

# Shifting Towards Urban Economy and the Opportunities of Horticulture: A Case Study on Haora District, West Bengal

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## Abstract

Haora district is popular mainly for its developed economy as well as the heritage of British India. Here, the service and industrial sectors, both, are playing a significant role in the district's economy; whereas, the contribution of agricultural sector is negligible. From the study, it is observed that the district has no such strong base in agricultural sector. Mainly, the industrial sector had dominated the economy up to the year 1993; but after that, the dominancy shifted towards the service sector. This sector is still growing and huge employment opportunities have been generated since 1993 until now. However, the recent growth of commercialization and industrialization has made a good scope for horticulture crops. Here, an attempt has been done to find out the opportunities of horticulture in recent industrial and commercial economy and analyse the economic potentialities of different horticulture crops. In that case, primary and secondary data, both, have been used. Field survey has been done here to find out the producers' outcome of some specific horticulture crops and secondary data have been collected from different government reports, articles, internet sources, etc.

**Keywords:** Horticulture, Floriculture, NDDP, Economic Return

## Introduction

Since the introduction of Indian railway in Haora in 1854, this district is getting more and more importance as a heritage of Bengal. Basically, the characteristic of this district is urban one and the sectoral dominancy was changing from the post-independence period. The rapid growth of different service sectors like transport, banking, hotel-restaurant, educational institution, trade, etc., can be observed here in last few decades. This

district is gradually playing an important role in the economy of both, the state as well as the country. Here, the urban region is accounted for 63.3% of total district population and the literacy rate (83.85%) is also greater than the state average (77.08%), according to the 2011 Indian Census Report. This is a small district of West Bengal and the agricultural activities are very limited due to lack of cultivable land, increase in industrial activities, and the rapid rate of urbanization. As per the year 2009-2010, the district had only 57.44% of total geographical area under cultivation and these are predominantly multi-cropped land. Rice is the main field crop here. The agrarian activities are mainly concentrated in the north-western and south-western parts of the district. The mid-eastern zone of the district is highly concentrated with industrial activities, urbanized residential area, and other service sectors. The agricultural sector has contributed only 8.47% of the NDDP (2012-2013) to total district economy. The area under main field crop, specially, rice, is gradually reducing here but the district has a good scope or opportunity of growing different horticultural crops. The farmers are gradually transforming their cultivable land from main field crops to horticulture crops because the economic return of different horticulture crops are much ahead than the main field crops.

## Study Area

The study area is the Haora district under the state of West Bengal. In geographical coordinating system, this district is situated between 22°46'55" and 22°12'30" North latitude and between 88°22'10" and 87°50'45" East longitude. The total geographical area of this district is 1,467 Km<sup>2</sup>. The district is situated in Ganga delta

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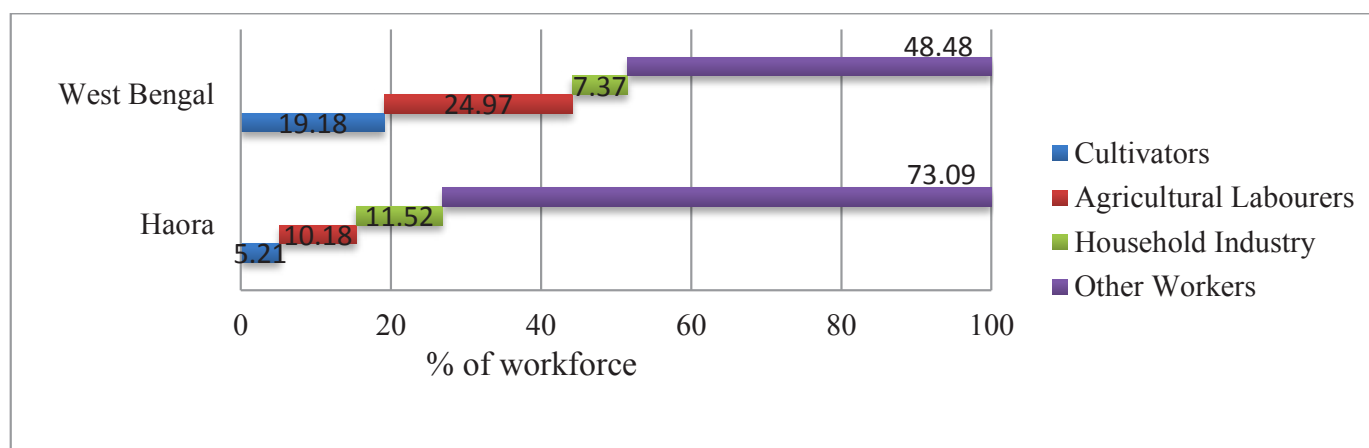
plain where Hooghly, Rupnarayan and Damodar like dominating rivers are playing a vital role for its economic development.

