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RESEARCH ARTICLE

CHANGING CLIMATIC CONDITION AND TYPES OF FLORICULTURE: CASE OF PURBA MEDINIPUR DISTRICT, WEST BENGAL

*Asit Kumar Jana

Research Scholar of Kolhan University, Chaibasa, Jharkhand, India

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ABSTRACT

Present day PurbaMedinipur district is one of the flower cultivated zone of West Bengal. In this time the study area flower cultivation have taken a place. Presently floriculture has become a highly specialized. Growth of floriculture and its role in socio economic status of floriculturists of the district PurbaMedinipur are very important. Mainly Panskura-I, Kolaghattwo blocks are most important flower growing region of the district PurbaMedinipur. During the past review we can see this region have an important role to play for economy and gets verities of flower and production. Climatic condition deeply impacted on floriculture. Rainy and winter seasons are very important for floriculture. Winter season also produced different type of flowers and those product mainly use for commercial purpose. Presently this paper deals with the changing climatic condition how to change types of floriculture.

INTRODUCTION

PurbaMedinipur district is one of the good coastal, landform, seasonal rural and heritage diversity, it offers potential for floriculture. The district of PurbaMedinipur began its regularly and unevenly during the monsoon season floriculture very highly cultivated. This district during the summer month moderate growth of floriculture. Different flower grown in deferent season. Kolaghatblock is famous for floriculture. Otherwise Panskura-I and Tamluk block are also famous for flower cultivation. Changing climatic condition deeply impacted on floriculture. Present day this district very high percentage of land use for floriculture. Different climatic situation and very high irrigation system can help for grown of floriculture. This district very high percentage of produce flower and floriculture is very developed. In this time the district PurbaMedinipur is very high percentage produced verities of flower.

Area under study

PurbaMedinipur is one of the eighteen administrative districts of West Bengal. This district as a tropical and sub-tropical climatic region. As the name indicates the district located on the eastern side of PaschimMedinipur. The district is also surrounded by Howrah in the north, parts of Orissa in the south west corner and Bay of Bengal on south and eastern side. This district total area 4736 sq. km. This district lies 86°33'50" north to 88°12'40" north latitude and 21°36'35" east to 22°05'10" east longitude. Average annual rainfall 2171 mm.

*Corresponding author: Kumar Jana

Research Scholar of Kolhan University, Chaibasa, Jharkhand, India

Objectives

- The main object of the study is to do the changing climatic condition and change present scenario of floriculture.
- How the climate control for type of floriculture and their production.

MATERIALS AND METHODS

This study examines the changing climatic condition and change types of floriculture. The district PurbaMedinipur situated as a tropical or sub-tropical monsoon region. Changing climatic condition to force the change floriculture. Firstly primary data collected from filed survey and obtained from secondary data different offices, like GramPanchayat offices, sub-divisional office, block development office and district statistical hand book. Different articles and journals flow for basic knowledge. Base map of study area, image, graph are also be prepared.

RESULT AND DISCUSSION

The climate of the district is tropical average temperature varies from different times. Floriculture and sericulture are also widely practiced here. This district has vast irrigation network. Aquaculture and shrimp farming has been taken up in a big way in the coastal belt of the district but floriculture is most important matter of this district. PurbaMedinipur district is a part of the lower Indo-gangetic plain and eastern costal region of West Bengal. This district annual rainfall requires 2171 mm and maximum temperature is 28^oc to 32^oc and minimum temperature is 10^oc to 12^oc.

