STUDY ON VARIOUS PROBLEMS FACED BY AGRARIAN COMMUNITY IN THE FRINGE VILLAGES OF KAZIRANGA NATIONAL PARK AND SUGGESTING SUITABLE SOLUTIONS TO THEM

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ABSTRACT

This paper tries to find out various problems faced by farming communities in the adjoining villages of Kaziranga national park and possible solutions to such problems. While providing suggestions, it should be kept in mind that kaziranga not only supports a huge farming community but also a huge kinds of flora and fauna. The findings in this paper may be beneficial to the farmers if effectively applied.

Keywords: Agriculture, Kaziranga, Rural economy, Problems and Solutions.

I. INTRODUCTION

Kaziranga National Park is a biodiversity hotspot located on the banks of the river Brahmaputra, flowing across the state of Assam in India. It is one of India's oldest wildlife conservancy reserves, first notified in 1905 and constituted as Reserved Forest in 1908 with an area of 228.825 sq km specially established for conservation and protection of the Greater One-Horned Rhinoceros (Rhinoceros unicornis), whose number was estimated at twenty pairs then. Previously the fringe villages around the park were thinly populated by various local tribes who primarily lived on hunting and agrarian practices. However, in recent times due to various constraints, the fellow people near the park have lost interest in agriculture. In this paper, we will study some of those constraints and access how adoption of suggested farming methods may ensure sustainable farming in fringe areas of the park, which supports food production and supports the vast biodiversity of the park.

II. METHODOLOGY

To carry out the study, both primary and secondary data were considered.
Primary Data: Conversations with local people, agriculture experts, wildlife researchers.
Secondary Data: Data from News reports, tourism department, various project reports.

III. RESEARCH OBJECTIVES

A. To study various constraints of farming in adjoining villages of Kaziranga national park.
B. To study various agroecological farming methods to address these constraints without hampering the region's natural biodiversity.
C. To study the feasibility of developing the agro-tourism industry in this region.

IV. RESULTS AND DISCUSSION

Over the recent past, the agrarian society of the adjoining villages of Kaziranga national park was significantly disrupted by various factors such as annual floods, wild animal intrusion to farm lands, and strict government regulation of agricultural resources such as pesticides and other chemicals. Due to such reasons, people dwelling in those areas are now leaving agriculture, leading to the migration to other urban regions of India. Though most people in this village are engaged in the tourism industry, there is an immense importance of developing the agricultural sector that may help develop other avenues, including agro-tourism.

Problems with the region:

Annual flood: Historically Kaziranga national park region had been flood-prone as it is sandwiched between Brahmaputra and Karbi-Anglong hills. Moreover, flood is considered essential for the park's natural ecosystem to survive and maintain its lush grasslands. The flood will never be a problem for Kaziranga if a major flood happens once or twice a decade. Now it has become a regular affair due to combined effects and anthropogenic and natural reasons. The entire area of Kaziranga, formed by alluvial deposits of Brahmaputra, is exceptionally fertile. Floods that were once considered a boon for the region have now been taken as curse due to their colossal damage to farm lands, stored crops and seeds, and farm animals. As per available data
Wildlife Intrusion to farmlands: It has been a significant problem for the farming community. The human-elephant conflict in this region is now well known. Moreover, animal farmers are facing tremendous problems because of big cat predators.

Avoidance of using Agrochemicals: Use of agrochemicals is harmful to a wide variety of flora and fauna of the region. Moreover, the agrochemicals flow through rainwater and pollute the water bodies inside the park, which is harmful to the fishes of the waterbody and the migratory birds arriving there every year. Due to these reasons, various governments and non-government organizations discourage farmers from using these chemicals.

Other constraints: The region faces other constraints, including lack of farm mechanization, lack of transportation, and more others. However, these constraints affect almost the entire India, so these are out of the scope of my study.

Possible Solutions

Coping up with flood calendar: Observations indicate that the annual flood in this region is limited mainly during the monsoon periods, i.e., from May to August. This period is outmost necessary for Sali paddy growers of Assam. Every year flood damages the growing paddy cursing heavy losses to growers. Cultivation of Sali paddy in the rainfed condition is practiced by the farmers of these almost for decades. Nevertheless, there should be a much-needed change. The focus should be on practicing farming during the winter season and putting the land fellow during floods. The winter month in this area is devoid of rain, and the irrigation facilities are not adequate, so emphasis should be given to crops with low water requirements. Cultivation of flowers, aromatic and medicinal and aromatic crops can also be considered, keeping in view their growing demand in local and international markets.