## Objectives

- To study the present situation of different economic sectors in Haora district along with agricultural performance.
- To examine the contribution trend of different economic sectors to the district economy.
- To analyse the economic outcome of horticulture production.
- To find out the future potentialities of horticulture sector in this district.

## Results

### Present Situation of Different Economic Sector in Haora



Source: NSDC West Benal (2012-17, 2017-22)

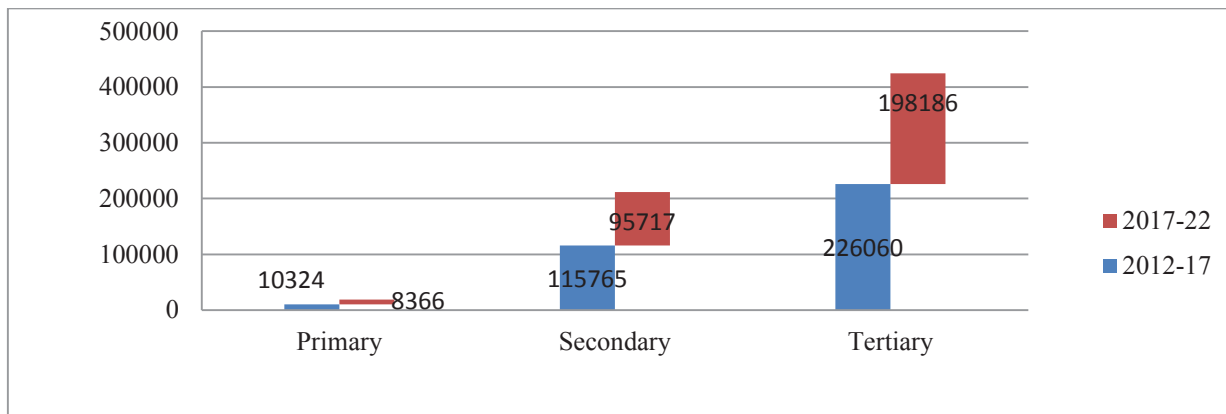
**Fig. 1: Distribution of Workforce in Haora**

From Fig. 1, it gets clear that, at present, more than three-fourths of total working population in Haora is dependent on other than primary activities like industrial and different service sectoral activities. The sectoral dominancy is captured by service sector and big industry (73.09%) in Haora; whereas, in West Bengal, almost half of the total working population is under primary sector (44.15%). Therefore, there is really a good difference in the structure of working population between district and

## Methodology

This work has been done with the help of both primary and secondary data sources. A questionnaire survey has been carried out to find out the economic return of some specific horticulture crops. A total of 70 farmers (10 farmers from each specific horticulture crops) have been selected randomly for the questionnaire survey. Purposive random sampling method has been used to carry out the survey in the blocks: Bagnan, Amta, Shyampur, and Uluberia. Secondary data have been collected from different horticulture reports, statistical handbooks, economic reviews, and internet sources. For analysing those data, some cartographic techniques have been employed for getting the ultimate results.

state levels. This working structure like so because Haora is an important industrial hub as well as a good commercial region, which provides a varied employment opportunity and attracts many jobseekers ranging from labourers to white-collar workers. A significant influx of child and adult workers from nearest states like Jharkhand, Orissa, and Bihar has also been observed in the unorganized rural sectors.

