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Sustainable Development Goals and Sustainable Agriculture in Lamjung: Possibilities and Challenges Ahead

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ABSTRACT

Sustainable development goals combine seventeen goals which set the tone and direction for development, they are aimed to form a development strategy which is sustainable. Promotion of sustainable agriculture has been included among these seventeen goals to terminate hunger, ensure food security and to get improved nutrition. In Nepal, 88% populations are living in rural areas and largely depend on agriculture for livelihood. Gross Domestic Product (GDP) from agriculture has been increasing significantly every year. In spite of having a lot of opportunities to flourish, sustainability in agri production is still a distant dream in Nepal. Sustainable agriculture is meant for efficient production strategy which is safe, high in quality and does not cause any negative impacts on the environment. This research paper is thematic in nature which has been carried out with the help of a questionnaire using five-point Likert Scale. The farmers who are the sole stakeholders were the respondents for conducting the survey. This paper finds that most of the farmers are not conscious of sustainable agriculture and food security in Lamjung. They are deprived of proper schooling and training which can be considered as prime hindrance to implement sustainable agriculture. This paper also tries to find out the possibilities and challenges of sustainable agriculture in Nepal. Findings are based on the survey conducted on the farmers directly engaged in agri production which is meant to measure the awareness of sustainable production among them. Originality and Value: The paper contributes to create awareness about sustainable agriculture and food security among the farmers in Lamjung as well as in Nepal which is a must to bring out sustainable development. This paper also proposes a framework to *improve the existing situation.*

Keywords: Sustainable Agriculture, Sustainable Development Goals (SDGs), Awareness, Food security, Chemicals and Pesticides.

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INTRODUCTION

In the last one decade and a half, Nepal has made vivid progress in achieving most of the Millennium Development Goals (MDGs). Nepal made commendable progress on reducing extreme poverty and hunger in the MDG period 2000-2015. A notable milestone was achieved in the in lessening hunger as the country almost met the target of reducing by half the proportion of underweight children (aged 6 to 59 months) two years earlier than the target year 2015 [1-3]. As Nepal strongly desires to emerge as an inclusive, equitable, and prosperous middle-income country by 2030, the country must look forward to implementing sustainable development strategy to achieve inclusive growth. Agriculture sector plays the pivotal role as it acts as a grounding for all other developments.



ORIGINAL ARTICLE

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"Sustainable Development Goals" has become a catchphrase in today's global development strategy. These are a set of goals to ensure maximum consumption of natural resources without making any adverse effect to the nature. Sustainable development goals ensures utmost care for the nature while meeting up human demands for their survival. We have been utilizing the natural resources with which we are blessed with without having any justice to them. We have forgotten to take care of our mother earth which will definitely deviate us from reaching the goal of ensuring sustainable development in all spheres. If we look into the goal of reducing hunger, bringing food security and improved nutrition which is one of the seventeen goals of sustainable developments goals (SDGs), we are bound to prioritize on sustainable agriculture [4]. 'Sustainable agriculture' refers to the farming in sustainable ways which aims to increase the productivity and meet the agricultural demand in a way that promote food security without compromising the ability of future generations to meet their own need. [5, 6]. The term "Sustainability" comprises of meeting the need of present without affecting the ability of future generation to fulfill their needs. Sustainable agriculture is a significant issue that ensures food security in developing country like Nepal. This paper will provide an insight into the sustainable agriculture and its promotion with an overview of the existing situation in Lamjung district of Nepal. This paper also demonstrate the possibilities and potential challenges of sustainable agriculture in Nepal. Lamjung, spreading over 1,666 square kilometer of land, 25.7 percent of which is dominated by agriculture. Agriculture remains the center of the economy, there is a craving need of approaches to enhance the maximum profit and productivity through implementing a sustainable strategy. Agriculture sector of Lamjung district faces many challenges including long-term soil infertility, unproductivity, soil erosion, loss of top fertile soil. Besides, there are a lot of anthropogenic degradation are being caused. Overgrazing and unsustainable farming in hills have resulted in loss of flours fauna. Occurrence of landslide in the hills of Lamjung are also very frequent. We see sustainable agriculture as an ultimate solution to all these unwanted obstacles to increase productivity and to ensure ecological balance [7-9].

We have taken -the unawareness of sustainable agriculture among farmers of Lamjung and continuous usage of chemicals and artificial fertilizers as major challenges to sustainable agriculture as research gap for our study.

