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Influencing Geographical Factors for Growth of Floriculture Development – A Case Study Based on Dokanda Village, Khirai, Panskura, Purba Medinipur

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ABSTRACT

Floriculture is a discipline of horticulture. It includes cultivation of flowering and ornamental plants. It has aesthetic value. It includes seasonal biennial and perennial ornamentals flowers. Floriculture helps to employment opportunities and earning foreign exchange. Dokanda village popularly known as Khirai – '**A Valley of Flowers**' in Purba Medinipur District of Panskura block is gradually developing in this agro industry. Due to favorable geographical environment in this flower Valley of Kansai River has immense potentiality of development of floriculture industry. In spite of several potentialities this region has faces several problems like cold storage, market availability, inaccessibility, seasonal irrigation etc. This research paper is mainly focused on factors affecting development of Floriculture in this village with SWOT analysis with proper planning process.

1. Introduction

Floriculture is the important commercial economy of the agricultural sector. It includes production processing and marketing of all flowers (Kodam, 2012). About 50 nations are actively engaged in floriculture mainly developed countries. In India it is the important sources of income for livelihood pattern. According to 2011 254 thousand hectares area was modern cultivation in floriculture (Agriculture and Processed Food Products Export Development Authority, 2013) in India. This industry in India is characterized by growing traditional flowers (loose flowers) and cut flowers under open field condition and protected environmental. The traditional cultivation, comprising of growing loose flowers mostly for worship, garland making and decoration forms the backbone of Indian economy presently.

Khirai – A valley of flowers of Dokanda village, Panskura, Purba Medinipur is highly developed in floriculture. Present study is mainly focused on factors affecting to the Floriculture

development in this region. SWOT analysis with policy formation is also highlights in this study area with proper planning.

2. Location map

The Valley of Flowers Khirai is located in the upper expanses of Kansai (River Kansabati) near Khirai railway station in the Panskura region of India. It is well connected by roads as well as railway line (S.Eastern). The farmland is located in East Midnapore district between Khirai station and Panskura station. It is easily accessible by local trains from Kolkata at regular interval. The lower reaches of Kansai near Dokanda village are known as Kansai Valley. The Valley of Flowers is in the Dokanda valley. It lies between 22° 38'N to 22° 22'N and 87° 71'E to 87° 41'E. Different kinds of flower paint the Valley of Flowers Dokanda in pink and yellow in the first week of January.

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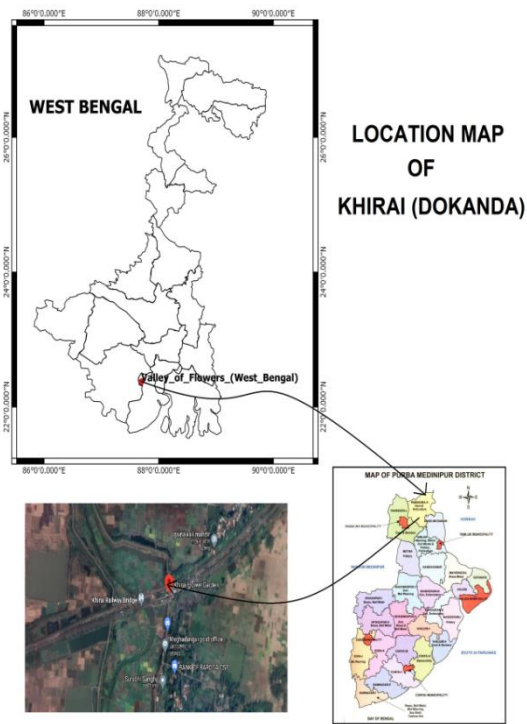


Fig 1. (Location Map)

