Chapter VI

Summary, Major findings and Policy implications

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6.1 Summary

Regional disparity in the agriculture, income, infrastructures, industry, employment and level of living of the people exist substantially across the regions due to different resources bases and endowments. Yet, wide disparities in economic development still to be continue in the country. Moreover, it is more pronounced in agriculture as compare to other sector. Agriculture has witnessed tremendous changes during the last six decades following the adoption of agricultural technology during the 1960’s. The spread of green revolution technology was highly skewed in favour of certain states and regions which led to high growth in agricultural output, along with high magnitude of disparity across the states. Among the states still agriculture has the base of development of any state like Maharashtra but it has been destroying by neglecting for development as a result the magnitude of regional disparity in agricultural development is increasing and providing the fruits of it in the form of farmers suicides in the states. 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. The Maharashtra has lagged behind for the agricultural development. There has been regional disparity in agricultural development due to variation in agro-climatic condition and availability of agricultural inputs. The matter of serious concern found from the study that, the growth in agriculture has recorded low level at state level and the regional disparity was increasing in the condition of low agricultural development in Maharashtra. The net sown area of Maharashtra and in its region were declining whereas the growth of area sown more than once was increasing than the growth rate of total cropped in Maharashtra as well as the same trend was observed among its region also during the overall and its sub periods. There was shift in cropping pattern in Maharashtra from food crops to non-food crops. The same trend was observed among the regions of Maharashtra too. There was considerable disparity in area under cultivation of non-food crops than food crops.
Maximum concentration was occurred in sugarcane, cotton, bajara, rabbit jowar, soyabean, and sunflower in case of cultivation. The same trend of disparity was observed in case of agricultural production. The sugarcane, cotton, bajara, soyabean, sunflower and groundnut these crops had higher level of disparity of production in Maharashtra. Moreover, there was mixed trend of disparity observed during the five decades. As far as, disparity of yield of main crops is concerned, it was recorded low level during the overall period but few crops like sugarcane, cotton, sunflower and rabbit jowar had higher level of disparity compared to other crops. It was because of uneven development of agricultural inputs. The irrigation development was not taken place after the period (1971-80) i.e. pre and post refer period. Whereas the high yielding variety seeds growth rate was uneven in the state and recorded negative in the post reform period as well as the growth rate of total consumption of chemical fertilizers was declined during the post reform period i.e. 1991-2000 and 2001-2010. The sufficient agricultural inputs should be provided to less agriculturally developed regions without any excess economic burden which would be the best solution for balanced agricultural development in the state.

6.2 Major findings of the study

I) Agricultural sector in economic development of Maharashtra

The share of agriculture in GSDP is decreasing steeply than other sector because the growth rate of agriculture has been stood always less compared to other sectors. The share of agriculture & allied activities in the state income has declined steadily from 31 per cent to 11 per cent. The share of service sector has increased from 46 per cent to 60 per cent. The share of industry sector has remained between 23.2 per cent and 29.2 per cent.
II) The regional growth and disparity in agriculture

i) Area under cultivation

1. The rice and wheat crops were remained mainstay of green revolution in mid 1960’s but they could not record well in Maharashtra. The growth in rice cultivation was recorded only 0.3% per annum over a period of time (1961-2000).

2. As far as regional growth is concerned, Vidarbha was recorded highest growth in it with 0.5% followed by Western Maharashtra with 0.3%, and 0.1 and 0.1% was recorded by Konkan and Maharashtra region respectively. The period-II (1971-80) was most suitable compared to other periods.

3. The wheat crop was recorded negative growth in cultivation area by 0.2% per annum at state level over a period of time. Except, the Western Maharashtra region, the growth in cultivation in wheat crop was recorded negative by other regions. It was 0.7% for Western Maharashtra whereas it was recorded -0.5, -0.2 and -1.4 by Konkan, Marathwada and Vidarbha respectively. The highest negative growth was recorded by Vidarbha region over a period of time. Moreover, out of five decades the period-II (1971-80) was most suitable for higher cultivation of wheat crop.

4. It means that, there was short-term effect of green revolution over the rice and wheat crop in Maharashtra.

5. The study observed higher level of disparity in growth rate in area under cultivation of Bajara, Sugarcane Soyabean, Sunflower, Rabbi jowar, Groundnut, Cotton and Sunflower during the overall period.

