

# Chapter 40

## Prioritization of Farming Process by Considering Sustainability as Major Issue: Sustainability in Farming Sector

**Suchismita Satapathy**

*Kalinga Institute of Industrial Technology Bhubaneswar, India*

**Debesh Mishra**

*Kalinga Institute of Industrial Technology Bhubaneswar, India*

### **ABSTRACT**

*Agriculture assumes an imperative role in the development of Indian economy, and it additionally contributes around 15% to the nation's GDP, offering work chances to around half of its population. Diverse devices and supplies implied for farming machines are utilized in farming processes which are either manually or mechanically operated. In spite of the fact that there have been advancements in new technologies, sustainability is the most important issue in farming. Modern farming process and advanced machineries have solved OHS (occupational health and safety) problems of farming. But modern equipment's smoke, dust, chemicals, and fertilizers both in manual-driven farming and modern farming are major environmental issues. So in this chapter, sustainability issues in farming are prioritized such that the policies, equipment, and process must be modified.*

### **INTRODUCTION**

Indian agriculture sector is expected to be the most important driver of Indian Economy within few years because of high investments for agricultural facilities, warehousing and cold storage. The utilization of genetically modified crops and Organic farming will improve the fertility of land and improve the crop production rate of Indian farmers. But still the small and medium agricultural sector are very poor and neglected, and are following the traditional method of crop production .Due to high cost of equipments

DOI: 10.4018/978-1-6684-5352-0.ch040

unable to purchase and the conventional method of farming gives them many physical problems like lungs problem due to exposure to dust, and musculoskeletal disorders .Extreme weather condition, heavy work load during their working procedure gives them early old age, bone and muscle problems. So to attain better efficiency of performance and to improve productivity of the worldwide farmers in the agricultural sector it is essential to design the tools and equipments keeping in consideration the farmer's capabilities and limitations. The tools and equipments design should be able to provide more human comfort, of good quality, more output focused and reduce the musculoskeletal injury. Occupational safety is a big issue of discussion for Agricultural workers. The methods of working in field in extreme climate (heat, rain), contact with the chemicals (pesticides, fertilizers), the exposure to soil, dust, the contamination due to bacteria, exposure to animals, cattle, injury due to hand tools and musculoskeletal disorders are the most important injuries faced by all Agriworkers. Agricultural workers need sufficient precaution and safety measures at the time of field and machine work, such that no physical damage occurs to them .Most of the Agricultural injuries are resulted from the improper selection and use of hand tools. In agricultural sector the traditional hand tools play a major role in performing the farming activities. The conventional hand tools like spade/hoe, sickle, hammer, shovel, knife etc. have been used since the ancient though some modifications are found now a day. As most of the farmers in India are from poor economic background, they usually prefer the conventional methods in farming instead of using the developed power operated machineries. The hand tools are mostly used in all farming activities like land preparation, weeding, harvesting of crops etc. But tractors and other machineries are definitely solve injury and safety problems compared to conventional tool. Modern equipments are not sustainable due to high noise, vibration and pollution. Farming equipment modification, system design is essential to provide better life to farmers but without environmental protection, social and economic stability is having no meaning. When all over world is concerned about pollution farming policies must be framed to avoid pollution with improving productivity. As safety and sustainability like two sides of a coin, so both parts are important for farming sector. So in this paper an effort is taken to prioritize the farming processes by focusing sustainability issue, so that due precautions may be followed in the agricultural sectors for effective and more productive farming activities.

## **BACKGROUND**

Agricultural workers need sufficient precaution and safety measures at the time of field and machine work, such that no physical damage occurs to them. The fatality rate in agriculture is far higher than any other economic sector. A large proportion of all fatal workplace accidents occur in agriculture, even though a small proportion of the workforce is employed in farming. The level of farm accidents is not decreasing. Similar accidents occur each year (Hope et al., 1999).

Most of the Agricultural injuries are resulted from the improper selection and use of hand tools. In agricultural sector the traditional hand tools play a major role in performing the farming activities. The conventional hand tools like spade/hoe, sickle, hammer, shovel, knife etc. have been used since the ancient though some modifications are found now a day. As most of the farmers in Odisha, India, are from poor economic background, they usually prefer the conventional methods in farming instead of using the developed power operated machineries. The hand tools are mostly used in all farming activities like land preparation, weeding, harvesting of crops etc. The lack of ergonomic considerations in the design of hand tools and equipment, lack of expertise, lack of the knowledge of safety measures and negligence

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/prioritization-of-farming-process-by-considering-sustainability-as-major-issue/299284](http://www.igi-global.com/chapter/prioritization-of-farming-process-by-considering-sustainability-as-major-issue/299284)

## Related Content

---

### Innovation Diffusion: An Epidemiological Perspective

Nikolaos Evangelatos and Elias Carayannis (2014). *International Journal of Social Ecology and Sustainable Development* (pp. 22-30).

[www.irma-international.org/article/innovation-diffusion/112112](http://www.irma-international.org/article/innovation-diffusion/112112)

### Sustainable Development Goal 3 Strategies to Take a Leap

Dimpal Vijand Harjit Singh (2020). *Technological Innovations for Sustainability and Business Growth* (pp. 231-252).

[www.irma-international.org/chapter/sustainable-development-goal-3-strategies-to-take-a-leap/238937](http://www.irma-international.org/chapter/sustainable-development-goal-3-strategies-to-take-a-leap/238937)

### The Role of Social Media Towards Ensuring Good Health and the Well-Being of Tourists by Promoting Wellness Tourism

Buddhini Dilanthika Hennadige (2024). *Implementing Sustainable Development Goals in the Service Sector* (pp. 185-198).

[www.irma-international.org/chapter/the-role-of-social-media-towards-ensuring-good-health-and-the-well-being-of-tourists-by-promoting-wellness-tourism/335661](http://www.irma-international.org/chapter/the-role-of-social-media-towards-ensuring-good-health-and-the-well-being-of-tourists-by-promoting-wellness-tourism/335661)

### The Influence of Remittances at the Macroeconomic Level in Romania: Causality in the Sense of Granger

Mihaela Oprea (2022). *International Journal of Sustainable Economies Management* (pp. 1-14).

[www.irma-international.org/article/the-influence-of-remittances-at-the-macroeconomic-level-in-romania/299424](http://www.irma-international.org/article/the-influence-of-remittances-at-the-macroeconomic-level-in-romania/299424)

### Survey of Interest Groups Influence in an Economy

Haris Nikolaos Papadakis and George Stelios Atsalakis (2019). *International Journal of Sustainable Economies Management* (pp. 49-67).

[www.irma-international.org/article/survey-of-interest-groups-influence-in-an-economy/223207](http://www.irma-international.org/article/survey-of-interest-groups-influence-in-an-economy/223207)