LOCATION MAP OF THE STUDY AREA

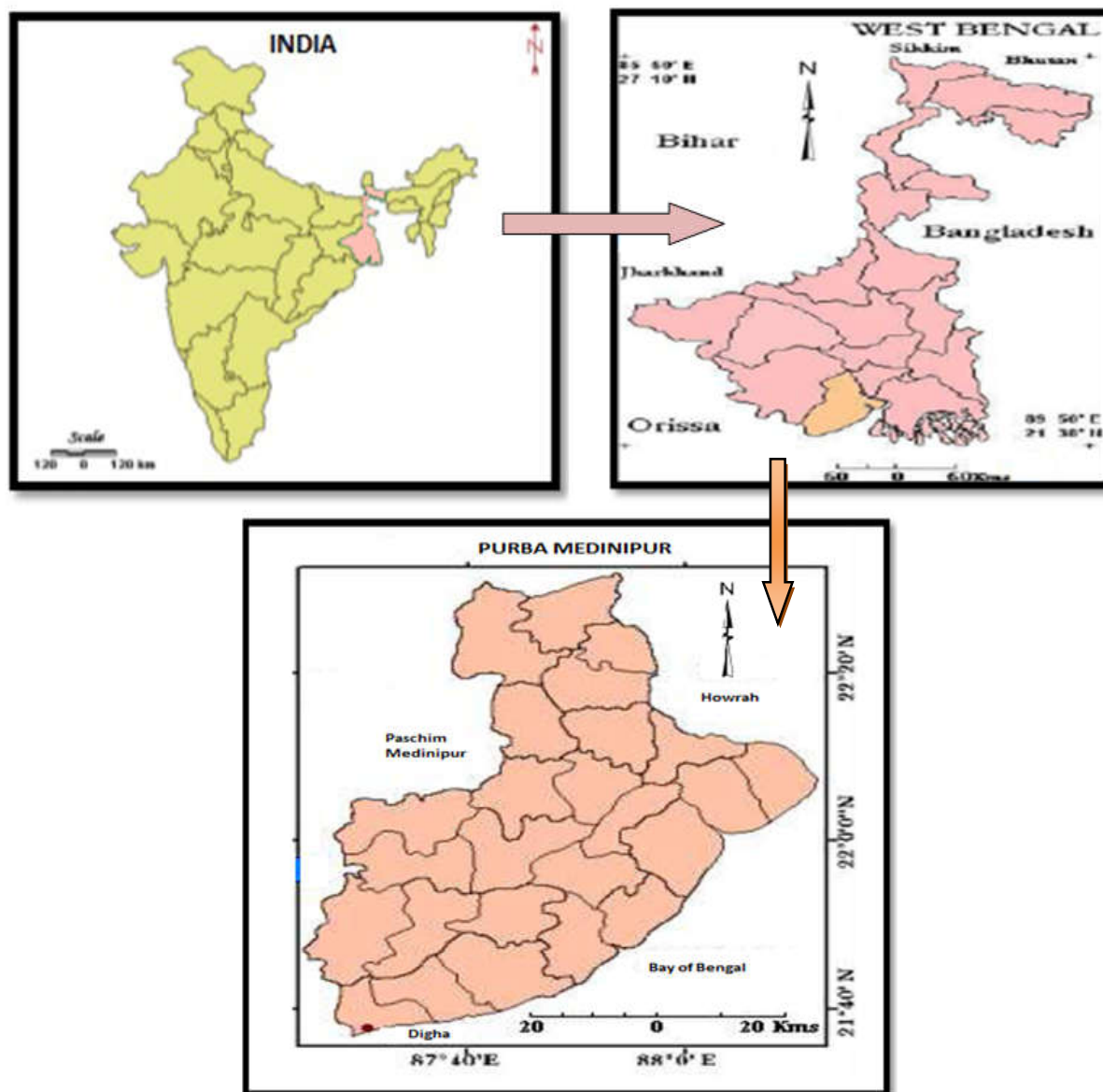


Fig. 1. Showing location map of the study area

Climate and Floriculture

Summer Season

Summer season started from April and continues still to mid of June. This season consist very hot temperature. Maximum temperature of this time is 40⁰c to 42⁰c and minimum temperature is 28⁰c to 32⁰c. This season consist very low percentage of rainfall but daily heat formed by dust-storms or evening rain, that is also known as 'Kalboisakhi'. This season regular 150 cm rainfalls and near about 80% of relative humidity.

Table 1. Climatic condition of the study area in Summer season

Season	Temperature (°c)		Rainfall (cm)	Relative humidity (%)
Summer	Maximum	Minimum	150	80
	42	28		

Source: Encyclopedia of PurbaMedinipur District, West Bengal, 2014.