6. The growth in bajara cultivation was recorded negative over a period of time. It was -0.2% per annum at state level. Except the Marathwada region, other regions were recorded negative growth over a period. They were -1.2, -0.5 and 0.0% of Vidarbha, Western Maharashtra and Konkan respectively. The gini coefficient of bajara crop
was highest in Maharashtra followed by sugarcane. But it was declining from 0.651 in period-I (1961-70) and 0.600 in period-V (2001-2010)

7. The growth rate of sugarcane cultivation was 3.2% per annum at the state level during the Maharashtra. It was recorded highest growth during the period-II (1971-80). Among the regions, Marathwada region was recorded highest growth in Sugarcane cultivation with 4.6% per annum followed by Konkan region with 3.2%, Western Maharashtra with 2.6% whereas the Vidarbha region was recorded negative growth which was -0.1% per annum over a period of time. The Western Maharashtra was recorded continuously positive and increasing growth except last decade whereas the growth rates in other regions were declining since period II (1971-80). There was highest disparity in area under cultivation of sugarcane crop among the regions of Maharashtra over a period of time. The gini coefficient was 0.615 for the overall period (1961-2010).

8. The study observed disparity in growth rates in area under cultivation of Soyabean. It was 9.4% per annum at state level over a period of time. Among the regions, the Marathwada region was recorded highest and significant growth which was 22.8% per annum followed by Vidarbha region with 8.7%, Western Maharashtra with 6.8% over a period of time. The Konkan region was not recorded any changes about soyabean cultivation during the same period. The Western Maharashtra was recorded positive and continuously growth rates till period-IV (1991-2000) but it was recorded negative in the last decade. Moreover, the Marathwada and Vidarbha region were recorded growth till period-IV (1991-2000) and their growth rate were negative in the last decade but their growth rates were continuously highly declined compared to Western Maharashtra. Moreover, the growth rates in Soyabean cultivation were negative in all regions during the period-V (2001-2010). The disparity in soyabean cultivation was high but the there was declining trend during the decades. It was 0.636 in period III (1981-90) and 0.526 in period V (2001-2010).
9. The growth rate in sunflower cultivation was recorded negative at the state level. It was -0.2% over a period of time. Moreover, it was recorded negative growth at regional level too. The cultivation growth at state level was positive and significant during the period-III (1987-90) which was 10.4% per annum. It was recorded negative growth during the next decades. The highest negative growth in sunflower cultivation was recorded by Konkan region with -4.9% followed by Vidarbha with -3.1%, Marathwada -1.9% and Western Maharashtra with -1.6% per annum over a period of time. The period-III (1987-90) was more significant period because the sunflower cultivation growth was recorded positive and significant during this period. It means that, the sunflower cultivation was declined during the post reform period. The gini coefficient of area under cultivation was 0.422 at state level over a period of time. It recorded declining trend during the same period. It was 0.442 in period-III (1981-1990) 0.556 in period-IV (1991-2000) and 0.458 periods-V (2001-2010).

10. The growth rate in rabbi jowar was recorded negative by -0.2% per annum over a period of time. As far as the regional growth is concerned, except the Marathwada region, the all other regions in the state were recorded negative growth during the same period. The Marathwada region was recorded positive growth by 0.1% whereas the other three regions were recorded -3.4, -0.4 and -0.2 of Vidarbha, Konkan and Western Maharashtra respectively over a period of time. The gini coefficient of area under cultivation was 0.539 t state level over a period of time. It recorded increasing trend during the same period. It was 0.528 in period-I (1961-1970) and 0.557 period-V (2001-2010).

11. Except the Konkan region, the growth rate in area under cultivation of groundnut was recorded negative by other regions in Maharashtra. It was recorded -1.6% per annum at the state level over a period of time. The highest negative growth was recorded by the Vidarbha regions with -3.1% over a period of time followed by Marathwada with -2.8%, Western Maharashtra with -1.0% per annum during the
same period. But the Konkan region was recorded positive growth by 8.2% over a period of time. It was recorded highest growth during the period-III (1981-90) which was 13.4% per annum. There was no one region that could record continuously growth in groundnut cultivation. It means that, the mixed trend was observed during the last five decades in groundnut cultivation in the state and its regions. The gini coefficient of area under cultivation was 0.497 at state level over a period of time. It recorded increasing trend during the same period. It was 0.481 in period- I (1961-1970) and 0.559 in period- V (2001-2010).