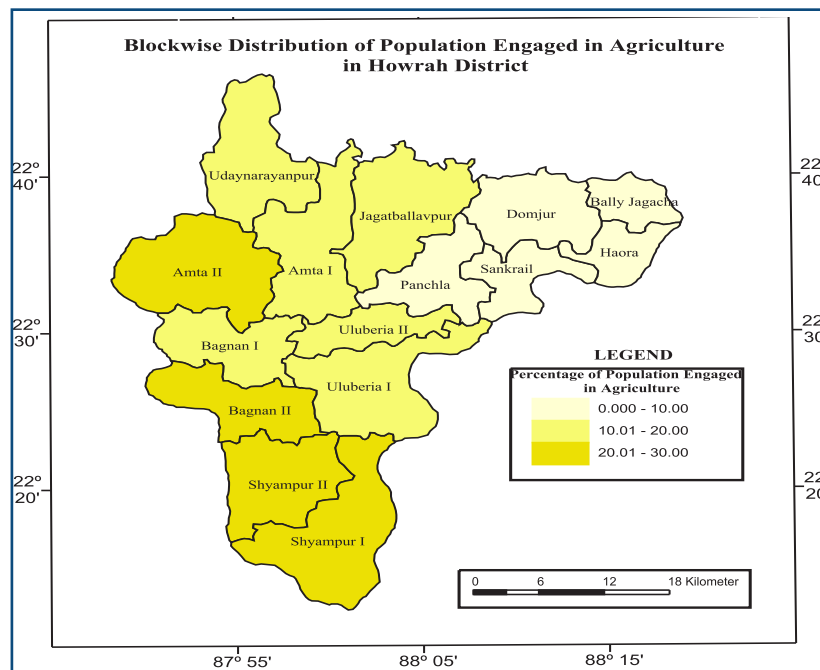


Source: NSDC West Bengal (2012-17, 2017-22) Fig 2: Future workforce requirements in Haora district from 2012 to 2022

**Fig. 2: Future Workforce Requirement**

Future workforce requirement of Haora district has been calculated in the NSDC report of West Bengal where this requirement is being calculated based on investment into various sectors, employment-generation potentials, national-level benchmarks etc. Animal husbandry and

pisciculture are the only two sectors of agriculture, which have been included in the calculation. There is no good possibility of employment generation in primary sector, but there is a good scope of agro-based and food-processing industries, which can be horticulture based.



Source: District statistical handbook, Haora (computed by authors)

**Fig. 3: Block wise Distribution of Population engaged in Agriculture in Haora District, 2011**

**Overall Agricultural Performance of the District**

According to the year 2009-2010, around 86,000 people have engaged in the primary sector of economy

in Haora district. The district has only 57.44% of total geographical area under cultivation, where rice accounted 72.02% of the net sown area (2009-2010). There is no significant amount of mineral resources and the scope of agriculture is very limited due to lack of cultivable land,

gradual transformation of agricultural land to homestead land, fragmented agricultural land, low outcome, and the good opportunities to industrial and service sectoral employment. This district is also a flood-affected district

(lower Damodar basin), and frequent floods lead to huge loss for the farmers. Udaynarayanpur and Amta blocks are frequently affected by floods.

