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Balancing Roots and Progress: Traditional and Modern Farming Practices in India

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Abstract: ***The evolution of agricultural practices can be traced since from the agrarian society that played a prominent role in shaping the socio - economic landscape in our society. However, the introduction to modern methods of farming such as mechanization, use of synthetic pesticides, Crops varieties that produce significantly more food per unit area compared to conventional varieties seeds, irrigation techniques and precision farming has undoubtedly enhanced productivity and efficiency. Yet, shifting from traditional to modern agriculture has not come without evidence and consequences. Thus, modern methods have led to increase the quality of food production in rural development aspects, despite facing serious challenges to environmental sustainability and biodiversity. Moreover, on the contrary the socio - cultural fabric of traditional farming practices has reach to secondary level. Therefore, this paper explores the agricultural practices in shaping and modernising the method of farming additionally that intricate the sustainability of traditional farming in India.***

Keywords: Socio - economic, Farming, Crops, Agriculture, Modern, Traditional, Environmental Sustainability.

1. Introduction

Traditional farming is mainly considered as one of the methods and practices used by early civilization to grow and obtain food, before the development of modern agriculture as well as the traditional agriculture even before decades ago. Despite relying on methods passed down through generations with minimal reliance on modern technology or synthetic inputs yet widely known as the very large source of food production for most of the indigenous communities of the world till day up to the present time. However, due to the improvement of modern farming methods and due to environmental awareness programmes farmers largely started to follow scientific method of agricultural production which leads to scarcity of traditional farming. According to the Indicative World Plan, the primary goal for agricultural development was to increase production, namely for the major staple grains (e. g., rice, wheat, and corn) usually received the top priority was given to maximizing calorie production while making a remarkable step in helping to meet protein requirements. Despite increasing level most growth in agricultural production from WWII to the 1960s came from utilised due to rapid extension in the agricultural lands. Although there seems to be some areas saw yield increases per land unit apart from primarily linked to irrigation expansion whereas many areas showed comparable levels graphed similar productivity per land unit in 1960 as revealed prior to World War II (Grigg 1980). Therefore, possibilities the potential for increasing agricultural land area was nearing its limit in addition to agricultural production growth was slowing down by the late 1960s. Thereby, the balancing roots to development from traditional farming to modern farming leads to critical examination in contemporary field of agrarian society to ensure the quality of crops production in India. Additionally, since the rapid growth of modern technology has challenged the previous farming methods which is prior to diminished.

2. Statement of the Problem

The rapid adoption of modern farming methods has transformed due to global agricultural perspective, yet certain challenges in modern farming leads to the marginalization of traditional agricultural practices. Consequently, it's growing concern that values indigenous knowledge, sustainable techniques and cultural heritage constrain to traditional farming are on the verge of extinction. Furthermore, small - scale farmers struggle to compete with large - scale operations that employ modern technologies, whereas, on the other hand traditional farming system leading towards economic and social disparities is a major concern for the small - scale farmers. The approach of traditional farming cannot be understood and promoted without proper knowledge of the farming methods in this contemporary agricultural system. Therefore, understanding the impact of contemporary farming methods on traditional systems is much essential for creating a more inclusive, equitable and sustainable agricultural thereafter in order to foster in farming method.

Objectives

- To understand and analyse the traditional farming in Indian agriculture.
- To examine the impact of modern methods on the sustainability of farming.

3. Methodology

This research paper is based on descriptive and qualitative analytical method relying on secondary sources of information which includes articles, journals, unpublished works, printed materials, books, reports and thus the paper had been qualitatively analysed.

