Bangladesh Agriculture: A Review of modern practices and proposal of a sustainable method

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Introduction

- Modern sustainable agricultural methods approach to agricultural innovations and farming practices that increase farmer’s efficiency and reduce the use of natural resources.
- Bangladesh agriculture is deteriorating due to degradation of land and water resources and the excess use of toxic chemicals.
- This is the reason the government of Bangladesh has adopted sustainable agricultural methods to protect the environment stability and economic profitability.

Objectives

- To give a proper understanding about some of the modern practices in Bangladesh.
- To suggest a comparatively effective sustainable agricultural practice.

Methodology

Data collection from journals, article, paper etc.

Literature review

SWOT & PESTEL analysis

Modern practices used in Bangladesh

Crop Diversification

- Crop diversification is a cropping method that adds new crops to agricultural production on a specific farm
- Lessens farmers' reliance on a single crop and mitigates unforeseeable climate catastrophes .
- Uncommon due to a lack of market access; transportation, Established soil conditions etc.

Change in cropping pattern and rotations

- The distribution of a farm's land to various crops cultivated over the course of a year is referred to as cropping pattern.
- Essential measure of a locality's land use, environment, and socioeconomic elements.
- A yearly strategy for maximizing agronomic and economic production.

Integrated farming system

- Integration of various agricultural enterprises into the farming system has great potential in the agricultural economy .
- Reduce erosion risks.
- Requires high investments.

Polyculture & Crop rotation

- A conventional farming technique where crops are cultivated together on the same field, which is known as crop rotation and cultivating two or more crops at the same time in a same place is known as polyculture.
- Crops are grown using this methods because of its high productivity, high revenue level, and adaptability for combination management practices.
- polycultures offer better protection against soil deterioration and has a favourable economic impact.
- Using crop rotation, weeds and diseases can be controlled and pesticide consumption can be reduced.

Strengths

1. Prevent soil biodiversity loss
2. Reduce ground water contamination.
3. Rotations that do well without irrigation help conserve water.
4. Disrupt pest biology and control disease.

Weaknesses

1. Requiring tillage and ploughing has a negative impact on soil biodiversity.
2. Influence the emission of greenhouse gases.

SWOT Analysis

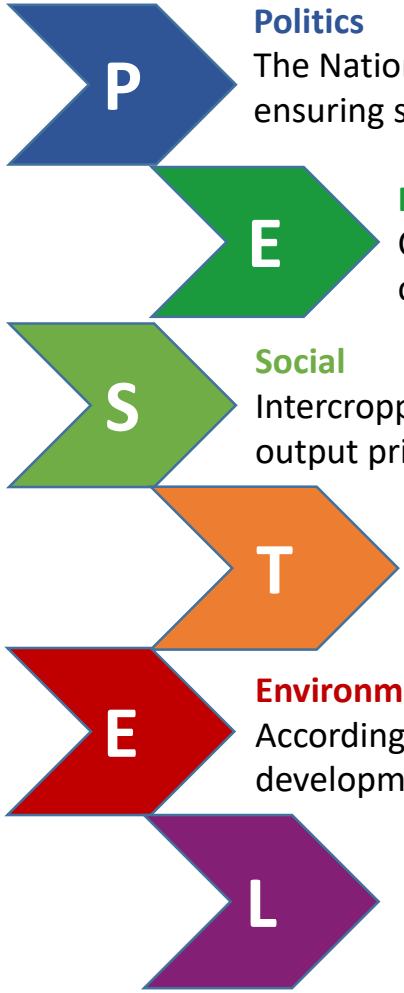
Opportunities

1. Rotations maintain a cover throughout the year benefit soil microbes and earthworms.
2. crops with high soil cover index reduce losses of water.
3. Beneficial if crops that require low or no N fertilization.

Threats

1. As a result of pesticide use, genetic diversity is reduced.
2. Crop with short vegetation period have a negative impact.

PESTEL Analysis



Politics
The National Agriculture Policy 2018 goal is to ensure sustained food and nutrition security while also ensuring safe and profitable agriculture.

Economy
Crop rotation and polyculture reduce agriculture's dependence on external inputs and contribute to economic consequences by reducing equipment cost.

Social
Intercropping farming system increase farmer's income from a financial standpoint. Farmers can alter the average output price by changing the crop structure in rotational cropping and increase cost efficiency.

Technology
Advances in sensing devices and embedded systems can help to enhance tillage and crop yields and planned improvements in crop productivity and resource consumption, are all moving towards more sustainable ideas.

Environment
According to National Environmental Policy 2018 technologies and development activities for agricultural development must be done in an environmentally friendly manner.

Legal
Treaty specific many acts and laws of Bangladesh fails to address causing problems for sustainable agriculture. By implementing PVP act Bangladesh can promote plant varieties and sustainable agriculture.

THANK YOU