Chapter – V

Agricultural Subsidies and Productivity in India and Punjab

Substantial additional growth in agricultural production needed to meet the basic necessities of large and growing population. It is also needed to generate agricultural surplus require for economic development with emphasis on employment equity. The bulk of growth is agricultural production will have to come from continuous increase in the productivity of land, yield based growth cannot sustain without removing soil fertility constraints and promote technological change. Among the various agriculture subsidies, fertilizer subsidy is the next largest food subsidy. Fertilizer subsidy is a development subsidy, which accelerate the fertilizer use and thus promote agricultural production. The central government removed the subsidy of fertilizer in the year 2003. Thereafter agricultural production gradually decreased. The farmers were not able to purchased fertilizer on the higher price. In such a case farmers, fertilizer use for of their agricultural production gradually declined (Halmandage, 2010).

The overall rate of agricultural production is decreasing and production cost is increasing due to removal of agricultural subsidy. The removal of subsidy would affect the agricultural sector and economy. Subsidies are among the most powerful instrument for manipulating or balancing the growth rate of production and trade in various sectors for an equitable distribution of income for protection of weaker sections of the society. The support and procurement prices of major agricultural production are some of the important measures which are done to protect the interest of farmers and weaker sections of consumers. Substantial additional growth in
agricultural production is needed to meet basic necessities for a larger growing population. It is also needed to generate agricultural surplus required for economic development with emphasis on employment equity. The agricultural production increased in initial period gradually after than the fertilizer subsidies were reduced. The overall economy effected. The government policy of subsidy is very well for protection of the weaker sections and marginal farmers (Halmandage, 2010).

In this chapter, an attempt is made to analyse the relationship between total subsidies (including fertilizers, electricity and irrigation) and productivity. The whole analysis is divided into two sections. The section first deals with total subsidies and productivity at country as well as zone level during 1980-81 to 2006-07 and in section second, total subsidies and productivity at districts level of Punjab during 1980-81 to 2009-10 has been discussed.

Section - I

Zone-wise distribution of total subsidies and productivity of crops in India during 1980-81 to 2006-07 are shown in table 5.1. It is observed that at India level, the total subsidies have increased during the pre and post liberalisation periods, whereas productivity increased except in 1996-97. At all India level, the total subsidies per hectare have increased from Rs. 1,362.59 in 1980-81 to Rs.14,134.59 (171.02 per cent) in 1990-91 and further increased to Rs.1,17,595.59 (85.38 per cent as compared to 2001). On the other hand, productivity in kgs per hectare has increased from 4,67,491 in 1980-81 to 17,75,699 (44.63 per cent) in 1990-91 and declined to 14,56,191 (17.99 per cent) in 1996-97 and again increased to 19,53,815 (13.28 per cent) in 2006-07.
The zone wise comparison shows that in south zone, total subsidies have increased from Rs.439.59 in 1980-81 to Rs. 33,825.92 in 2006-07, whereas there is variation in change in the productivity i.e. it has increased from 76,335 kgs in 1980-81 to 4,96,733 kgs. in 1990-91 and declined to 4,06,587 kgs. in 1996-97 and again increased to 5,46,465 kgs. in 2006-07. The total subsidies have increased from Rs.219.34 in 1980-81 to Rs.29,069.85 in 2006-07, whereas the productivity has increased from 1,03,412 kgs. in 1980-81 to 3,76,109 kgs. in 1990-91 and declined to 3,29,723 kgs. in 1996-97 and again increased to 421954 kgs. in 2006-07 in West zone.

North zone has got Rs.489.09 as total subsidies in 1980-81, which has increased to Rs.10,436.22 in 1996-97. This table shows that this zone has got subsidies of Rs.14,200.76 and Rs. 31,536.06 in 2000-01 and 2006-07 respectively. The productivity of this zone has increased from 1,38,069 kgs. in 1980-81 to 3,65,489 kgs. in 1990-91 and declined to 3,17,125 kgs. in 1996-97 and again increased to 4,05,553 kgs. in 2006-07.