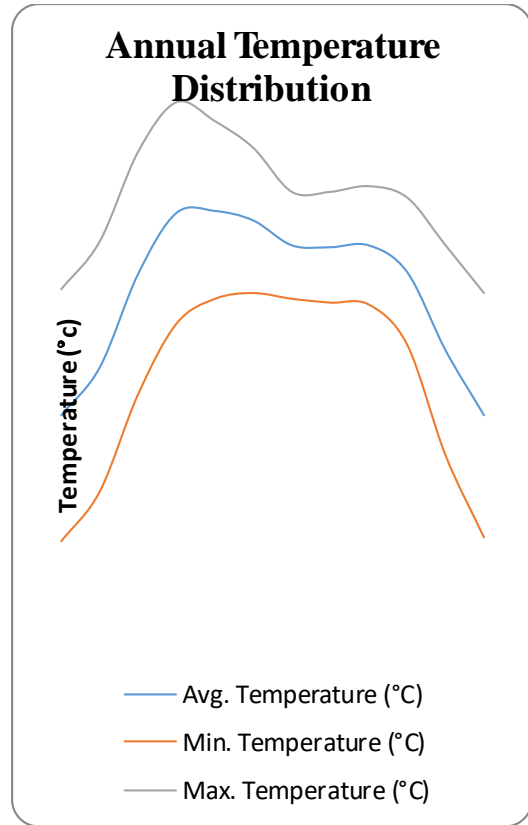


Fig 2 (Temperature Distribution)

3. Factors controlling Floriculture

3.1 Physical Factors

All physical factors which influences on floriculture of Khirai are explained in below:

Climate

a. Temperature and Relative humidity

The climate follows a hot tropical monsoon weather pattern. The temperature in Khirai is 24 °C, while humidity is 39 %. If we are looking for weather in Khirai during February, be prepared for maximum and minimum temperatures ranging from 18°C to 34 °C and humidity levels of around 39 %. In summer daily heat is often followed by evening rains known as Kalboishakhis or dust-storms (Loo).

b. Rainfall

Monsoon rains can last from mid-June to late August with rains from the southeast monsoon. The annual rainfall is around 150mm.

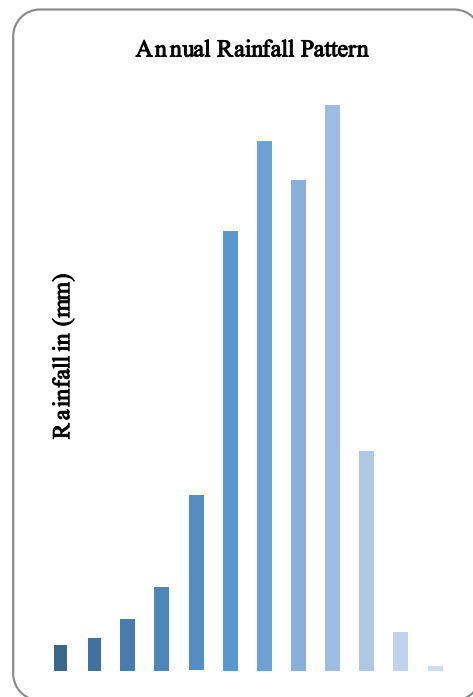
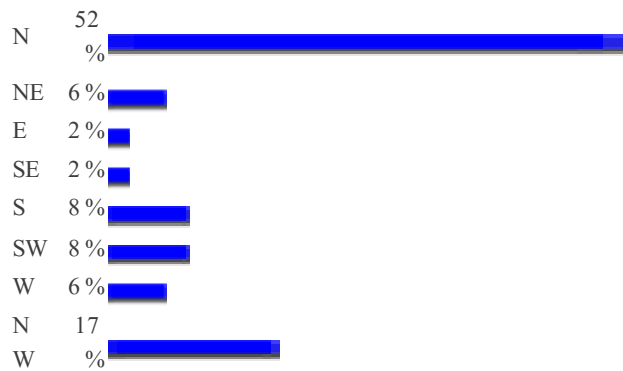


Fig 3. (Rainfall Distribution)

c. Wind

Wind-direction (February 2020 - February 2021) of khirai is as follows -



d. Fog

In winter this area is mostly affected by fog it is too much unfavorable on flower cultivation.