Research Questions:

- 1. Are the farmers of Lamjung really aware of the term "Sustainable Agriculture?"
- 2. Do the farmers of Lamjung possess any knowledge of the harmful effects of using chemicals and artificial fertilizers?
- 3. What are the challenges involved in implementing sustainable agriculture in Lamjung as well as in Nepal?

Objectives of the study:

- 1. To emphasize on implementation of sustainable agriculture in accordance with sustainable developments goals.
- 2. To find out the probable challenges in implementing sustainable agriculture.
- 3. To measure awareness of the farmers in respect to sustainable agriculture in Lamjung.

MATERIAL AND METHODS

An extensive literature review has been done on sustainable agriculture and awareness of the farmers. Unawareness of the farmers of Lamjung about sustainable agriculture has been taken as research gap and a questionnaire was prepared to measure the awareness level about sustainable agriculture and to know their perceptions about the adverse effect of using pesticides and chemical fertilizers. The questionnaire was prepared by the researchers using five point Likert scale and was distributed among 200 respondents who are mainly farmers from Lamjung district. Among them 100 responses were successfully recorded. Random stratified sampling technique has been used for collecting the data. **Data Analysis:**





RESULTS AND DISCUSSION

From the charts it is found that 63 percent of the farmers strongly agreed that they are not familiar with the term "Sustainable Agriculture". 55 percent of the farmers strongly agreed that they do not use bio-organic fertilizer to grow crops. Nearly 75 percent of the farmers are aware about the adverse effect of pesticides but they do not have any idea of its disposal methods. Despite of knowing about the harmfulness of pesticides, the farmers are still using it in abundance. Besides, 80 percent of the farmers strongly agreed that they are not having access to proper trainings and workshops to learn about sustainable goals and sustainable agriculture.

Key Challenges:

Following are the key challenges in the implementation of sustainable agriculture:

- 1. Majority of the farmers do not have elementary education.
- 2. Benefits of training programs are not reaching to the farmers of the rural districts like Lamjung.
- 3. There is no vivid initiatives taken by government to promote sustainable agriculture.
- 4. Scarcity of high quality seeds remains as an obstacle.
- 5. Chemical fertilizer and pesticides seem lucrative by the farmers as it provides rapid production without causing much inconvenience.
- 6. The farmers do not have any knowledge of handling pesticides and its disposal. As a result of which, causing a great threat to the ecology.
- 7. Organic cultivation is still a distant dream.
- 8. Very limited access to technology.
- 9. Agro-environmental problems such as Over-exploitation of forest resources, sloppy land cultivation, and activities like road construction using heavy equipment has led to increasing landslides, flooding, and downstream sedimentation, leading to loss of productive soil/land

SUGGESTIONS

- Organic farming should be introduced as it reduces greenhouse gas emissions from transportation and chemical fertilizers, leading to shorter, more sustainable supply chains.
- > The farmers should use biodynamic fertilizers which leads to less waste and less need for external energy inputs.
- Frequent and adequate training facilities in respect to sustainable agriculture must be ensured.
- Special subsidy and loan facilities can be given to farmers who adopts sustainable farming.
- > Young people must be taught about the benefits of organic agriculture which will promote the creation of sustainable livelihoods.
- Introduction of small scale, community development and cooperatives will boost income and production in a sustainable way.
- There should bebe a meaningful policy shift that favours sustainable agriculture as well as the farmers.
- > Emphasis should be given on generating bio-fertilizers and bio-pesticides to facilitate pest control.

IMPACT OF THE STUDY

In a developing country like Nepal where a majority of the population directly depend on agriculture for their livelihoods, sustainable agriculture cannot be kept asidein the discussion of sustainable rural livelihoods. In order to ensure the second goal of Sustainable Development Goals (SDGs), that is to ensure zero hunger and food security, the farmers must adopt a sustainable way of farming. Otherwise all the development plans will come back to square one ultimately. This unsustainable way of farming only leads to indiscriminate consumption of the limited resources. Sustainable agriculture not only directs toward ascertaining the optimum productivity but also utilizing natural resources in such a way that regenerates its productive capacity in future. Most of the farmers want to maximize their farm productivity without knowing their farm capacity. Non sustainable farming practices results in natural resources degradation which results in decrease in ability of future generation to produce their food. There is need of biologically integrated agro-ecosystem to regenerate their productivity. There is a craving need for a concerted efforts from public-private partnership to create awareness, to educate our farmers about sustainable agriculture. This study is limited to only Lamjung district, so the entire picture of Nepal has not been captured due to various constraints. But this study definitely will help to generate awareness and consciousness among all the stakeholders involved here.

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