12. The growth in cotton cultivation was recorded minor level of growth at the state level which was only 0.05% per annum over a period of time. Result that is more important was that the earlier crops cultivation growth was high until period-II (1971-80) but the growth of cotton cultivation was remained always low and negative during the last five decades in Maharashtra. Marathwada recorded the higher growth in cotton cultivation among regions with 0.9% followed by Western Maharashtra with 0.7% and lastly the Vidarbha region was recorded negative growth in it by 0.1% over a period of time. The Konkan region was not recorded any changes in cotton cultivation. No one region in the Maharashtra was recorded substantial growth in cotton cultivation during the decades. The gini coefficient of area under cultivation was 0.471 at state level over a period of time. It recorded low level of decline trend during the same period. It was 0.462 in period- I (1961-1970) and 0.405 in period- V (2001-2010).

13. In addition to this, the disparity in growth rate of foodgrain cultivation was recorded negative at the state level. It was -0.1% per annum over a period of time. Except the Marathwada region, the area under in it was 0.2% whereas the growth rate was recorded negative by other region with -0.2% per annum over a period of time. The Maharashtra was recorded positive growth in foodgrains cultivation till 1981-90 but it was declined in post reform periods. Moreover, no one region was recorded continue positive growth in foodgrains cultivation even Marathwada region because
it was recorded negative growth during the last two decades i.e. post reform period. The period-II (1971-80) was most suitable for growth in foodgrains cultivation compared to other periods. The gini coefficient of foodgrain cultivation was 0.302 at state level over a period of time. It recorded constant trend during the same period. It was 0.308 in period- I (1961-1970) and 0.309 in period- V (2001-2010).

14. There was low level of disparity in area cultivation of oil seeds, pulses and gram crops. Among the regions, except Konkan region, all other regions were recorded positive growth over a period of time. The highest growth in total oilseed cultivation was recorded by Vidarbha with 3.2% followed by Marathwada with 1.1% and Western Maharashtra with 0.2% over a period of time. The Konkan region was recorded -0.7% per annum during the same period. The period-III (1981-90) was most suitable for the oilseed cultivation in Maharashtra because the growth rates of oilseed cultivation of all regions were positive and significant. Such level of growth rate of oilseed cultivation was not found in any other decades. “The reason for accelerating growth in period III was that, the technology mission on oilseeds adopted in 1986 by Central Government.(Kalamkar, 2008)”

ii) Production of main crops

1. The sugarcane bajara, rabbit jowar, cotton, groundnut, sunflower, soyabean recorded higher level of disparity in production compared to disparity of other crops in Maharashtra over a period.

2. The growth rate of sugarcane production was 3.0% at the state level over a period of time. This was the only crop whose growth rate in production was positive since the period-I (1961-70) to period-V (2001-2010). The Western Maharashtra was recorded higher growth in sugarcane production with 3.0% over a period of time. Moreover, the state level growth rate and the growth rate of Western Maharashtra was the same over a period of time. It means the sugarcane production growth determines the growth at state level. The other three regions
growth rates were negative during the last decade. Likewise the growth rate of other crops during the period-II, the growth rate of sugarcane production was higher during the same period. The Marathwada and Vidarbha were recorded significant growth in sugarcane production till period-III (1981-90) but they could not record well in further periods i.e. post reform period. The gini coefficients of sugarcane production were 0.697, 0.675, 0.672, 0.603 and 0.610 during five decades. The disparity is declining but at low level at the state level.

3. The low level of disparity was recorded by food crops than cash crops like sugarcane, soyabean etc. The growth in bajara production was positive in the state and in its regions. It was 2.1% per annum at the state level over a period of time. The highest growth in bajara production was recorded by Marathwada region compared to other regions, followed by Western Maharashtra with 1.7% per annum over a period of time. The Konkan and Vidarbha region were not recorded any growth for the same period. The growth rate of bajara was low during the last two decades i.e. post reform period. The gini coefficient of bajara production was 0.609 at state level over a period of time. It recorded decline trend during the same period. It was 0.652 in period- I (1961-1970) and 0.583 in period- V (2001-2010).