Fig 4. (Image of Fog)

e. Topography

Topographically, the district can be divided into two parts (a) Flat plains on the East, West and Northern portion of the district, and (b) The Contai Coastal plain at the Southern part. The land is totally quaternary alluvial deposition. As the district area is bounded by water bodies in two sides, it is a formation of fluvial-tidal deposition. Geologically the area is of recent origin.

This region is 5-7 meters above mean Sea level and average slope is 0-5 degrees.

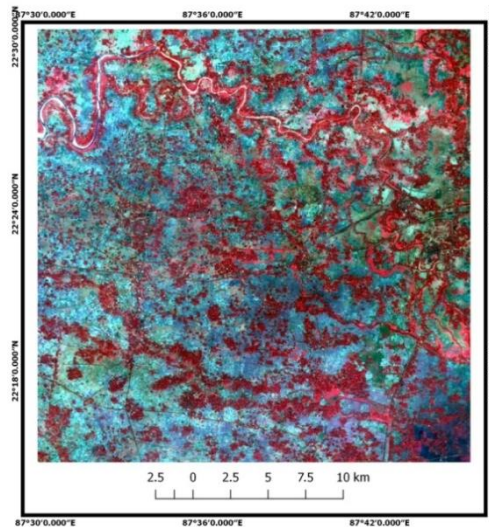


Fig: 5. (Satellite image of study area and surroundings)

f. Soil

The soil of the district is alluvial type, as the district under coastal alluvium and its deposition. Soil of this region consists of different layers like sand, silt and clay. The district is situated on flood plains of the rivers Rupnarayan and river Kansai. And therefore huge amount of clay is dominating in soil texture.



Fig 6. (Newer alluvium soil)

g. Irrigation

Kansai (Kansabati) river in Panskura (Dokanda village) is the major source of irrigation water to the floricultural fields.



1



2



3

Fig 7. (Traditional irrigation pattern)

h. Flood

On account of flood with the River Kansai every year the people of that area are victims and they past their life with very critical condition. On the other side we have found with their explanation in the other season except rainy reason they

cultivate huge flowers and vegetables from flood deposited alluvial soil.

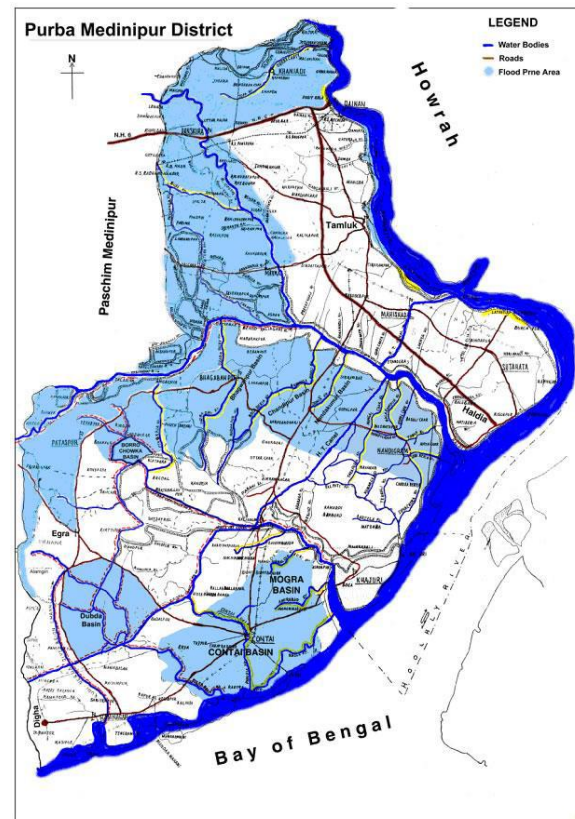


Fig 8. (Flood map of Purba Medinipur)

3.2 Cultural Factors

a. Capital

The farmers of floriculture of the area have invested Rs - 6000/- to Rs 7000/- per hecter for their cultivation. At the period of lockdown they could not invest money due to their poor financial condition. At that time Government declare for them RS 80000/- as weekly loan which assist them for their livelihood pattern.