Adoption of Agroforestry: Agroforestry is the cultivation of arable crops, livestock, with tree crops on the same land management unit in a sustainable manner. It will reduce the pressure on the forest area and enhance the better protection of ecological systems. It will also reduce runoff and also check soil erosion caused by recurrent floods. Moreover, it will improve soil structure and soil fertility by adding organic matter to the soil in litterfall. Adopting such measures will also increase the output per unit area and reduce total crop failure chances. Agroforestry will improve the rural living standards of people by increasing their income in a sustained manner. The adoption of agroforestry will improve the health and nutrient of the people by providing diverse, nutrient-rich farm produces.

Adoption of Organic Farming: It means the cultivation of crops without using any synthetic chemicals. Organic farming has extensive scope in the entire northeastern India. Farmers of North East India have always put them aside on using harmful agrochemicals. The available data shows lesser dependency of North eastern farmers on chemicals as compared to mainland India.

<table>
<thead>
<tr>
<th>States</th>
<th>Fertilizer (kg/ha)</th>
<th>Pesticides (tonnes)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arunachal Pradesh</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Assam</td>
<td>38.81</td>
<td>43</td>
</tr>
<tr>
<td>Tripura</td>
<td>30.45</td>
<td>21.6</td>
</tr>
<tr>
<td>Manipur</td>
<td>104.94</td>
<td>128.7</td>
</tr>
<tr>
<td>Meghalaya</td>
<td>17.16</td>
<td>16.1</td>
</tr>
<tr>
<td>Nagaland</td>
<td>2.13</td>
<td>1.7</td>
</tr>
<tr>
<td>Mizoram</td>
<td>13.72</td>
<td>19.9</td>
</tr>
<tr>
<td>Sikkim</td>
<td>9.72</td>
<td>9.9</td>
</tr>
<tr>
<td>NEHR</td>
<td>35.04</td>
<td>–</td>
</tr>
<tr>
<td>All India</td>
<td>90.12</td>
<td>86</td>
</tr>
</tbody>
</table>

However, the region's farmers are not using organic farming to its full potential due to a lack of knowledge. Few farmers are aware of using modern botanicals and other biopesticides. Organic farming near the Kaziranga National Park region has an additional advantage as the considerable number of birds around the area contributes to managing insect pests. Currently, the farmers rely on ITK's (Indigenous Technical Knowledge), i.e., their forefathers' experiential knowledge passing through generation after generation. A modern touch in this age-old practice will be beneficial for the farming community.

**Scope of development Agrotourism and Small industries.**

Kaziranga is one of the most preferred destinations in Assam for both national and international tourists. Over the years, Kaziranga has seen a continuous increase in the number of tourists, and the tourism sector is the source of income for most people. Tourism in Kaziranga is essentially wildlife tourism, but it has immense scope of developing as a destination for Agrotourism and Rural-tourism.

The inhabitants in the adjoining villages include various tribes with their own culture, etiquettes, fashion, festivals, unique cuisine, and drinks that can serve as a source of attraction for foreign tourists. The entire region has massive potential in the slow fashion market as the area has enormous sericultural potential.

Father of nation Mahatma Gandhi once said, "Assamese women are born weavers; they can waive fairy tales on their clothes.". The quality of Muga Silk(Golden Silk) that Assam produces and the artistic touch of Assamese woman is enough to create demand in international markets.

**V. CONCLUSION**

The rural communities of the fringe areas are mainly cultivators with agriculture as prime livelihood. These cultivators in the area are directly engaged in producing and managing crops and livestock. They are also involved in leasing out their land to the landless laborers both for farm and non-farm activities. Apart from cultivators, there are non-cultivators, which are considered the poorest among the poor. It was found that among the rural households majority of them came under this category. They usually depended on seasonal demand for labor in agriculture, and engaged mostly in services like carpentry, small scale services like wood carving, cattle rearing, as workers in nearby resorts etc. However apart from cultivators and non-cultivators the area also comprised of the marginalized workers that was around 60% of the total work force. It is this section of the population that generally lived on subsistence consumption with farming as livelihood. They own small pieces of land, cultivate the crop suitable on their land that depended mostly on weather conditions. And it's their dependency on nature that awaits them for next crop cultivation.

**VI. REFERENCES**