4. Literature Review

Although many studies had been conducted on traditional agricultural system, but not much of the literature is seen available in Tripura, however these are some of the relevant literatures which are found reliable. Therefore, the practices of traditional method had been discussed particularly on the works of Tiwari (2009) in his article *Farming Practices for Promotion of Sustainable Agriculture in Dry land Areas. In: Sustainability and Economic Development in Hill*

Agriculture, the author reflected that sustainable agriculture is indeed a very broad concept that covers a variety of approaches for production in the whole concept of agrarian system. Tiwari asserts that crop rotations and crop selections comprehensively reduce soil erosion. Whereas, farmer's investing themselves in the crop rotation is indeed eco - friendly where it helps the soil to be in its surface of fertility without being depleted away. Henceforth, sustainable agricultural practices are also applied to the livestock production as depicted in his ideas. Author's observation on sustainable agriculture predicts future aspects of agriculture is to protect and enhanced the farmers leading towards the preservation fertility of the soil for the coming generations for using the fertility of land and crops productions. Tiwari has also rightly mentioned that crops rotations is one of the very important elements in maintaining the fertility of the soil as well as reducing the soil erosion which can be the very best way of sustainable agriculture equally with new parameter for the arena of agriculture in order to maintain the fertility of the soil which increases the productions of the crops moreover to protect the soil from getting depleted away from the fertility which is suitable for agricultural irrigation.

Additionally in International Plant Genetic Resources Institute (IPGRI, 2002) report, it reflects on how the underutilized crops are often considered 'Minor crops' and once grown largely and intensively is considered mere growth on agricultural resources. Nevertheless, due to several shortcomings, disuse of proper crops can be spotted due to various farming and genetic factors, economic and cultural reasons. The reports on IPGRI highlights, the farmers and consumers on the contrary are using these crops inadequately because they are incompetent with the other species in the same agricultural environment. However, it has become minor crops since it was not so popularized among all the forms of cultural aspects and general market arena. Henceforth, it was only popular as well as demanding only in the tribal arena of commercialized market including local market which has generally put it down as minor or underutilized crops.

Similarly, Vietmeyer (1990) examines underutilized crops are being often discourse as 'new crops' for the reason that due to commercial companies/researchers are recently working on such crops which are undervalued. Notably, it has been explored that local populations over entire generations have used these species synonymously despite the huge losses of their local knowledge. Therefore, the rapid increasing assess towards ignorance of new generations on the traditional uses of these crops is likely to observed in near future which can lead to scarcity of misinformation for the young researchers on the field of underutilized crops.

Much better had been discussed on the works of Marten G. G. (1986) *Traditional Agriculture and Agricultural Research in Southeast Asia: A Human Ecology Perspective.* The author, notably undermines, many small agricultural and forestry operations moreover, classic agricultural systems remain common in developing countries. Besides it fosters to contribute suitable mitigating climate change through carbon storage and conservation, substitution and establishing ecological designed for agricultural systems that can provide a buffer against extreme events. Interestingly, the diversity of these systems adds creativity and knowledge of family farmers and indigenous communities as they are considered assets of great value for solving the daunting problems which affects agricultural approach in the 21st century. Anonymously, thrust areas in contemporary world of today's generation thus neglected by the highly mechanized cultivation system which eventually ignored the traditional way of the small sector farmer's livelihoods. Hence, implementing those highly mechanized system of farming in the rural part of Tripura is a challenging part of any sector as highlighted. However, proper assembling of functional biodiversity is a collection of organisms that play key functions in the farm which may be feasible to promote synergy and certainty to enhanced farm processes such as the activation of soil biology, recycling of nutrients and the enhancement of biological pest suppression etc, which all are highly beneficial while determining the performance of agro ecosystems is elaborately explained in author's perception.

Mishra and Padung (2007) in their work on *Land Resources and Agricultural Development in East Siang District, Arunachal Pradesh - Problems and Prospects. In: Natural Resource Management and sustainable development in north - east India* had narrated about agricultural development, emphasising on the third world countries has been observed from several challenges and typical challenges including limited of challenges including inadequate education, high unemployment, poor health outcomes and food shortages etc. Moreover, due to the growing population and the consequent pressure of demands on agriculture is properly managed and increased rapidly as interpreted by the authors. Similarly, they argued unless agriculture with proper management and effective population control, particularly in developing nations, the dynamic between population growth and agriculture imbalanced, will worsen significantly and become critically severe. Thus, India comprises of many villages which depend mainly on agrarian society despite agriculture is being determined as the mainstay of the Indian economy, generating a substantial share of national income. Nevertheless, this work predicts about agricultural sector as primary sector as it produces fundamental necessities for human life as well as it provides foundational inputs for industries and additionally it is the provider of export. Nicholls also points out that agricultural growth productions make remarkable contributions to broader economic development, within certain boundaries.