b. Market

They supply their flowers daily in Howrah Mallikghat and the Kolaghat market respectively. They transported it through local train from Khirai Station regularly. They plucked the flowers just before the previous day in the afternoon. In the market they sell the flowers in the two ways like loose flowers and Garlands at the cost of Rs 8/kg (loose flowers) and Rs 16/kg (as Garlands) separately. In this way they earned Rs 1000/- to 1200/- per day and spent their livelihood pattern

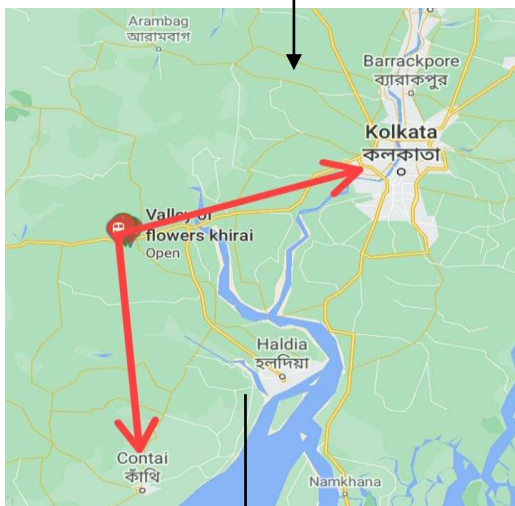


Fig 9. (Supply of their flowers to the market)

c. Accessibility

The Valley of Flower is well connected by roads and railways. The farmland is located in East Midnapore district between Khirai station and Panskura station. It is easily accessible by local trains from Kolkata at regular interval. It takes around two hours from Howrah to reach the destination.

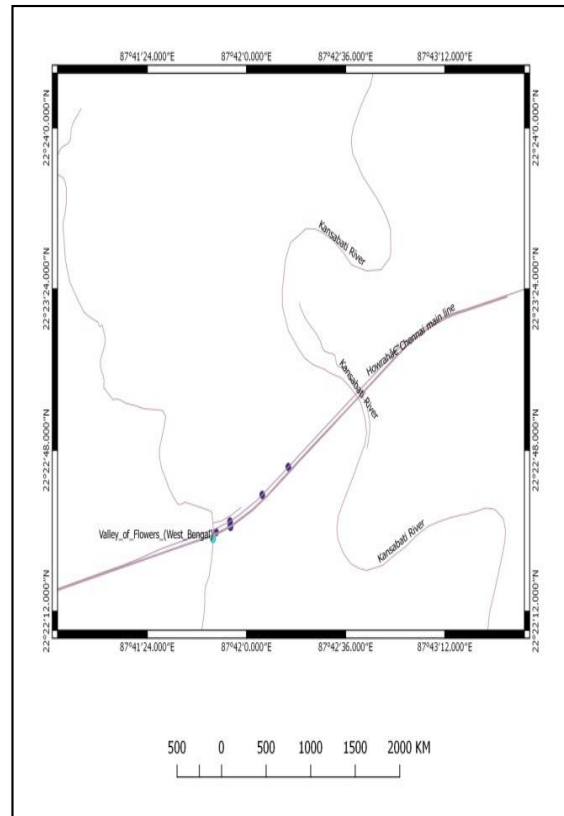


Fig 10. (Accessibility Map)

d. Labour

7 to 8 peoples per ten hector farmland are cultivated on average. They worked themselves regularly from their own family and managed the cultivation smoothly. They cannot hire any labours from outside. It is their positive outlook. After passing the M.P. examination they engaged their wards with the cultivation and also their small children’s are attached with these activities.

e. Drainage

During winter period Kansabati River (Kansai River) water is their main source of floriculture. But during rainy period lands are under regular seasonal flood which is very good sign of such cultivation practice, because fresh alluvium is highly needed for growth of floriculture.