4. The growth rate of rabbi jowar was recorded production growth 0.4% per annum over a period of time at state level. Among the regions in the state, Marathwada was recorded highest growth in rabbi jowar production with 0.6% per annum followed by Western Maharashtra with 0.4% over a period of time. The Konkan and Vidarbha regions were recorded low and negative growth like 0.0 and -2.5% per annum over period of time. The growth in rabbi jowar production was negative and low growth of all regions in the state during the period-I (1961-70) but it was increased of all in next four decades. There was observed mixed trend in production in all decades. The Marathwada was recorded highest growth in period-II (1971-80), Western Maharashtra in period-III (1981-90), and period IV
(1991-2000), Vidarbha in period-V (2001-2010). Overall, Marathwada was recorded positive growth in rabbi over a period of time. The rabbi jowar production was unstable in Maharashtra. The gini coefficient of rabbi jowar production was 0.514 at state level over a period of time. It was 0.497 in period-I (1961-1970) and 0.515 in period-V (2001-2010). It means the disparity in rabbi jowar production was increased during last five decades in Maharashtra.

5. The cotton crop, which is the second important crop after sugarcane in Maharashtra but maximum farmer suicides, took place in cotton cultivated region. Result that is more important was that, the growth rate in cotton production of Vidarbha region was lowest among the regions (except Konkan) in Maharashtra over a period of time. However, Vidarbha had low growth in production, its growth rate was positive during the all decades. But the mixed trend was observed in other regions. Their growth rates were negative, lower and positive in five decades. The Marathwada was recorded highest growth with 3.0% per annum followed by Western Maharashtra with 2.4% and lastly Vidarbha with 2.2% over a period of time. The Konkan region was not recorded any growth during the all decades. The disparity in regions about cotton production was declining at low level during the five decades. The gini coefficient of cotton production was 0.409 at state level over a period of time. It was 0.388 in period-I (1961-1970) and 0.356 in period-V (2001-2010).

6. The Konkan region was recorded highest in growth rate of groundnut production. It was 8.0% per annum over a period of time. The all other regions were recorded negative growth in groundnut production during the same period. They were -3.1%, -2.2% and -0.1% of Marathwada, Vidarbha and Western Maharashtra respectively. The groundnut crop can be another pillar of agricultural development in the Konkan region. The disparity in regions about groundnut production was increasing during the five decades. The gini coefficient
production was 0.555 at state level over a period of time. It was 0.518 in period-I (1961-1970) and 0.595 in period-V (2001-2010).

7. Soyabean was becoming important cash crop since last three decades in Maharashtra. It was recorded significant growth rate by 9.5% per annum at the state level over a period of time. Except Konkan region, other all regions were recorded significant growth rates over a period of time. They were 21.4%, 10.7% and 6.5% of Marathwada, Vidarbha and Western Maharashtra respectively. Their growth rates were better during the period-III (1987-90). They were declined after it. The Marathwada region could sustain the growth rate positive during the decades compared to other regions. The disparity in soyabean production was high but the there was declining trend during the decades. It was 0.523 at state level during the overall period. Moreover, it was 0.578 in period III (1981-90) and 0.489 in period V (2001-2010).

8. The sunflower production was recorded negative growth by -0.2% at the state level over a period of time. Except, Marathwada region, all other regions in Maharashtra were recorded negative growth in sunflower production. It was 0.8% over a period of time. The highest negative growth was observed in the Vidarbha region with -3.1% followed by Western Maharashtra with -1.5% and Konkan region with -0.7% over a period of time. The sunflower production of all regions was substantial during the period-III (1981-90) but it was declined further decades. The gini coefficient of sunflower production was 0.531 at state level over a period of time. It recorded increasing trend during the same period. It was 0.442 in period- III (1981-1990) 0.536 in period- IV (1991-2000) and 0.563 in period-V (2001-2010).

9. The growth of foodgrain production was recorded 1.6% per annum at the state level over a period of time. It was higher during the period-II (1971-80). The Marathwada was produced more foodgrain production with the 2.0% growth rate which was higher than state level growth over a period of time. There was not
much disparity in growth rates of foodgrains production in other three regions over a period of time. They were 1.5%, 1.4% and 1.3% of Western Maharashtra, Konkan and Vidarbha respectively. The growth rates in all regions were significant during the pre reform period but they were declined during the post reform period.

10. The growth rate in oilseed production was recorded minor growth that was 1.2% per annum at the state level over a period of time. Among the regions, the Vidarbha region was recorded highest in oilseed production with 2.3% followed by Marathwada with 0.8% and Western Maharashtra with 0.2% over a period of time. Moreover, the Konkan region was recorded negative growth by -0.1% during the same period. The level of disparity in agricultural production in the regions was low during the five decades.

iii) Yield of main crops

1. The study found that, there was low growth in the yield of main crops in Maharashtra and in its region during last five periods.