East zone received Rs.115.68 of subsidies in 1980-81, increased to Rs.2,724.50 in 1996-97, whereas productivity of this zone has increased from 66,476 kgs. in 1980-81 to 2,57,507 kgs. in 1996-97 and declined to 2,36,814 kgs. in 2000-01 and again increased to 2,87,094 kgs. in 2006-07. The total subsidies have increased from Rs.98.89 in 1980-81 to Rs. 13,118.88 (284.05 per cent as compared to 2000-01) in 2006-07 and productivity has increased from 83,199 kgs. in 1980-81 to 2,92,749 kgs. in 2006-07 in north-east zone.

This table further reveals the percentage share of total subsidies in south zone at all India level, has declined from 32.26 in 1980-81 to 26.81 in 1990-91 and increased to 32.92 in 1996-97 and again declined to 28.76 in 2006-07, whereas the
percentage share in productivity increased to 16.32 in 1980-81 to 31.18 in 1985-86 and declined to 26.61 in 2000-01 and again increased to 27.97 in 2006-07. The percentage share of west zone in total subsidies, has increased from 16.10 per cent in 1980-81 to 25.99 in 1996-97 and declined to 24.72 in 2006-07 and the percentage share in productivity increased from 22.12 in 1980-81 to 26.01 in 1985-86 and declined to 21.18 in 1990-91 and again increased to 21.60 in 2006-07. North zone has got first position by receiving 35.89 per cent share of total subsidies and 29.53 of productivity at all India level in 1980-81. Whereas it has got the same rank in case of subsidies in 1985-86 and 1990-91 and second in 1996-97, 2006-07 and third in 2000-01, on the other hand, it has got third position in 1985-86, 1990-91, 1996-97 and in 2006-07 in productivity.

East zone is that zone whose percentage share in productivity is more than its percentage share in subsidies during pre as well as post liberalisation periods. A lot of variation is seen in east as well as north-east zones in subsidies and in productivity during pre and post liberalisation periods.
TABLE 5.1
Above table reveals that during pre as well as post liberalisation periods, at country level as well as zone level, the total subsidies have increased in absolute terms, whereas at India level as well as in south, west, north, north-east zones, productivity has also increased except in 1996-97 and in east zone productivity has declined during 1996-97 to 2000-01. As compared to post-liberalisation period (2006-07) with pre-liberalisation period (1990-91), it is observed that in India, subsidies have increased 8.32 times, whereas productivity increased by only 1.1 times. While comparing the same time period, as zone level analysis shows that in west zone, subsidies have increased the maximum number of times i.e. 11.95 times, followed by south zone (8.93 times), east zone (7.67 times), north zone (7.49 times) and north-east zone (6.28 times). On the other hand productivity has increased maximum i.e. 1.90 times in south zone, followed by west zone (1.12 times), north zone (1.11 times), east zone (1.1 times) and north-east zone (1.05 times). In 1990-91, south zone has got near about three times of total subsidies and has near about two times of productivity, whereas in 2006-07, it has received 3.37 times of subsidies and has near about two times of productivity as compared to east zone.

The State-wise distribution of total subsidies and productivity of different states in south zone in India are shown in table 5.2. This table reveals that in Andhra Pradesh, the total subsidies have increased from Rs.102.89 in 1980-81 to Rs.10,509.40 in 2006-07. The productivity of important crops in this state has increased from 16,791 kgs. in 1980-81 to 1,07,655 kgs in 2006-07. Karnataka has received Rs.74.71, Rs.729.16 and Rs.4,446.72 in 1980-81, 1990-91 and 2006-07 respectively. In this state, the productivity has risen up from 22,760 kgs. in 1980-81 to 1,23,502 kgs and declined to 1,04,829 kgs. in 2006-07. Kerala has received subsidies of Rs.56.25 in 1980-81, which have increased to Rs.1,599.75 in 2006-07.