Floriculture

Summer season is medium percentage to produce different type of flowers. Some seasonally flower grown in this time. In this time Gladiolus and tuberose is most important products. Tuberose and Gladiolus cultivate in this time is very high percentage. Tuberose cultivated blocks are Tamluck, Panskura-I, Kolaghat Sahid Matangini etc. In this time some area cultivate from marigold, rose etc.but very low percentage. Otherwise gladiolus cultivated in this time very high percentage.

Tuberose

Tuberose is a very famous flower of floriculture. In this time the district of PurbaMedinipurcultivated very high percentage of this product. This production is totally use for commercial purpose.

Table 2. Tuberose cultivated area & production in the district of PurbaMedinipur in Summer season

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Tuberose cultivated area (000 hectares)	0.695	0.700	0.718	0.750	0.770	0.480	0.440	0.451
Tuberose production (Crore Spike)	10.700	11.700	13.075	12.180	12.210	14.000	12.800	13.310

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal.

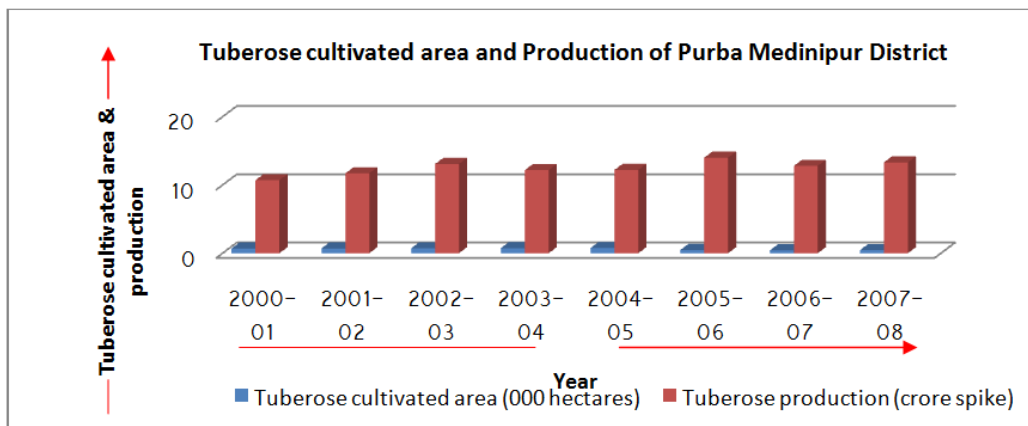


Fig. 2. Bargraph showing Tuberose cultivated area and production of the study area in Summer season

Tuberose cultivation of the study areain Summer season

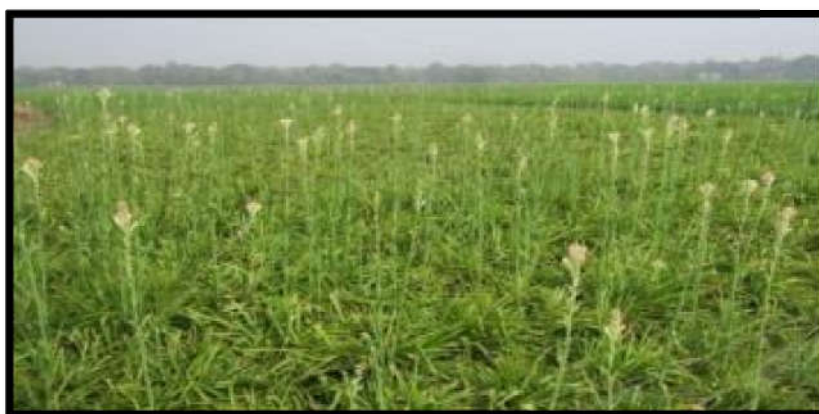


Fig. 3. Showing Tuberose cultivation of the study areain Summer season

Table 3. Gladiolus cultivated area & production in the district of PurbaMedinipur in Summer season

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Gladiolus cultivated area (000 hectares)	0.200	0.202	0.115	0.200	0.215	0.285	0.250	0.282
Gladiolus production (Crore Spike)	2.800	3.200	3.212	2.800	2.940	4.080	3.320	4.190

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal.

