The Sustainable Development Goals (SDGs) were agreed upon at the Rio + 20 Summit (United Nations Conference on Sustainable Development) in 2012 with a view to addressing the future development of mankind. The SDGs are expected to adopt an approach that integrates the social, economic, and environmental dimensions and concerns which form the very foundation of sustainable development.

### **What is Sustainable Agriculture?**

Sustainable agriculture integrates three main goals environmental health, economic profitability, and social and economic equity. A variety of philosophies, policies and practices have contributed to these goals. The goal of sustainable agriculture is to meet society's food and textile needs in the present without compromising the ability of future generations to meet their own needs. Practitioners of sustainable agriculture seek to integrate three main objectives into their work: a healthy environment, economic profitability, and social and economic equity. Every person involved in the food system - growers, food processors, distributors, retailers, consumers, and waste managers can play a role in ensuring a sustainable agricultural system.

There are many practices commonly used by people working in sustainable agriculture and sustainable food systems. Growers may use methods to promote soil health, minimize water use, and lower pollution levels on the farm. Consumers and retailers concerned with sustainability can look for "values-based" foods that are grown using methods promoting farm worker wellbeing, that are environmentally friendly, or that strengthen the local economy. And researchers in sustainable agriculture often cross disciplinary lines with their work: combining biology, economics, engineering, chemistry, community development, and many others. However, sustainable agriculture is more than a collection of practices. It is also process of negotiation: a push and pull between the sometimes competing interests of an individual farmer or of people in a community as they work to solve complex problems about how we grow our food and fiber.

### **Sustainable Agriculture in India**

The sustainable agriculture may be defined as any set of agronomic practices that are economically viable, environmentally safe, and socially acceptable. If a cropping system requires large inputs of fertilizer that leak from the system to pollute ground water, drinking supplies and distant coastal fisheries, the system may be sustainable economically as the long-term supply of fertilizer is stable and the economic cost of fertilizer is easily borne by larger grain production but it is not sustainable environmentally or socially, since it does not cover the cost of environmental damage or social costs. The organic agriculture focuses on "living soil", on optimizing the use of biological processes and on avoiding the use of synthetic chemicals and fertilizers. Advocates of sustainable agriculture agree with biological focus and hope to reduce but not necessarily eliminate chemical use. In the context of sustainable agriculture another term "alternative agriculture" has been prominently used. Definition of alternative agriculture sheds much light on operational aspects of sustainable agriculture. Any food or fiber production that has · a more thorough incorporation of natural processes, · reduced use of off-farm inputs with less harm to environment and consumers, · a more productive use of biological and genetic potential of plants and animals, · a better match between cropping patterns and the physical capacity of lands and, · An improved emphasis on conservation of soil, water, energy and biological resources, is defined as alternative agriculture. The normal agricultural practices using irrigation, chemical fertilizer, pesticides and high-yielding variety of seeds is called conventional agriculture. With increasing use of chemical fertilizers and pesticides the conventional agriculture is major source of pollution of inland water bodies and coastal seas. There has been growing criticism of conventional agriculture for its side effects, the "external costs" which impact communities, the environment, and human health. As for indicators of sustainability there is no single prescription. Sustainable practices will vary by cropping system, local environment and socio-economic system. Still, experience tells us that locally sustainable systems tend to be

more resource conservative than less sustainable system and tend to rely less on external inputs and more on internal ecosystem services.

### **India – Policies for Sustainable Agriculture**

During Green Revolution and after, India has the strong case of agriculture as center element in the development strategy of the government in place. Much of the credit for the success should go to policy initiatives of central and state governments and of course to the small and marginal farmers who constitute 83 percent of total that from the backbone of Indian agriculture and economy.

The Indian government's policies have always emphasized food grain self-sufficiency, which has not necessarily coincided with agricultural sustainability. Decline in the growth rates of agricultural production and productivity is a serious issue considering the questions of food security, livelihood, and environment. As such, a critical examination of the approaches for sustainable agricultural development is necessary. This examination must be framed not only by India's ongoing need to ensure food self-sufficiency but also by the consequences of access to international markets. There is a looming risk to the Indian agriculture sector due to climatic variability and extreme events which would happen at multiple levels including at the levels of crop or livestock, farm or cropping system and the food system. Adverse impacts on agricultural production would be serving in the absence of appropriate adaption and mitigation measures with far reaching consequences in terms of shortage articles and rising prices which could endanger the food and livelihood security of our country. The sustainable agriculture can be answer to this climate change threat.

India already has several initiatives, policies and programmes those can effectively help in realizing the goal of ending hunger (SDG2), if completed with necessary elements of sustainable agriculture development model implemented well with dynamic monitoring mechanism and scope for course correction as and when required India can successfully achieve SDGs including SDG2 on ending hunger, Food security, increased nutrition and sustainable agriculture. Some are as follows..

- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
- Rashtriya Krishi Vikas Yojana (RKVY)
- National Food Security Mission (NFSM)
- The National Mission for Sustainable Development (NMSA)
- Rainfed Area Development (RAD) under National Mission on Sustainable Agriculture (NMSA)
- Sub-Mission on Agro-forestry (SMAF)
- National Horticulture Mission
- Soil Health Management
- National Horticulture Board
- National Mission on Agricultural Extension and Technology (NMAET)
- Rashtriya Gokul Mission
- Government of India adopted a major project called **The National Initiative on Climate Resilient Agriculture (NICRA)**

### **Some Suggestions for sustainable Agriculture**

The framework suggests some measures for sustainable agriculture, some of them are

1. Sustainable agriculture practices:
  - Optimizing the irrigation potential and water use efficiency: Increasing the irrigation potential through effective demand and supply side management of water and effective use of water.
  - Integrated nutrient management(INM)/ Bio-fertilizers/ Organic farming/ Mechanization and technology
  - Integrated pest management
  - Improved farm practices/ crop diversification
  - Conserving indigenous genetic resources/ conserving agricultural heritage
  - Agroforestry
  - Forward-backward linkages
  - Cold storage chain
  - Warehouses
2. Supply chain management and sustainability as umbrella concepts for making agriculture sustainable and an instrument of rural transformation as discussed in earlier sections
3. Establishing agriculture as an attractive viable profession
4. Linking knowledge with practices
5. Establishment and nurturing of FO/CBOs/NGOs- extension workers as local institutions for rural transformation.

## **II. Conclusions**

It has been observed that for a growing country like India the practice of sustainable agriculture is of quite importance as it accelerates the productivity, efficiency, employment, and providing guidance to reduce the practices which affect the quality of soil, water resources and degradation of other natural resources. It basically aims at adopting specialization and using environment friendly tools to protect and preserve the environment as well as to enhance the level of production without harming to the environment. As we see the performance of agricultural sector of India we will be easily recognize that performance have been increased in a significant manner over the years. To realize the goal of Sustainable agricultural development we need to have a change in the existing system of farm production. The future lies in the adoption of a new system of farm activities that can manage both the climatic and non-climatic factors of production simultaneously in integrated manner.

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