2. Except yield growth in wheat and bajara crop, no one other crop was recorded growth more than 3% per annum. The same position was observed among the regions in Maharashtra.

3. The growth rate of wheat yield was 3.0% per annum at the state and regional level over a period of time. Among the regions, Western Maharashtra was recorded highest growth in yield of wheat compared to other regions but it was not much higher than other regions. It was 4.6% per annum over a period of time. The other regions like Western Maharashtra, Vidarbha were following with the growth rate of 4.1% and 3.9% per annum over a period of time. However, Marathwada was recorded highest growth, it was declined since the period I (1961-70) to period-V (2001-2010). The same trend was in Vidarbha region whereas the growth rate of
wheat yield was increased in the Western Maharashtra region during the same period.

4. The state level growth in rabbi jowar yield was just 0.6% per annum, which was highest during the period-II (1971-80), and then it was declined. It was 8.1% in period-II and 3.1% in period V (2001-2010). The Vidarbha was recorded highest growth compared to other region. There was not much difference between the growth rates of rabbi jowar yield in all regions. The Marathwada and Western Maharashtra were recorded 0.6% and 0.5% per annum whereas the Konkan region was not recorded any growth rate over a period of time. The growth rate in Marathwada region was declined more compared to other regions during the decades.

5. The yield growth rate in bajara was recorded 2.4% per annum at the state level over a period of time. As the other crops, the growth rate of bajara yield was higher during the period-II. The growth rate was declined in further decades. The Marathwada was recorded higher growth rate by 3.0% per annum followed by Western Maharashtra, Vidarbha region with 2.2%, 1.7% per annum over a period of time. The Konkan region was not recorded any changes over a period of time. The growth rates of bajara yield were positive and in increasing trend till period-III (1981-90) but it was declined in further periods. It means, the growth rate of bajara yield was declined during the post reform period.

6. The yield growth rate of sugarcane was not calculated for the overall period due to the data in two separate units of sugarcane production. The one was Gur Cane, which was certain type of cane seed produced for Jaggary only whereas the second was the Dressed Cane made for sugar and allied products. The Gur cane was use to produce till 1986 and onwards dressed cane was produced in the Maharashtra. However, through the growth rates of sugarcane yield in decades, the disparity in growth rate of yield has measured. There was recorded 1.7% per annum growth at the state level during the period-V (2001-2010). The Western
Maharashtra alone was recorded positive growth in sugarcane yield during the same period. Moreover, the Konkan was recorded highest negative yield growth with -3.2% followed by Marathwada with -2.9% and Vidarbha with -0.4% during the last decade. The Marathwada and Vidarbha could record positive growth in yield till period-III (1981-90) but their growth rates were negative in post reform period. The Western Maharashtra could get the benefits of intensive farming regarding to the sugarcane crop compared to other regions.

7. The cotton yield growth rate was 2.4% per annum at the state level over a period of time. The growth rate in cotton yield of state was continuously declining after the period-II (1971-80). Generally, it says that, the agricultural crisis has come in Maharashtra since 1980's and it was more related to the cotton crop. It has proved by the growth rate in cotton yield in Maharashtra. The Vidarbha and Marathwada were recorded highest and equal growth rate, which was 2.3% and 2.3% per annum over a period of time. The Western Maharashtra was recorded lower growth whereas the Konkan was not record any changes. Their growth rates were 1.7% and 0.0% respectively over a period of time. The growth rate of all regions was declined since period-II (1971-80) to period-V (2001-2010). There was only Vidarbha region whose growth rate in yield was positive during the five decades.

8. At the state level, the yield growth rate was recorded at 1.7% per annum over a period of time. The growth rate in state was high during the period-II (1971-80). It was 9.4% per annum. It was declined in further decades. The Marathwada was recorded highest growth in yield with 1.8% followed by Western Maharashtra with 1.6, and 1.6% per annum respectively over a period of time. Their growth rates were higher during the period-II (1971-80) and the growth rate of Marathwada and Vidarbha were declined during the five decades.

III) The Progress of agricultural inputs (Causes of regional disparity in agricultural growth)
1. Out of total area irrigated by surface irrigation maximum amount of area was irrigated by Western Maharashtra. It was 45.8% during overall period (1961-2000). Followed by Vidarbha with 38.3%, Marathwada 13% and lastly Konkan region only 2.9% during the same period.