Gladiolus

Gladiolus is a one of the famous flower of floriculture. Presently this district cultivated from Gladiolus. But Gladiolus produced medium percentage. Gladiolus also use for commercial purpose.

Rainy Season

Rainy Season is famous season for floriculture. Floriculture is one of the most important elements of economy. Varieties of flower cultivated in monsoon period. Rainy season is famous for produced Jasmine and miscellaneous flowers. Otherwise Jasmine samback also cultivated in this season.

Jasmine

Jasmine is famous product of the study area. Jasmine flower generally grown in monsoon period. Jasmine flower cultivated and use for only commercial purpose. Presently study area's land is use for Jasmine cultivation.

Miscellaneous Flower

Rainy season are very important season to produced miscellaneous flowers. Miscellaneous flowers use for house hold and commercial purpose but miscellaneous flowers produced very high percentage.

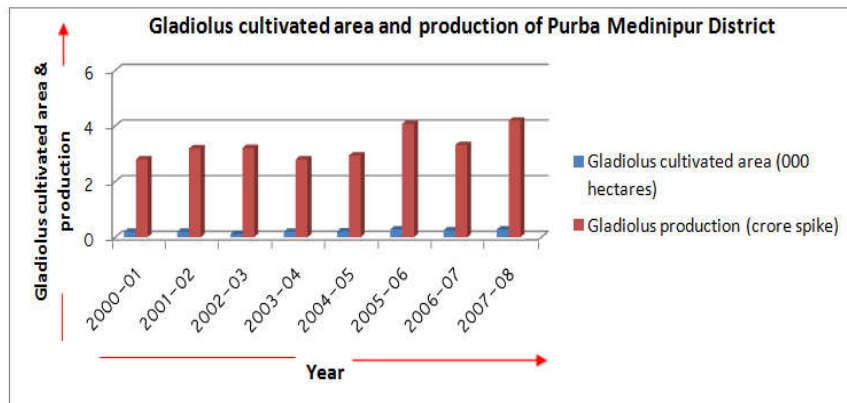


Fig. 4. Bargraph showing Gladiolus cultivated area and production of the study area in Summer season

Table 4. Climatic condition of the study area in Rainy season

Season	Temperature (°c)		Rainfall (cm)	Relative humidity (%)
Rainy	Maximum	Minimum	300	100
	32	28		

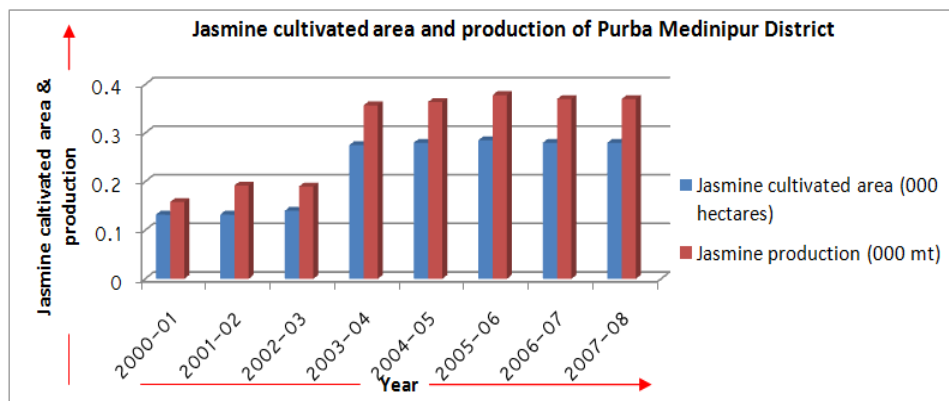
Source: Encyclopedia of PurbaMedinipur District, West Bengal, 2014.

Table 5. Jasmine cultivated area & production in the district of PurbaMedinipur in Rainy season

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Jasmine cultivated area (000 hectares)	0.132	0.132	0.140	0.275	0.280	0.285	0.280	0.280
Jasmine production (000 mt.)	0.158	0.192	0.190	0.357	0.364	0.378	0.370	0.370

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal.