Fig 11. (Flower cultivation with surrounded Kansai River)

f. Inter Cultivation

We noticed also at the time of our survey that they not only cultivate the flowers only in their land but also they cultivate various types of vegetables like Cauliflower, pea, potato, brinjal etc for their own use. They cultivate it only in the winter season with their flower cultivations. On the other hand they cultivate nut in the opposite side of the rail line duly in summer. We also noticed that they are mainly suffered at the time of rainy season for their smooth cultivation. Inter Cultivation is very good support for farmers economic condition due to low risk factor.



Fig 12. (Inter Cultivation)

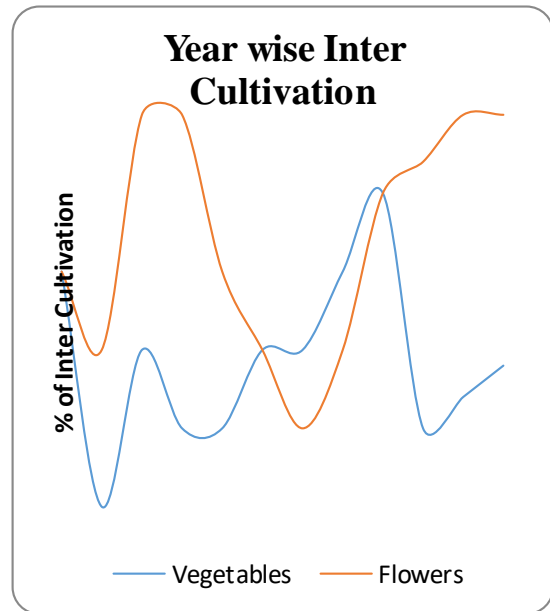


Fig 13. (Inter Cultivation)

g. Occupation

Most of the people are manage their family on the basis of their flower cultivation. This is their main occupation.



Fig 14. (Occupation)

4. Result and Analysis

During survey some significant result can be identified which mention below: -

Flowers

We have noticed their two types of flowers are cultivated separately in the season winter and summer. In the winter they cultivated mostly Cherry, Chrysanthemum, Mexican marigold, Aztec marigold, Blood marigold, Murcia, Aster, and Chinch etc.

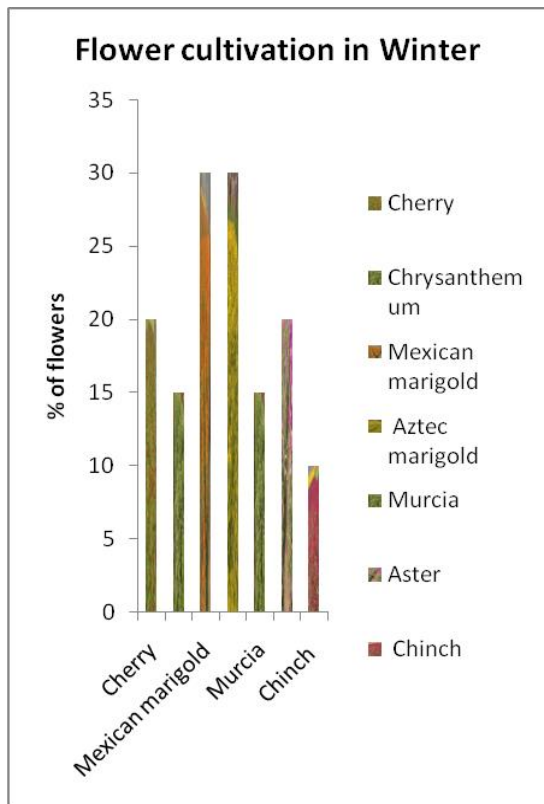
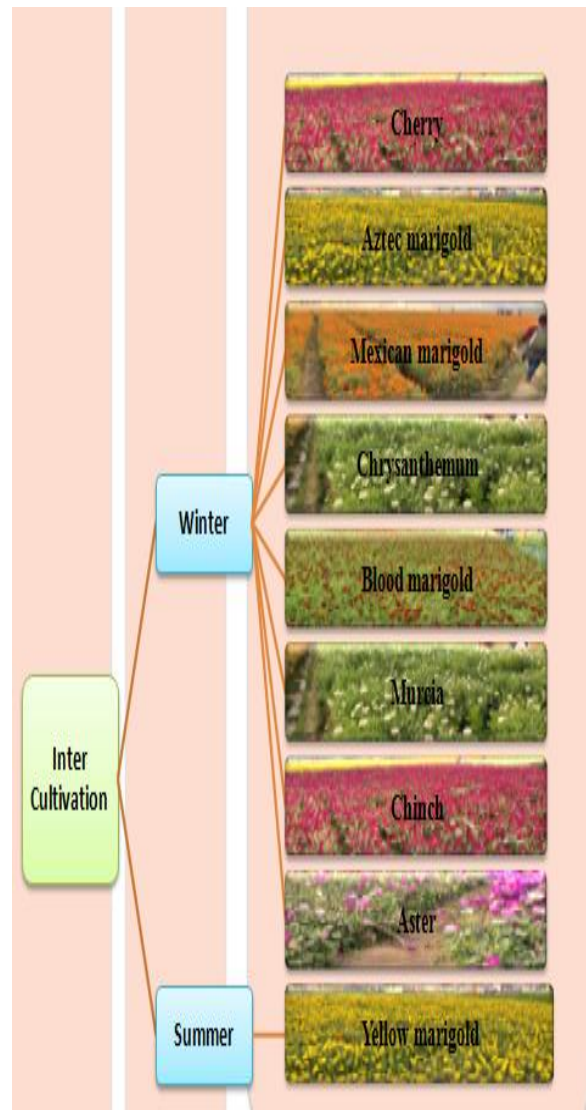