2. Surface irrigation in four decades (1970's, 1980's, 1990's & 2000's) shows the percentage of surface irrigation of Western Maharashtra and Vidarbha was continuously declining but it was increasing in the Marathwada and Konkan region.

3. The Marathwada could remain higher region in area under irrigation by surface irrigation. The Western Maharashtra could irrigated more area by well irrigation.

4. Out of total net irrigated area, 54.3% area was irrigated by Western Maharashtra followed by Vidarbha with 22.4, Marathwada 21.5, and lastly Konkan only 1.% over a period of time.

5. Out of total gross irrigated area in Maharashtra, 55% area was in Western Maharashtra, followed by Marathwada with 22%, Vidarbha 21.4 and Konkan 1.6% over a period of time. The gross irrigated area in Vidarbha region was declined during the four decades whereas it was increased in other three regions. It means that except Western Maharashtra the significant irrigation development was not took place in other three regions, during overall period.

6. There was higher level disparity of well irrigation in the regions of Maharashtra. It was 0.476 over a period of time. But it was declining during the decades. It was 0.487 in period-I (1961-70) and 0.474 in period-IV (1991-2000).

7. Moreover, the trend of disparity was declining for gross, net, and surface irrigation during the decades. The gini coefficient of gross irrigation of Maharashtra was 0.462 for the overall period which was declining from 0.450 (period-I) to 0.380 (period-IV).
8. Likewise, the trend of disparity was declined from 0.434 to 0.393 in case of net irrigation and it was 0.445 in the 0.332 with respect of disparity of surface irrigation.

9. The higher level of disparity in irrigated area of sugarcane, kharip, jowar and rabbit jowar crops was recorded significant over a period of time. The gini coefficient of these crops was 0.714, 0.617, 0.613, 0.612, and 0.594 respectively.

10. The lowest disparity was observed in case of wheat crop. It was 0.422 over a period of time. It is clear that, the higher level of disparity in input use was one of the reasons of disparity in agricultural development of Maharashtra.

11. The disparity in irrigation of bajara and rice crop was widening from period-I (1961-70) to period V (2001-2010). The disparity of irrigation of remained crops was declined during the same period.

12. Out of total sown HYV seeds of Rice, 44% seed was sown in Vidarbha region followed by 29.8% Konkan region, moreover 19.2 and 6.9% Western Maharashtra and Marathwada respectively.

13. The Vidarbha is HYV of rice cultivation was remained dominant during decades also. However, the area under Rice was constant in Western Maharashtra. Whereas the area in Marathwada and Konkan was increased during the decades.

14. Out of total sown area under HYV of wheat seed, except Konkan region the achievement in it was significant because the highest area under it was 47.8 in Western Maharashtra followed by 31% of Marathwada and 21.1% in Vidarbha over a period of time.

15. The area under HYV of Kharip jowar in Western Maharashtra and Vidarbha was decreased whereas the area in Marathwada was increased during the periods.
16. The area under rabbit jowar was decreased in Marathwada, and it was increased in the Western Maharashtra and Vidarbha region during the decades.

17. The Western Maharashtra was recorded 70.9% area under it whereas 28.1 and 0.9% area was covered in the Marathwada and Vidarbha region. More important inference from the table is that, the already area of bajara crop was higher but it was recorded increasing trend and Marathwada and Vidarbha regions were recorded declining trend in achieving HYV seed of bajara while their area under it was less during the decades.

18. The rabbit jowar and bajara area under HYV seed were recorded significant disparity. The gini coefficient for both was 0.512 and 0.600 respectively over a period of time. There was low level of disparity was recorded by rice crop in Maharashtra. Its gini coefficient was 0.305. The gini coefficient of wheat and Kharip jowar was 0.383 and 0.308 respectively over a period of time.

19. Except rice and bajara crop, all other HYV crops area was under 2% to total cropped area. Among the regions in Maharashtra, maximum percentage of HYV to total cropped area was observed in Western Maharashtra region for maximum crops. It means that the disparity in achieving high yielding variety seeds was significant and widening after the period -III (1981-90) in Maharashtra, which can be one of the reasons of widening regional disparity in agricultural development of Maharashtra.

20. There was observed regional disparity in all items of chemical fertilizers. The maximum disparity was observed in case of potassium fertilizer and it was 0.446 over a period of time.