However, Singh's (2013) article accentuated a holistic approach to farming that combines plant and animal production tailored to a specific location and tends to last for a very long - term solution on his famous work on *Sustainable agriculture and the practice of farming using principles of ecology in the study of relationships between organism and their environment.* The author emphasizes deeply on enhancing the quality of life for farmers and society, ensuring farm operations remain economically viable thus enhancing the environmental quality along with environmental assets based on the farming economy is much better elaborated in Singh's article.

According to the Tangjang (2009) in his work *Traditional Slash and Burn Agriculture as a Historic Land Use Practice: A Case Study from the Ethnic in Arunachal Pradesh, India.*

Traditional agricultural system is well tailored to both the environment and local communities' knowledge of growing traditional crops etc. Furthermore, the author suggested that to maintain an ecological balance and sustaining the fertility of the soil can be preserved for such crops which are to be grown for longer duration and thus better productions can be further produced.

The Traditional and Modern Farming Paradox – A Descriptive Analysis

The paradox between traditional and modern farming lies in the rigidity between sustainability and productivity with innovation as well as local knowledge and global demand. Deliberately modern farming is determined by high - efficiency techniques, uses of different machinery tools and equipment to reduce the hard labour of the farmers similarly it involves several qualities of synthetic fertilizers to control certain destruction of the crops from pesticides and thus it reduces the organic quality of the crops besides it often comes at the cost of environmental degradation and soil depletion. In contrast, traditional farming embraces low input, eco - friendly practices developed through centuries of indigenous knowledge where the farmers merely rely on local experiences and traditional techniques that manages to enhance their crops through organic production. Moreover, it prioritizes biodiversity, natural cycles and harmony within the environment. However, its slower pace, lower yields and labour - intensive methods may not always meet the demands of a rapidly growing global population. Therefore, traditional and modern farming though similar in its approach despite facing has several challenges and outcomes yet it practices can enhance the quality of food and its security depending on environmental sustainability.

5. Findings

First and foremost, the study revealed that modern methods tremendously increase the productivity method even at the cost of environmental degradation whereas traditional farming tends to be more sustainable along with less efficiency.

Secondly, it has been observed in declining use of traditional practices including loss of indigenous knowledge systems although these are vital for preserving biodiversity and ecological balance.

Notably, the study explored particularly the small - scale and traditional farmers aptly struggle to compete with large - scale industrial agriculture which further leads to socio - economic imbalances.

The paper also culminated the growing trend towards amalgamating traditional knowledge with modern innovations which offers a balanced path.

Thus, the government policies and subsidies should be more accessible to the farmers whatever with best possibilities tends to favour industrial agriculture. Moreover, there should be preservation on sustainability for traditional farmers leaving them along with support and minimum resources.

6. Conclusion

So, far practising traditional farming in India is induced by many factors such as hereditary of knowledge on farming, using of local knowledge in the field of irrigation, conventional practices such as relying on organic manure, fertilizers and human manual labour as it ensures promotion of sustainability. Similarly, focusing on the advantageous impact the necessity for improved water management which includes well - plan settlement is crucial to improve to a greater extent to farming land in a way that maintains its productivity. However, shifting from traditional to modern agricultural methods had visualize both opportunities and challenges from time to time. Further, modern farming has undeniably increased the efficiency and food production conversely besides it has also disrupted long - established agricultural systems that prioritizes sustainability and biodiversity in farming. Increasingly to ensure a sustainable agricultural future, it is significantly crucial to strike a balance between the traditional and modern farming as well, whereas inversely embracing the innovation in consideration likewise respecting and integrating the wisdom of traditional practices in conducive manner.

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