The productivity of Kerala has increased from 7885 kgs. in 1980-81 to 1,09,076 kgs. in 1985-96 and declined to 67,986 kgs. in 1990-91 again increased to
95,193 kgs. in 2000-01 and again declined to 90,560 kgs. in 2006-07. In 1980-81, the total subsides of Rs.205.73 are distributed in Tamil Nadu, which have increased to Rs.2,832.93 in 1996-97 and declined to Rs. 2,414.77 in 2006-07. On the other hand the productivity increased from 13,627 kgs. in 1980-81 to 1,29,466 kgs. in 1996-97 and declined to 1,31,527 kgs. in 2006-07.

Andaman and Nicobar Islands has got 158.65 per cent more subsidies in 2000-01 and 580.90 per cent in 2006-07 as compared to the predecessor year, whereas the productivity has declined from 2,555 kgs. in 1980-81 to 1,880 kgs. in 1985-86 and increased to 27,508 kgs. in 1990-91 and again declined to 2,656 kgs. in 1996-97 and again increased to 30,896 kgs. in 2006-07. A lot of variation is seen in total subsidies as well as in productivity in Pondicherry, Himachal Pradesh throughout the study period.

The percentage share of Andhra Pradesh in total subsidies has increased from 7.55 in 1980-81 to 8.92 in 2000-01 and percentage share in productivity increased from 3.59 in 1980-81 to 6.13 in 1985-86 and declined to 5.51 in 2006-07. Karnataka has got 5.48 percentage share of subsidies and 4.87 percentage share of productivity in 1980-81. Its percentage share in subsidies declined from 6.21 in 1985-86 to 3.78 in 2006-07, whereas its percentage share in productivity declined from 7.13 in 1985-86 to 5.37 in post liberalisation period (2006-07).

The percentage share of Kerala in total subsidies declined from 4.13 in 1980-81 to 2.66 in 1996-97 and further declined to 1.36 in 2006-07 and the percentage share in productivity has increased from 1.69 in 1980-81 to 8.88 in 1985-86 and declined to 3.83 in 1990-91 and again increased to 5.66 in 1996-97 and again declined to 4.64 in 2006-07. Tamil Nadu has got first position by receiving maximum amount of subsidies during pre as well as post liberalisation periods and third, second, first rank in 1980-81, 1985-86 and 2006-07 respectively.
The above table reveals that total subsidies in Rs. crores subsidies have increased in absolute terms in all the states of south zone during pre as well post liberalisation periods, on the other hand, variations are seen in productivity. As compared to the year 2006-07 with the year 1990-91, the above table indicates that subsidies have increased by 9.55 times in Andhra Pradesh, more than six times in Karnataka, 2.66 times in Kerala and 1.8 times in Tamil Nadu, whereas productivity increased maximum 1.33 times in Kerala, 1.29 times in Andhra Pradesh, 1.12 times in Karnataka and 1.03 times in Tamil Nadu. In 1990-91, Andhra Pradesh has increased near about two times of subsidies and 1.22 times of productivity, whereas in 2006-07, Andhra Pradesh has received 6.5 times of subsidies and 1.19 times of productivity as compared to Kerala. During pre- liberalisation period (in 1990-91), Tamil Nadu has got near about two times more of subsidies and 1.36 times of productivity than that of Karnataka, on the other hand, during post-liberalisation period (in 2006-07), Karnataka has got 1.77 times more of subsidies as compared to Tamil Nadu, whereas Tamil Nadu has got 0.79 times of productivity than that of Karnataka.

The total subsidies and productivity in all the states of west zone in India are shown in table 5.3. This table reveals that Gujarat has got Rs.75.13, Rs.7,254.54 and Rs.4,058.85 in 1980-81,2000-01 and 2006-07 respectively, whereas the productivity has increased from 39,981 kgs. in 1980-81 to 1,11,660 kgs. in 1985-86 and declined to 99,253 kgs. in 1990-91 and again increased to 1,09,041 kgs. in 2006-07. Total subsidies have increased from Rs.12.74 in 1980-81 to Rs.2,415.53 in 2000-01 and declined to Rs.2,187.83 in 2006-07 and productivity has declined from 21455 kgs. in 1980-81 to 44257 kgs. In 1990-91 and increased to 66716 kgs. in 2006-07 in Madhya Pradesh.
In Maharashtra, subsidies have increased from Rs.68.41 in 1980-81 to Rs.10,170.16 in 2006-07, whereas productivity has increased from 21,255 kgs. in 1980-81 to 93,276 kgs. in 2000-01 and declined to 87295 kgs. in 2006-07. Rajasthan received subsidies of Rs.37.48 in 1980-81, which have increased to Rs.952.84 in 1996-97 and declined to Rs.673.58 in 2006-07. On the other hand, productivity has increased from 11171 kgs. in 1980-81 to 74,873 kgs. in 1990-91 and declined to 59,463 kgs. in 2000-01 and again increased to 81,415 kgs. in post-liberalisation period (2006-07).