Fig. 5. Bargraph showing Jasmine cultivated area and production of the study area in Rainy season



Jasmine cultivation of the study areain Rainy season



Fig. 6. showing Jasmine cultivation of the study areain Rainy season

Table 6. Miscellaneous flower cultivated area & production in the district of Purba Medinipur in Rainy season

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Miscellaneous flower cultivated area (000 hectares)	0.400	0.405	0.409	0.500	0.510	0.478	0.486	0.476
Miscellaneous flower production (000 mt.)	0.320	0.320	0.391	0.435	0.440	0.398	0.427	0.626

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal.

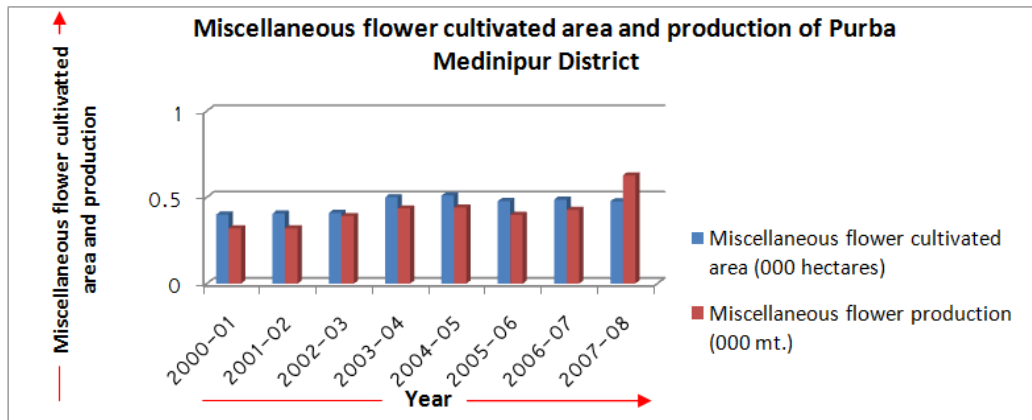


Fig. 7. Bargraph showing Micellaneous flower cultivated area and production of the study area in Rainy season

Miscellaneous flower cultivation of the study areain Rainy season



Fig. 8. Showing Miscellaneous flower cultivationof the study areain Rainy season

Table 7. Climatic condition of the study area in Autumn season

Season	Temperature (°c)		Rainfall (cm)	Relative humidity (%)
Autumn	Maximum	Minimum	120	70
	26	17		

Source: Encyclopedia of PurbaMedinipur District, West Bengal, 2014.

Autumn

This season famous for produced some seasonally flower. Otherwise lotus, water lily also grown in this time. Lotus also famous for commercial product. But some seasonal flower also grown in this time and this product also use for commercial purpose.

Seasonal Flower

This season produced different types of seasonal flower. Seasonal flower also important product of this season. This product mainly use for commercial purpose, but produced this product very high percentage.

Table 8. Seasonal flower cultivated area & production in the district of Purba Medinipur in Autumnseason

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Seasonal flower Area (000 hectares)	1.300	0.302	1.321	1.300	1.620	1.225	1.250	1.255
Seasonal flower production (000 mt.)	1.625	1.628	1.959	2.528	2.630	1.650	1.700	1.645

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal.

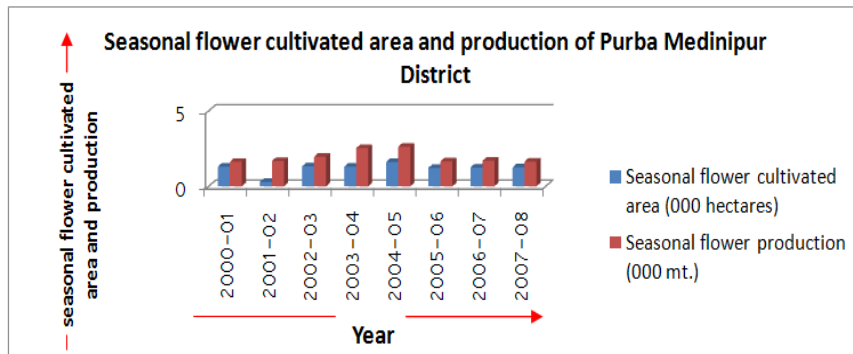


Fig. 9. Bargraph showing Seasonal flower cultivated area and production of the study area in Autumn season