**Table 1: Growth Rate of Different Agriculture Crops from 2001-02 to 2012-13 in Haora**

| Crops                     | Area in 000 hectare |         | Production |         | % growth from 2001-2013 |            | % growth rate per year |            |
|---------------------------|---------------------|---------|------------|---------|-------------------------|------------|------------------------|------------|
|                           | 2001-02             | 2012-13 | 2001-02    | 2012-13 | Area                    | Production | Area                   | Production |
| Total food grains         | 123.6               | 113.00  | 288.7      | 288.8   | -8.57                   | 0.03       | -0.71                  | 0.0025     |
| Total oil seeds           | 4.4                 | 7.9     | 3.7        | 18      | 79.54                   | 386.5      | 6.63                   | 32.21      |
| Total fibre               | 4.7                 | 2.5     | 80.9       | 43.3    | -46.81                  | -46.47     | -3.90                  | -3.87      |
| Total Miscellaneous crops | 7.7                 | 8.3     | 204.9      | 252.6   | 7.79                    | 23.28      | 0.65                   | 1.94       |
| Horticulture              | 20.31               | 18.31   | 240.59     | 213.93  | -9.85                   | -11.10     | -0.82                  | -0.93      |

Source: District statistical handbook, Haora (computed by authors)

In Table 1, it can be seen that the area under food grains, fibre and horticulture decreases significantly from 2001 to 2013 as 0.83% per year, respectively; whereas, the area under oil seeds and miscellaneous crops is increasing significantly but it is very negligible in areal coverage. The food grains and horticulture are the two dominant crops in the district, with respect to the area coverage. From this

table, it can be concluded that the overall performance of agriculture in this district is very poor except some oilseeds and individual horticulture crops production. In case of agriculture-allied sectors, only pisciculture shows a relatively good progress, though this is relatively low in comparison to other districts.

### Contribution of Different Sectors to the District Economy

**Table 2: Year-Wise Share (Percentage) of Different Sectors in District Domestic Product of Haora**

| District | Sector    | 1990-91 | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 | 1999-2000 |
|----------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Haora    | Primary   | 9.9     | 11.6    | 11.6    | 15.8    | 15.8    | 14      | 13.8    | 14.1    | 13      | 13        |
|          | Secondary | 50.7    | 49.2    | 48.7    | 31      | 30.7    | 32.4    | 33.9    | 32.3    | 32.1    | 32.4      |
|          | Tertiary  | 39.4    | 39.2    | 39.7    | 53.2    | 53.5    | 53.6    | 52.3    | 53.6    | 54.9    | 54.6      |

Source: Government of West Bengal. District Statistical Hand Book. Bureau of Applied Economics & Statistics.

**Table 3: Year Wise Share (Percentage) of Different Sectors in Estimated Net District Domestic Product of Haora**

| District | Sector    | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
|----------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Haora    | Primary   | 11.46   | 12.83   | 11.42   | 11.03   | 9.88    | 11.24   | 10.94   | 7.91    | 10.6    |
|          | Secondary | 23.48   | 23.34   | 23.48   | 23.78   | 23.12   | 21.23   | 23.15   | 23.39   | 19.77   |
|          | Tertiary  | 65.06   | 63.83   | 65.10   | 65.19   | 67.00   | 67.53   | 65.91   | 68.70   | 69.63   |

Source: State Statistical Handbook 2015, West Bengal

Here, we can easily find out that in Haora district, the economic dominance had been shifted from industrial sector to service sector from the year 1992–1993. Until 2012–2013, an increasing growth rate of service sectors had been observed in Estimated Net District Domestic products. This shifting had been observed from that

time due to the increasing commercialization, trade, infrastructural development to the district like banking, transport, education, hotel, etc. The contribution of agricultural sectors had been lowering or can be said that it is insignificant compared to other sectors. However, each agricultural product has its secondary as well as

tertiary linking. Therefore, we cannot ignore the primary base level. In that case, horticulture crops have more links to the other sectors than other main field crops, because it is cultivated not for subsistence, but only for commercial purpose and this district has good scope in horticulture production.

