



---

## AGRICULTURAL DEVELOPMENT OF MAHARASHTRA

---

**Shri. Sambhaji Kallappa Naik**

*Assistant Professor, Department of Geography,*

*Kakasaheb Chavan College, Talmavale Tal- Patan Dist -Satara*

---

### INTRODUCTION:

Agriculture plays an important role in economic development such as provision of food to the nation, enlarging export, transfer of manpower to non-agricultural sector, contribution of capital formation and securing markets for industrialization. Agriculture development is an integral part of overall economic development. The Indian economy comprises of several sectors which contribute to total national product. But by far agriculture is the main sector of Indian economy and prosperity of agriculture can significantly contribute to the general prosperity of the nation. Agriculture still provides livelihood support to about two third of country population. The sector provides employment to 56.7 percent of country's workforce and it is the single largest private sector occupation. Agriculture accounts for about 14.7 percent of total export earning and provides raw material to several industries. Agriculture forms the backbone of Indian economy and despite large industrialization in last 60 years; agriculture still occupies a place of pride. Maharashtra is an important state of India so far as its contribution the agricultural development is concerned

Maharashtra is the second largest state in India in term of population and third in respect of area. The state had the third highest per capital state domestic product (SDP) among all the Indian states. Maharashtra is one of the industrialized states in the country, agriculture and allied activities are still predominant in the state. Agriculture continues to be the major source of income for most of the population. As per the population census, 2001, 55.41 percent population is dependent on agriculture for live hood. However, contribution of agriculture sector in the state income is reducing over the period. The contribution of agriculture an allied activity in net state domestic product (SDP) declined steeply from 36 percent in 1961-62 to 16 percent in 2001-02. Thus, the contribution of agriculture to the net SDP has been less in Maharashtra as compared to the nation average. In this context, it is important, it is important to

examine the past performances of agriculture and based on its future prospects of growth is needed.

**OBJECTIVES:**

1. To estimate the growth in area, production and yield of major crops in Maharashtra state.
2. To estimate the growth in the use of major inputs in the state.
3. To study the contribution of agriculture in the state income.
4. To suggest appropriate measures to develop agriculture in Maharashtra.

**RESEARCH METHODOLOGY:**

Keeping in view the importance of agriculture, quantitative assessment of the contribution of the various factors to growth of agriculture at the state or regional level will be helpful in reorienting the programmes and priorities of agricultural development so as to achieve higher growth. There are so many factors, which affect the growth of crop output. Among these area, yield, production and use of input are the major ones.

For the present study, data from the secondary sector is used. The time series data on area, production and yield of selected crops and inputs used were collected from various government publications, statistical information of agriculture reports (Maharashtra), statistical Abstracts, Economic survey reports and from some websites. An analysis of the agricultural production, area and yield in the past and estimation of its growth rates can provide a basis for future projections of agricultural output.

An attempt is made in the present study to analyze agricultural growth and the contribution of various components to overall output growth of the Maharashtra state for the period 1980-81 to 2004-05.

**PRESENT SCENARIO OF AGRICULTURE IN MAHARASHTRA:**

In this section an attempt has been made to show the present scenario of agriculture in Maharashtra. Geographical area of Maharashtra state is 3.8 lakh sq.km. out of which the net area under agriculture is about 1.77 lakh sq.km. i.e. 57.50 percent. This proportion of the national level is less at 43.3 percent. However, the proportion of gross irrigated area to gross cropped area at national level is 39 percent while in Maharashtra state it is only 17.30 percent. Thus, 82.7 percent of the area under agriculture in the state is directly dependent on

monsoon. Nearly one third area of the state falls under rain shadow region where the rains are not only scanty but also erratic.

The economic development of state is depends upon three sectors. The primary sector growth rate was 3.6 percent in the year 2001-02, it increased 6.0 percent in the year 2003-04 and 6.5 percent in the year 2005-06. In the present situation, the share of primary sector in SDP is 13.5 percent and 12 percent of agriculture. The share of agriculture in SDP is decreasing than other sectors because the growth rate of agriculture has been stood always less compared to other sectors.

During 1960's Maharashtra was not sufficient in food grain production. Various yield increasing methods have been tried in Maharashtra on a massive scale during the last four decades. The growth in agricultural production particularly food grain production increased. The area under high yielding variety seeds (HYVs) in the state increased more than twenty times, per hector consumption of fertilizer increased about 10 times but it is still very low as compared to Punjab. in respect of irrigation the state (17.3 percent) is far below as compared to Punjab (95.2 percent), Haryana (75 percent) , Tamilnadu ( 48 percent) and the national average (39 percent). The state has a diversified cropping pattern in different regions depending upon agro climate conditions and hence the important cereals, pulses, oilseeds and commercial crops were selected for the present study. The production, area and yield of various crops as well as use of inputs, i.e. Irrigation, fertilizer consumption etc. we are going t o study in detail further section.