Seasonal flower cultivation of the study areain Autumn season

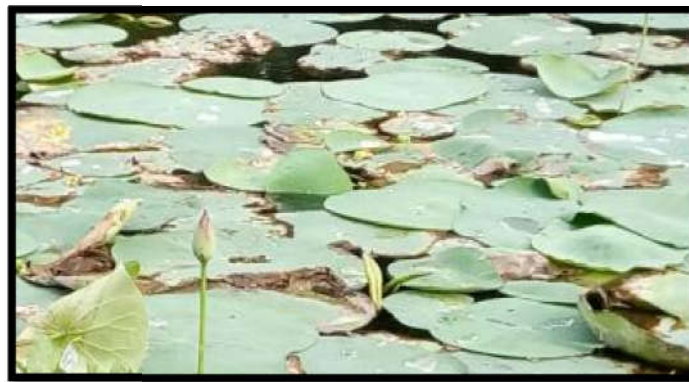


Fig. 10. showing Seasonal flower cultivation of the study areain Autumn season

Table 9. Climatic condition of the study area in Winter season

Season	Temperature (°c)		Rainfall (cm)	Relative humidity (%)
Winter	Maximum	Minimum	Below 100	55
	16	10		

Source: Encyclopedia of PurbaMedinipur District, West Bengal, 2014.

Table 10. Marigold cultivated area & production in the district of PurbaMedinipur in Winterseason

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Marigold cultivated area (000 hectares)	1.046	1.050	1.049	1.110	1.170	1.100	1.000	1.115
Marigold production (000 mt.)	8.159	8.162	8.294	8.880	8.940	11.000	10.000	10.140

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal.

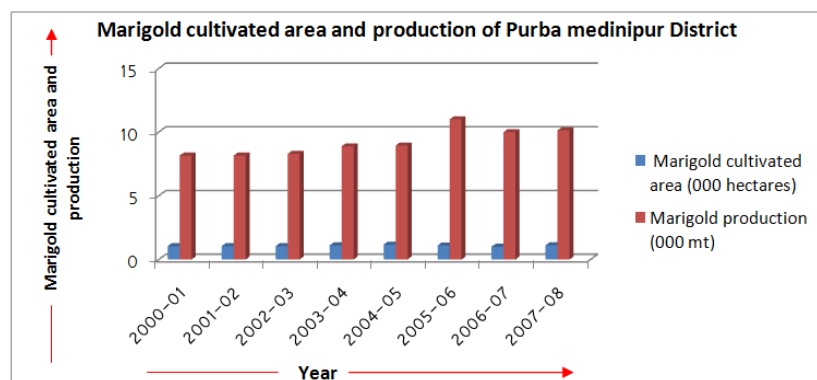


Fig. 11. Bargraph showing Marigold cultivated area and production of the study area in Winter season

Winter Season

This Season is famous for grown varieties flower. Winter season favourable for cultivation of Marigold, Rose, Chrysanthemum etc. Very high percentage of flower cultivation of this season.

Marigold

Marigold is a famous product for winter season. This flower also a commercial product. This flower produce winter season is very high percentage and maximum flowers use for commercial purpose.

Marigold cultivation of the study area in Winter season



Fig. 12. showing Marigold cultivation of the study area in Winter season

Table 11. Rose cultivated area & production in the district of PurbaMedinipur in Winterseason

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Rose cultivated area (000 hectares)	0.453	0.460	0.464	0.500	0.520	0.580	0.540	0.555
Rose production (Crore Spike)	5.800	6.200	6.110	6.420	6.500	6.620	9.490	31.750