Goa and Daman and Diu have received Rs.25.59 of subsidies in 1980-81, increased to Rs.7,720.44 in 2006-07 and productivity declined from 8291 kgs. in 1980-81 to 2,311 kgs. in 1985-86 and increased to 60,185 kgs. in 2006-07, whereas in Dadra Nagar Haveli the amount of total subsides have increased from Rs.228.48 in 1996-97 to 302.74 in 2000-01 and declined by 100 per cent in the year 2006-07 (from 2000-01). On the other hand, the productivity has increased from 1,259 kgs. in 1980-81 to 5,472 kgs. in 1990-91 and declined to 1,785 kgs. in 1996-97 and again increased to 11,962 kgs. in 2000-01 and again declined to 4,876 kgs. in 2006-07 in Dadra Nagar Haveli.

During pre as well as post liberalisation periods, it is found that Gujarat has got first position in subsidies (during 1980-81 to 2000-01) as well as in productivity during 1980-81 to 2006-07. Maharashtra has got second position during 1980-81 to 1996-97 in subsidies and during 1996-97 to 2006-07 in case of productivity, whereas Rajasthan has got third rank in during 1980-81 to 1990-91. Madhya Pradesh achieved fourth position in subsidies and in productivity during pre as well as post liberalisation periods except in 1980-81 and 2006-07.
TABLE 5.3
It is observed that subsidies have increased in absolute terms in all the states of west zone except in Gujarat and Rajasthan (in these states total subsidies have declined in 2006-07) and variations are observed in case of productivity in all the states throughout the study period. As the year 2006-07 is compared to the year 1990-91, it is found that in Maharashtra, the subsidies have increased the maximum number of times i.e. 11.58 and the productivity minimum i.e. 0.88 times (which is approximately same in Dadra Nagar Haveli). During post-liberalisation period (in 2006-07), in Gujarat as well as in Rajasthan the productivity has increased in same number of times i.e. 1.09, whereas Gujarat has received 3.57 times of more subsidies and Rajasthan 2.36 times of subsidies as compared to pre-liberalisation period (in 1990-91).

The total subsidies and productivity of all the states of north zone in India is shown in table 5.4. This table reveals that in Haryana, total subsidies have increased from Rs.142.56 in 1980-81 to Rs.3,471.93 in 2006-07. This table further reveals that the productivity has increased from 29,674 kgs. in 1980-81 to 96,561 kgs. in 1990-91 and declined to 83,624 kgs. in 1996-97 and again increased to 1,00,459 kgs. in post-liberalisation period (2006-07). In Punjab, total subsidies have increased from Rs.171.98 in 1980-81 to Rs.21,454.79 in 2006-07 and the productivity of important crops has also increased from 36,270 kgs. in 1980-81 to 92,964 kgs. in 1985-86 and declined to 88,683 kgs. in 1990-91 and again increased to 1,19,883 kgs. in 2000-01 and again declined to 94,434 kgs. in 2006-07. Uttar Pradesh has got Rs.100.55 in 1980-81 as total subsidies, increased to Rs.1,868.92 in 2000-01 and declined to Rs.1,799.27 in 2006-07. The productivity has increased from 27,086 kgs. in 1980-81 to 93162 kgs. in 1996-97 and declined 73,211 kgs. in 2006-07 in Uttar Pradesh.
In Jammu and Kashmir, the subsidies have increased from Rs.48.5 in 1980-81 to Rs.1,261.73 in 1996-97 and declined to Rs.1,098.24 in 1996-97 and again increased to Rs.1,535.92 in 2006-07, whereas the productivity has declined from 14,287 kgs. in 1980-81 to 4,163 kgs. in 1985-86 and increased to 53,980 kgs. in 1990-91 and again declined to 4,746 kgs. in 1996-97 and again increased to 18,040 kgs. in 2006-07. Delhi has got Rs.1,919.42 as subsidies in 1996-97, declined to Rs.282.98 in 2006-07, whereas productivity also declined from 19,208 kgs. in 1980-81 to 3,405 kgs. in 1985-86 and increased to 11,017 kgs. in 1990-91 and again declined to 795 kgs. in 1996-97.