Fig 15.

In the summer season they have cultivated only yellow marigold.



Vegetables

At the same way they are cultivated two types of vegetables separately during the season of winter and summer. During the winter they cultivated mostly Peas, Potato, Radish, Brinjal, Cabbage, Tomato, Kohlrabi, Coriander, Carrot and Mustard flowers etc.

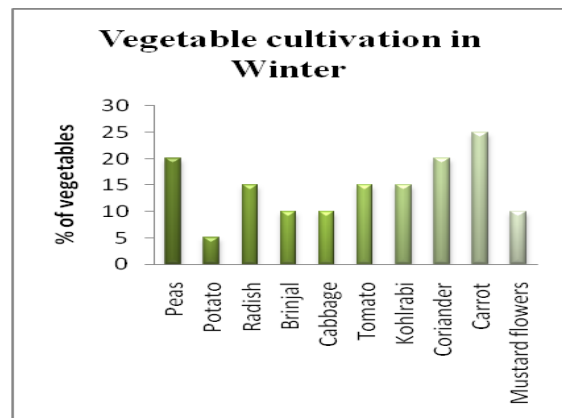


Fig 17. (Various types of vegetable cultivation)

In the summer season they have cultivated Bitter melon and Nut.

For cultivation purpose they are used various types of fertilizer like Gromor 10:26, Organic manure and also use various types of insecticide to control the caterpillar from its supervision.

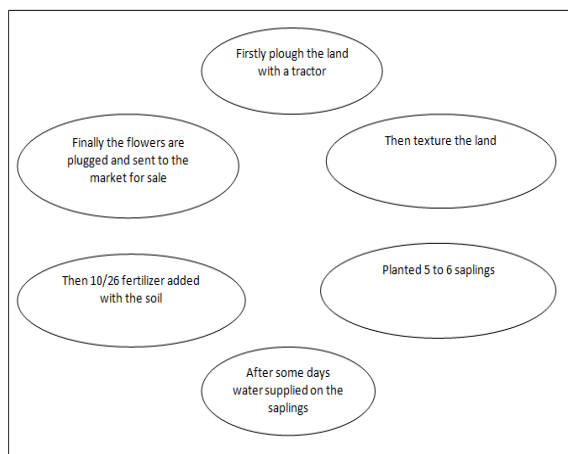


Fig 18. Process of flower cultivation

NDVI analysis for Regional Planning

NDVI Maps helps to identify spatial distribution of vegetation with ecological significance. This map creates a special database for planning of floricultural potentiality