### Economic Outcome from Horticulture Crops

There are good opportunities to some specific horticulture crops rather than main field crops. The net return of horticulture crops is much ahead of main field crops

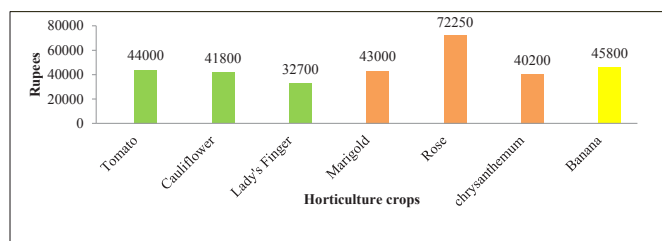
(Sarkar & Chakravorty, 2005). Horticulture crops are generally produced for commercial purpose and termed as cash crop. It is one of agricultural sectors, which interlinks the other two sectors very well as for agro-based food-processing industries (jam and jelly from fruits), quality enhancing co-operatives (flower products). For trading purposes, there are numerous retailers and wholesalers who depend on this sector.

Here, we want to emphasis on the producer's profit of some valuable horticulture crops because the most important aspects of horticulture production is the farmers' decision.

**Table 4: Economic Return of Some Selected Horticulture Crops in Haora**

|                    |                                       | Amount in Rupees per Bigha    |                   |                |                |                        |               |                  |
|--------------------|---------------------------------------|-------------------------------|-------------------|----------------|----------------|------------------------|---------------|------------------|
|                    |                                       | Vegetables                    |                   |                | Flowers        |                        |               | Fruits           |
|                    |                                       | Tomato                        | Cauliflower       | Lady's Finger  | Marigold       | Rose                   | Chrysanthemum | Banana           |
| Cost of production | Seeds/ Saplings                       | 500                           | 1100              | 2300           | 1500           | 80000                  | 1500          | 6000             |
|                    | Irrigation                            | 1500                          | 2300              | 1500           | 2000           | 4000                   | 1700          | -                |
|                    | Tractor                               | 1000                          | 1200              | 1500           | -              | -                      | -             | -                |
|                    | Medicine and Fertilizer               | 6000                          | 6500              | 4500           | 2500           | 5000                   | 2200          | 3000             |
|                    | Labour                                | 3000                          | 3000              | 3650           | 2000           | 20000                  | 2000          | 4700             |
|                    | Extra                                 |                               |                   |                | 500            | 2000                   | 500           | 500              |
|                    | Total cost of production              | 12000                         | 14100             | 13650          | 8500           | 111000                 | 7900          | 14200            |
|                    | Production                            | 5000 kg                       | 4000 pic          | 25Kg/day       | 2000Kg         | 1000 pic/day           | 2000Kg        | 48000 pic/year   |
|                    | Price ( rupees)                       | Varies between 2 to 15 per Kg | 6 to 15 per piece | 30-100 per 5Kg | Ave: 15-20/ Kg | 100-150 per 100 sticks | 15/Kg         | 1 to 1.5 per pic |
|                    | Total earnings including cost (Gross) | 30000 -35000                  | 35000             | 30000          | 30000          | 400000                 | 28000         | 60000            |
|                    | Duration                              | 90 days                       | 65-70 days        | 120 days       | 90 days        | 4 Years                | 90days        | 1 Year           |
|                    | Return (Net approx...)                | 22000                         | 20900             | 16350          | 21500          | 289000                 | 20100         | 45800            |

Source: Field survey, (2017)



Source: Field survey, (2017)