#### **AGRICULTURE IN PRE AND POST REFORM ERA:**

This section deals with performance of agriculture during the pre and post reform era. the study period is divided into three sub periods, i.e. period I 1980-81 to 1989-90, period II 1990 – 91 to 1999-2000, period III 2001 -02 to 2010 -11. Pace of agriculture development of a region can be ascertained through measuring growth in area, production and yield of crops in the region. In the present study compound growth rates of area, production and yield for the selected crops for each period estimated to study the growth in area, production and yield of these crops. Results obtained are presented in table No 1

Table No 1: CGR of Area, Production and Yield of various Crops (1980 -81 to 2004-05)

Sr. No	Crops	Area	Yields	Production
1	Rice	0.02	0.44	0.48
2	Wheat	-1.27	4.08	2.34
3	Jowar	-1.25	0.99	-0.85
4	Bajra	-0.49	3.39	3.02
5	Other Cereals	0.96	2.61	-8.68
6	Total Cereals	-1.01	1.38	0.37
7	Toor	2.01	0.76	2.80
8	Gram	2.84	2.42	5.34
9	Other Pules	-0.06	2.33	2.32
10	Total Pules	3.29	1.64	3.12
11	Total Food grains	-0.52	1.25	0.89
12	Sugare cane	2.57	9.16	14.66
13	Cotton	0.67	3.32	4.04
14	Ground Nut	-3.00	-1.80	1.38
15	Kardai	-3.64	-0.55	-3.08
16	Sunflower	1.4	5.86	2.48
17	Soyabean	19.80	6.17	17.96
18	Total Oilseeds	5.52	4.19	6.08

Source: Agriculture Statistical Information Report Maharashtra State (1980 -81 to 2005-06)

The above table shows growth in area, production and yield of various crops during the 1980-81 to 2004-05. The production of all crops is depends upon change in area and yield of crops. The growth in sugarcane production was higher production among these all crops. Followed by total oilseeds, Gram, Cotton. Total pulses, sunflower, Bajara and Wheat. It was 14.66 percent, 6.08 percent, 5.34 percent, 4.04 percent, 3.02 percent, 2.48 percent and 2.34 percent. The growth in production of soybean crops is highest but as mentioned in foot note that its result is during the 1986-87 to 2004-05. The highest growth in production was obviously due to spread of HYV seeds of cereals and pulses during these periods.

Over a period of time the area under food grain crops increased up to 052 percent. Its yield was 1.25 percent and due to that, production increased 0.89 percent. Non food grain crops particularly sugarcane and cotton crops area were increased 2.57 percent and 0.67 percent. Its yield was increased 9.50 percent and 3.31 percent, but production was increased as per 14.66 percent and 4.04 percent ACGR over period of time. Likewise, total oilseeds area under increased as per

5.52 percent, its yield was 4.18 percent and production was increased as per 6.08 percent. Commercial crops like sugarcane, cotton and oilseeds recorded high increase in production. This leads to the conclusion that the total food grain production increased in Maharashtra state after green revolution period with high rate of growth. Adoption of high yielding varieties coupled with use of irrigation and chemical fertilizers food grains production increased during the study period but its growth rate was very low than non food grain crops.

As earlier mentioned, the entire study period was split into three sub periods to assess the changes in relative contribution of different factors to the output growth over the period of time. The growth in area, yield and production of various crops during the period shows in table no. 2

Table No 2: CGR of Area, Production and Yield of various Crops (1980-81 to 1989-90)

Sr. No	Crops	Area	Yields	Production
1	Rice	-0.06	-0.65	-0.56
2	Wheat	-4.25	2.48	-3.25
3	Jowar	-0.31	2.00	1.54
4	Bajra	1.85	1.96	4.47
5	Other Cereals	-1.22	1.13	1.21
6	Total Cereals	-0.29	1.24	1.06
7	Toor	3.20	2.55	6.36
8	Gram	4.48	4.27	9.14
9	Other Pules	0.98	5.92	6.98
10	Total Pules	15.83	4.73	7.19
11	Total Food grains	0.24	1.41	1.76
12	Sugarcane	1.10	36.15	24.73
13	Cotton	-0.11	3.17	3.06
14	Ground Nut	0.12	1.50	19.34
15	Kardai	2.11	-2.92	1.75
16	Sunflower	5.87	2.84	14.27
17	Soyabean	N.A.	56.77	N.A.
18	Total Oilseeds	3.47	3.89	17.00

Source: Agriculture Statistical Information Report Maharashtra State (1980 -81 to 2005-06)

Growth in the agriculture production over the period of time gives an idea of the pace of agriculture development in the state. The results obtained are presented in the table No -1.2. It shows that the productions of maximum crops were increased. production of total pluses increased before reform period. If was increased as per 7.19 percent total food grain mediation was increased as per

1.76 percent but non- food grain particularly production of sugarcane was substantially increased 24.73 percent per annual compound growth rate over period of time. Likewise groundnut and cotton also were increased by 19.34 percent and 3.06 percent per annual compound growth rate over a period of time. Total oilseeds were also increased tremendously by 17.00 percent per annual compound growth rate.