21. Moreover, it was 0.358 and 0.353 of nitrogen and phosphate over a period of time.
22. The disparity of all chemical fertilizer was becoming low during the decades. The trend of disparity in nitrogen was downward. It was 0.408 in period II (1971-80) in period-V (2001-2010).

23. The gini coefficient of phosphate and potassium was 0.410, 0.444 in period (1971-80) and it was 0.324, 0.443 in period V (2001-2010) respectively. Though it was declining but it was significant during the decades.

6.3 Policy implications of the study

Conclusions emerging from the analysis of main aspects of agricultural development in Maharashtra provide important direction for reorientation in the agricultural development strategy to be pursued in future. In this respect, we restrict our comments on mainly to six areas as follow.

1. Irrigation

Irrigation along with high yielding variety seeds and fertilizer forms a significant input to raise agricultural production. Out of the agricultural inputs, irrigation availability is the major input in the agricultural sector. Out of total cropped area, only 17.5% irrigated area is under irrigation and remained 82.5% area still depends upon rainfall. Moreover, it has uneven available in the regions of Maharashtra. The Western Maharashtra which was most irrigation benefited region along with other inputs rather than other regions. The irrigation facility is (analyzed in the study) is one of the reasons (which are not focused in the study but as per observation) agricultural crises in Vidarbha. There is yet another major problem of the large backlog of the existing irrigation projects in the state. The study showed that since 1990s the irrigation development did not take place in Maharashtra so the backlog of it should be fulfilled where it was not even. The maximum irrigation was provided to sugarcane crop than other crops. It was widened during the post reform period
therefore the deliberate efforts should be made to provide the water to subordinate crops like cotton, rabbit jowar etc. in the agricultural sector.

2. **High yielding variety seeds**

Having exploited major gains of extensive diffusion of new seed technologies to a few cereal crops in the 1970’s and thereafter to selected non – cereals crops during the 1980’s, the future task of development and extension of technologies for agriculture is now more complex and challenging. (Naabard1999). There was only few high yielding variety seeds available in all regions of Maharashtra now it has to provide in respect of all crops. The research in agricultural universities now should reach out of the boundaries of the campuses.

3. **Consumption of Chemical Fertilisers**

The chemical fertiliser technology is also limited to the crops who has other available inputs like irrigation. Moreover, the much disparity was observed in availing the chemical fertiliser in the regions of Maharashtra. The Western Maharashtra was ahead in consuming the all types of chemical fertiliser due to concentration of cash crops like sugarcane in the region. The cotton crop is also one of the important crop in the state has been more cultivated in the Vidarbha region but it was less benefited in consumption of chemical fertilisers. It has to distribute as per the need of crops in all regions of state to balance the agriculture sector.

4. **Crop planning for food management**

The state is the part of federal system of country in respects of all issues regarding the public sector. Off course, the food management is the policy of central government and it has to support by all states of country. Our study shows that the Maharashtra state is more advances in producing the cash crops compared to food crops that are sign of unbalance agricultural development. Moreover, the Marathwada region was ahead in producing food crops than other regions it was low in other regions. The crop cultivation
was not according to cropping pattern decided by the irrigation and agricultural department. It has to be with the cropping pattern for national food management.

5. **Agricultural infrastructure**

The expansion of agricultural infrastructure is low in Maharashtra during the last five decades. The maximum crop based organization are regarding to mainly horticulture and floricultural crops like MAHA MANGO, MAHAGRAPE, MAHABANANA, Floricultural association etc., it has to made regarding to cereals crops too.

6. **Separate region is not the solution to tackle disparity**

The demand of separate region from its parent state is increasing in India due to increasing levels of disparity and other issues. The latest example is the creation of three new States caved out from an existing larger State viz., Madhya Pradesh, Bihar and Uttar Pradesh respectively. The past experience, by and large, is that when two or more States are carved out from an existing one or a new State is created by combining parts from more than one State on the basis of some homogeneity criterion like language or some other common heritage, the newly created States develop faster than the pre-partition States. Creation of new States, certainly, may not be a solution to such regional disparities. (Kurian 2007). The demand for separate Vidarbha state in Maharashtra also increasing day by day but making it separate from rest of the Maharashtra, the problems can not be finished at all. Yes, it has neglected for the agricultural development during the last five decades therefore the agrarian disasters are increasing in the region but providing sufficient agricultural inputs without any excess economic burden would be the best solution on it instead of making it separate.
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