**Fig. 4: Annual Profit of Some Selected Horticulture Crops**

Here, some important horticulture crops of Haora along with their net profit have been tabulated. First, it should be mentioned that these statistical figures could be varied based on production, demand, and variety of crops. Here, we can find out that the maximum economic outcome is collected from cut flower production, especially Rose. The net profit of loose flower (especially marigold and chrysanthemum) and vegetables is almost the same but these can vary from year to year. Sometimes vegetables are more profitable than flowers. That's why, crop rotation is a natural phenomenon here. Banana is the only dominant fruit in the district (highest area under fruit cultivation), which has good profit compared to other fruits. In the middle of years between 2000 and 2010, the banana cultivation was significantly reduced because of low profit and low crop intensity but after 2008–2009, the cultivable area is increasing due to increasing profits with new high yield variety. The initial cost of banana cultivation is high but after that, the profit increases year by year. However, the problem is that the crop intensity remains 100%. It is necessary to say that the maximum number of farmers cultivate horticultural crops along with main field crops and the net returns of main field crops, especially for rice, are negligible or sometimes negative. Other crops, like oilseeds and pulses, are a little bit profitable compared to rice.

### Findings and Discussion

In Haora district, the main problem is the low horticulture crop productivity, which is below the state average. Mainly, it is found for fruit and flower production; but, in the recent years, the productivity of flowers is increasing significantly as 36.75% from year 2007–2008 to 2012–2013, and still increasing.

There is a good scope of employment generation through agro-based and food-processing industries. An estimated manpower requirement in this sector will reach up to 19,288 during 2017–2022.

At present, the important profitable crops in Haora are flowers (especially Bagan I and II blocks internationally famous for its Rose production), betel vine, and vegetables. That's why, a significant shifting of cultivable land is being observed. Farmers are continuously shifting their cultivable land from vegetable to flower and from flower to vegetable for better income.

Little bit modernization in horticulture has also been observed here, like shade net technology, use of bio-manure, farm mechanization, recently increasing productivity, good marketing, intensive cultivation, good crop intensity, etc.

A significant percentage of women engagement (found in almost all the flower-farming families) is observed only in floriculture and not in other crops. That is the main significance of this sector.

There is also a good chance of floriculture-based industries like herbal colour (Abir) making industry. Central government sponsored training facility (near Bally, Haora) is available. After getting a 10–12 days training, women can start their business with rupees 12,000 to 15,000 (Herbal colour in holi festival. 2017, March 3, Karmakshetra, p. A1). The demand of herbal colour (Abir) is gradually increasing because of its healthy and eco-friendly aspects. That is why people shift their interest from chemical to herbal one.

It will be more helpful if rural people form a separate cooperative, Self Help Group (for women) for making jam, jelly, pickles, decorative works through flowers, etc. Due to high population density of this district and nearer location to Kolkata megacity, there is a good scope to catch the big market.

Sometimes, crop intensity reaches from 200% to 300% due to the three times use of same agricultural plots in one year as two times for horticulture crops and one time for rice, but it is very rare.

The infrastructure for trading of different horticulture crops is sufficient here like market facility, transport and

connectivity, demand, etc. The National Highway 2 (NH2), South Eastern Railway, and State way jointly connected the whole district to Kolkata megacity especially to the major metropolitan (Mallick Ghat) flower market, fruit market (Posta Market), and vegetable market.

## Conclusions

Haora has fulfilled almost all the favourable conditions, which are required for development of a horticulture sector like satisfactory percentage of (12.21%) area under horticulture (2012–2013), good crop intensity, agro-climatic conditions, good connectivity, big market, etc. But, the efforts of National Horticulture Mission (2004–2005) West Bengal almost failed in Haora because after 2006, there was no sign significant growth of horticulture till the half of recent decades. It has been found that the important reason behind that is the governmental effort in agriculture sector to the Haora district is less compared to others due to its industrial character. The gradual influx of migrants to the industrial and service sectors, lack of interest in agriculture of the future generation of the farmer's family and growing urbanization trend lead to a very adverse situation for agriculture in Haora. However, in recent years, some of the advantages of horticulture mission like subsidy on shade net vegetable and flower farming, crop insurance, subsidy on organic fertilizers, etc., encourage the farmers to engage themselves in horticulture. At present, a steady growth has been observed in horticulture sector. Therefore, it can be assume that in near future, the potentialities of floriculture will flourish and it will become a leading organized agricultural sector in Haora district.

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