Sugarcane, groundnut, sunflower, oilseeds and gram recorded highest rate of production increase. This is lead to the conclusion that before economic reform era the highest rate of increase in total production was of non foodgrain crops than food grain crops. This period was second decade of green revolution and green revolution was known of wheat rice crops but in Maharashtra subsequent period production was decreased. The yield is only one parameter which can increase in yield recorded tur, pulses, cotton, grandaunt sunflower, soybean and oilseeds. The yield of food grain crops increase 1.55 percent per annual compound growth rate over a period of time.

The yield of commercial crops such as cotton and groundnut was increased 3.84 and 3.04 per annual compound growth rate. But during this period yield of sugarcane was increased only 0.91 percent annual compound growth rates. This leads to conclusion that during 1981-90 highest rate of increase in production was of non- food grain crops in case of yield was non- food grain crops and highest rate of increase in area under crops was commercial and pulses crops.

Table No 3: CGR of Area, Production and Yield of various Crops (1990-91 to 1999-2000)

Sr. No	Crops	Area	Yields	Production
1	Rice	-0.84	2.10	1.05
2	Wheat	3.31	1.86	5.25
3	Jowar	-2.24	-0.19	-1.64
4	Bajra	-1.24	2.74	2.77
5	Other Cereals	3.22	1.79	5.24
6	Total Cereals	-0.99	1.44	0.42
7	Toor	0.21	5.85	6.09
8	Gram	5.88	1.26	7.22
9	Other Pules	-0.99	2.84	2.10
10	Total Pules	0.88	-8.03	4.64
11	Total Food grains	-0.53	1.56	1.08
12	Sugare cane	3.41	0.92	4.32
13	Cotton	2.70	3.84	6.68
14	Ground Nut	-4.77	3.65	0.87

15	Kardai	-4.47	-0.85	-5.29
16	Sunflower	-1.05	18.84	-2.58
17	Soyabean	20.70	5.20	26.97
18	Total Oilseeds	0.55	5.16	5.75

Source: Agriculture Statistical Information Report Maharashtra State (1990 -91 to 1999-2000)

The table No 3 shows annual compound growth rate of area production and yield of various crops during the 1990-91 to 1999-2000. In this the highest rate of increase on production recorded cash crops such as soybeans, sugarcane and cotton. The food grain production also increased in subsequent period. The wheat was increased 5.25 percent and other cereals also increased 5.24 annual CGR over a period of time. In the reference of area under various crops shows change in the area under crops during the period II. The higher rate of increase in area under crops was of wheat, gram, sugarcane and soybean. Area under oilseeds was increased 0.55 percent annual compound growth rate. Commercial crops such as sugarcane, cotton and soybean crops area was increased. It was 3.41 percent, 2.70 percent and 20.70 percent respectively.

Table No 4: CGR of Area, Production and Yield of various Crops (2000-01 to 2004-05)

Sr. No	Crops	Area	Yields	Production
1	Rice	0.07	2.81	2.84
2	Wheat	-0.17	24.02	-1.84
3	Jowar	2.36	-0.86	-4.82
4	Bajra	-3.74	5.33	1.48
5	Other Cereals	0.15	13.24	-75.72
6	Total Cereals	-2.21	2.02	-0.22
7	Toor	-0.13	-0.99	-1.12
8	Gram	4.71	0.42	5.12
9	Other Pules	-3.77	3.51	-0.36
10	Total Pules	-0.84	1.65	0.78
11	Total Food grains	-2.00	1.84	-5.09
12	Sugarcane	-13.58	-5.45	-18.31
13	Cotton	-2.73	14.88	11.77
14	Ground Nut	-4.43	-10.02	-1.63
15	Kardai	-4.70	-0.11	-4.82
16	Sunflower	3.81	0.28	- 3.58
17	Soyabean	17.17	7.27	13.60
18	Total Oilseeds	7.05	5.95	8.04

Source: Agriculture Statistical Information Report Maharashtra State (2000-01 to 2004-05)

Above table shows growth in area, yield and production of during period III (2000 to 2005). During this period area under crops of soybean, sunflower, gram and Jowar increased area under sugarcane crop was tremendously decreased. Followed by kardai, groundnut and food grain but in case of sugarcane during this period the continues three years drought was occurred therefore area was decreased.