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal

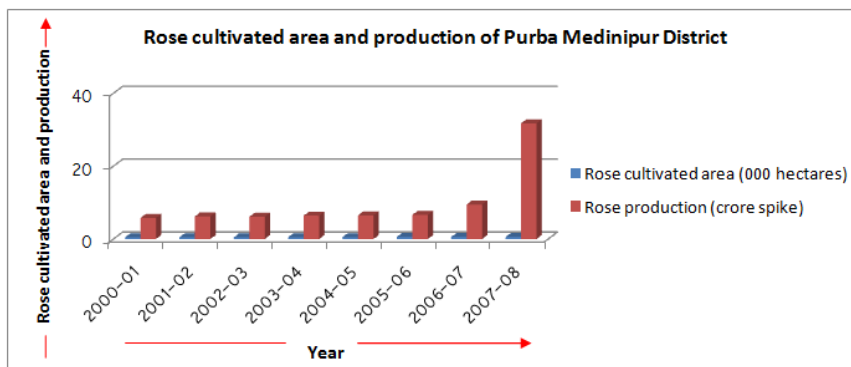


Fig. 13. Bargraph showing Rose cultivated area and production of the study area in Winter season

Rose cultivation of the study area in Winter season

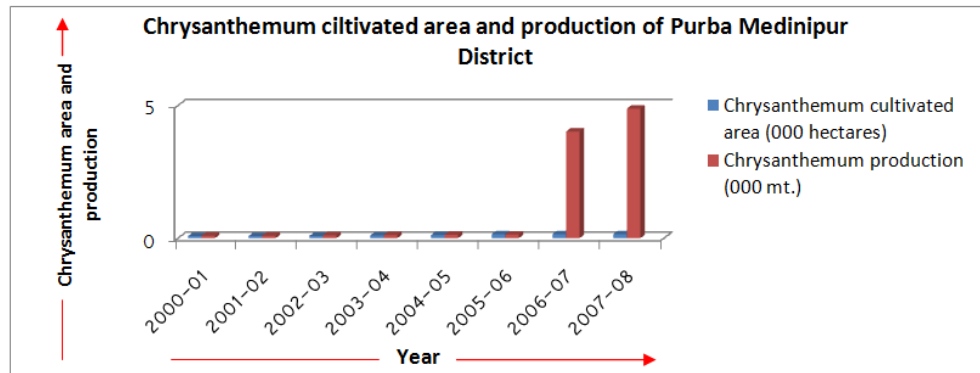


Fig. 14. Showing Rose cultivation of the study area in Winter season

Table 12. Chrysanthemum cultivated area & production in the district of PurbaMedinipur in Winterseason

Year	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Chrysanthemum cultivated Area (000 hectares)	0.080	0.080	0.086	0.100	0.120	0.145	0.150	0.150
Chrysanthemum production(000 mt.)	0.096	0.096	0.108	0.120	0.130	0.139	4.020	4.880

Source: Directorate of Food Processing Industries and Horticulture, Govt. of West Bengal.

**Fig. 15. Bargraph showing Chrysanthemum cultivated area and production of the study area in Winter season**

Chrysanthemum cultivation of the study areain Winter season

**Fig. 16. showing Chrysanthemum cultivation of the study areain Winter season**

Rose

Rose also important commercial product of the study area. Rose is a very very famous flower of floriculture. Rose mainly commercial Product and produce this production is high percentage. Moreover all block grown this flower.

Chrysanthemum

Chrysanthemum is most important product of winter season, but production of this product very low percentage. Chrysanthemum mainly use for commercial purpose. Some blocks are cultivated of this type of flower.

Conclusion

PurbaMedinipur district is one of the floriculture prone district of the state West Bengal. The main source of income of the district mainly depends on agriculture as well as floriculture. Presently floriculture is famous for commercial purpose. The climatic condition is basically help for produced different types of flower grown. Those flowers are also use for household and commercial purpose, but 90% of flower use for commercial purpose. Then very high irrigation facility, hybrid seeds, chemicalfertilizer to use for high percentage of production.

Monsoon and winter season is famous for floriculture, because this time verities of flower grown and this flower use for household and commercial purpose. But monsoon climate is very important role to play for floriculture. Climatic condition directly or indirectly related on floriculture. The study area 35% of people closely related on floriculture.

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