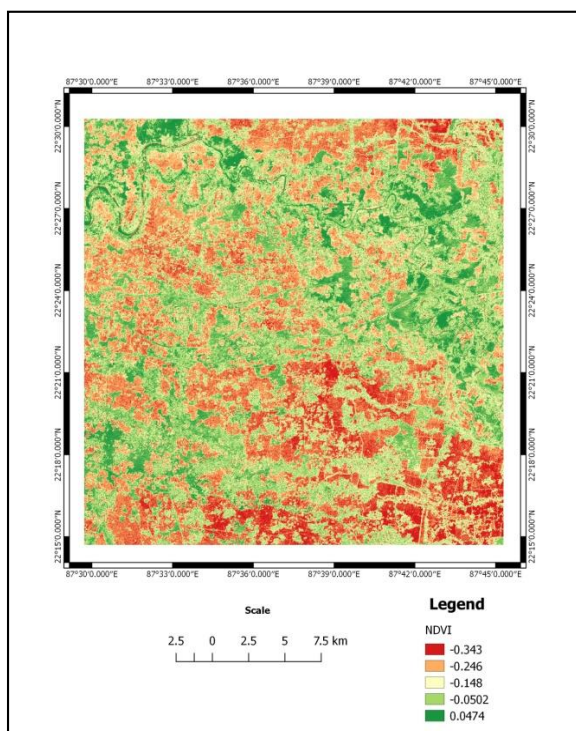


Fig 19. (Normalized Difference Vegetation Index)

5. Strength

- Here we found the land is fully newer alluvial which is too much helpful for the flower cultivation.
- Land is depending only through the water supplied from the Kansai River.
- The climate of this area is too favorable which is fully helpful for the cultivation of flowers.
- There we have found that most of the family members are engaged with the flower cultivation. They have no longer required for hire the labour from the outside.
- Another facility they can enjoy from the nearest Local Railway station and Highway. It is a very good sign of high accessibility.

6. Weakness

- ✚ They could not get any profit by selling those flowers except winter season. So, this practice is seasonal in nature.
- ✚ Flower gardens are highly degraded during winter period due to high pressure of visitors.
- ✚ They couldn't help anyway from the Government for its cultivation.
- ✚ Ear cutting caterpillar is the most harmful insect to attack it.
- ✚ In winter season many flowers are affected by Fog.
- ✚ Dropout problem is very significant due to early engagement of cultivation field of their wards.
- ✚ There was a great problem we have collected shortly at the time of survey that some people in their place are also engaged with smuggling flowers to other countries.

7. Opportunities

- The area is called "VALLEY OF FLOWERS" of West Bengal which we came to know from the Social media. So many people are gathering there for its beauties and they purchase various types of flowers from this area. With that the farmers of this area is get opportunities to earned money.
- Local market is another opportunity of this area.
- Intercultivation and community load are also another opportunities to them.

8. Threats

- On the other side tourist problem is the biggest threat to them as they destroy various types of flowers unnecessary.
- Poor infrastructure is another threat to the flower cultivators also mainly related to conservation of flowers like – cold storage etc.

- Last of all we have found that the flowers farmer cultivated the flowers on the vested land of railway development of India. In any time they may loss this cultivation from their life. We think that it is bigger threat to them.



Fig 20. (Biggest Threat)

- Poor capital is another threat for farmers.
- No linkage with international and national flower market.
- No training centre for such cultivation practice.
- No industry related to Floriculture.

9. Conclusion

Along the bank of Kangsabati the magnificent varieties of flowers are cultivated which look like multi colors carpet. Winter season is very much significant as this time very suitable for blooming of flowers. There is immense potentiality for development of Floriculture in this region. Socio economic condition of this region is gradually changes through this practice. Ecotourism concept and also women empowerment has high chances to introduce with careful planning of Government and local Administration. Research

based training programme with awareness of people and also infrastructural changes are essential for sustainable growth of such cultivation. Government with NGO's help is necessary for development of the area as a "Model Village". Geographically sustainability of different factors is helpful for development of this region with special attraction.

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