As far as concerned yield of crops out of crops maximum yield was of wheat crop. Followed by cotton, other cereals and bajara, while decreased area under cultivation of wheat production was decreased only 1.84 percent annual compound growth rate over a period of time. In case of jowar area under crop was increased by 2.36 percent annual compound growth rate over a period of time. But due to low yield level the production was decreased by 4.82 annual compound growth rates. Maximum farmers were doing suicides during this period in Maharashtra. It is more related to cotton crop. But a result shows that area under cotton is declining but only more productivity its production was one of the highest. With the above discussion, it leads to conclusion that during the period III. Maximum crops area was decreased therefore production also decreased. But whose yield level was high its declining production intensity was very low i.e. wheat. Therefore, the maximum concentration should be made to increase yield of crops.

Table No 5: CGR of Fertilizer Consumption in Maharashtra

Sr. No	Periods	N	P	K
1	Period I	10.38	4.91	-2.01
2	Period II	13.79	5.68	1.59
3	Period III	9.48	1.99	-1.16
4	Overall Period	5.82	7.13	4.64

Source: Agriculture Statistical Information Report Maharashtra State (1980-81 to 2005-06)

In the development of agriculture, fertilizer consumption is the major one which increases productivity of crops. During the overall period all chemical fertilizer consumption are increased. In those 'N' was increased 5.82 percent 'P'- 7.13 percent ACGR and K- 4.64 percent ACGR. The fertilizer continuous was drought (2002-2005) in Maharashtra. The irrigation is most important input in agricultural development. The growth rate of irrigation is measured by period II (1980-81 – 1990-2000) because the data was unavailable after 2000-01.



Table No 6: CGR of Irrigation in Maharashtra (1980-81 to 2004-05)

Sr. No	Periods	Gross Irrigated area	Gross Irrigated area
1	Period I	4.42	0.82
2	Period II	2.19	0.10
3	Overall Period	2.91	0.54

Source: Agriculture Statistical Information Report Maharashtra State (1980-81 to 2005-06)

In the overall period gross cropped area was increased by 2.91 percent of annual compound growth rate and gross irrigated area was increased by 0.54 percent. It means that as increases cropped area irrigation is less than gross cropped area in the agriculture of Maharashtra state.

### CONCLUSION:

Maharashtra is one of the developed states in the economy; agriculture is still dominant in the state economy. The share of primary sectors in SDP is 13.5 percent and 12 percent of agriculture. It is less than national average. The share of agriculture in SDP is decreasing than other sector because the growth rate of agriculture has been stood always less compared to other sectors. Out of geographical area net area under agriculture was 57.50 percent but irrigated area was only 17.30 percent. it is very low than other developed states. Efforts should be made by public administration to construct imperfect dams' canals to bring more area under irrigation. It will be helpful to remove in the agricultural crops. It is more considerable. The productivity of all crops in Maharashtra is low than agriculture developed states like Panjab, Hariyana etc... The agriculture sector should be more concentration on organic farming. Considering overall situation there is need of new agricultural reform in the Maharashtra state because prosperity of agriculture can significantly contribute to the general prosperity of the state and nation.

### REFERENCES:

1. Sharma, A. & Deshpande, M. (2015). *Agricultural Development in Maharashtra: Challenges and Opportunities*. Oxford University Press, New Delhi
2. Rao, K. & Gupta, R. (2017). *Sustainable Agriculture Practices in Maharashtra: A Regional Study*. Sage Publications, New Delhi.

3. Patel, P. & Yadav, S. (2018). *Agricultural Policy and Development in Maharashtra*. Academic Press, Mumbai.
4. Joshi, P. & Shinde, R. (2016). *Agriculture and Rural Development in Maharashtra: A Case Study of Farming Practices*. Cambridge University Press, Cambridge.
5. Kamble, S. & Gawade, P. (2014). *Farmers' Perspectives on Agricultural Development in Maharashtra*. Allied Publishers, Pune.
6. Iyer, A. & Singh, V. (2019). *Economic Impact of Agricultural Policies on Maharashtra's Farming Sector*. Springer, Singapore.
7. Kumar, R. & Joshi, M. (2020). *Agricultural Innovation and Development in Maharashtra: Insights and Case Studies*. Wiley-Blackwell, New York.
8. Mishra, N. & Jadhav, S. (2017). *Agricultural Transformation in Maharashtra: A Historical Perspective*. Routledge, London.
9. Tiwari, S. & Patil, A. (2015). *Climate Change and its Impact on Agriculture in Maharashtra*. Cambridge University Press, New York.
10. Kulkarni, V. & Deshmukh, N. (2018). *Rural Development and Agricultural Growth in Maharashtra*. ICFAI University Press, Hyderabad.