This table also shows that for receiving subsidies Punjab has got first rank during pre as well as post liberalisation periods except in 2000-01 and also ranked first in productivity except in 1990-91 and 2006-07. Haryana achieved second position in subsidies during pre as well as post liberalisation periods except in 2000-01 and also has got second rank in 1980-81, 1985-86, first rank in 1990-91, 2006-07 and third rank in 1996-97, 2000-01. Uttar Pradesh is on third rank in case of total subsidies during 1980-81 to 2006-07. On the other hand, Jammu and Kashmir has got fourth position by receiving 3.57 per cent of total subsidies in 1980-81, 4.35 per cent in 1985-86, 4.37 per cent in 1990-91, 3.23 per cent in 1996-97, 1.73 per cent in 2000-01 and 1.31 per cent in 2006-07. Uttarakhand Pradesh achieved 1.63 percentage share in subsidies and 3.40 in productivity in 2006-07. Himachal Pradesh has got fifth rank in subsidies, whereas has got a small percentage share in productivity at the centre level during pre as well as post liberalisation periods.
Table 5.4
It is found that the subsidies have increased in absolute terms and variations are seen in case of productivity in all the states of north zone during pre as well as post liberalisation periods. As post-liberalisation period (in 2006-07) is compared to pre-liberalisation period (in 1990-91), the above table reveals that subsidies have increased in all the states, whereas productivity has also increased in all the states except in Uttar Pradesh and Jammu and Kashmir. In Punjab, subsidies have increased maximum times i.e. 14.11, whereas productivity has increased by 1.06 times and Haryana got 3.58 times and 1.04 times more of subsidies and productivity respectively. In 2006-07, Himachal Pradesh has received 19.94 times more of total subsidies and 2.58 times of productivity than that of Himachal Pradesh.

The total subsidies and productivity in states of east zone of India is shown table 5.5. This table reveals that in Bihar subsidies have increased from Rs.38.07 in 1980-81 Rs.2,478.49 in 2006-07. Orissa has got Rs.19.66 and Rs. 2724.34 of total subsidies in 1980-81 and 2006-07 respectively. On the other side, variations are seen in productivity i.e. the productivity has increased from 19,200 kgs. in 1980-81 to 86,388 kgs. in 1990-91 and declined to 73,262 kgs. in 2000-01 and again increased to 79,981 kgs. in 2006-07.

West Bengal received the maximum amount of subsidies of Rs.57.95 among all the states of this zone in 1980-81, increased to Rs.3,294.53 in 2006-07, whereas productivity has increased from 29,795 kgs. kgs. in 1996-97 to 99,100 kgs. in 2006-07. This table indicates that in Bihar, the percentage share in subsidies has declined from 2.79 in 1980-81 to 2.11 in 2006-07. The percentage share of the same state in case of productivity declined from 3.74 kgs. in 1980-81 to 3.66 kgs. in 1985-86 and increased to 4.28 kgs. in 1996-97 and again declined to 3.26 kgs. in 2006-07.
Orissa has got a little percentage share of subsidies i.e. 1.44, whereas contributed 4.11 percentage share in productivity in 1980-81. During pre as well as post liberalisation periods in Orissa, percentage share of subsidies increased from 1.04 in 1990-91 to 1.74 in 1996-97 and declined to 1.46 in 2000-01 and again increased to 2.32 in 2006-07, on the other hand, productivity has increased from 4.87 in 1990-91 to 5.54 in 1996-97 and declined to 4.09 in 2006-07. West Bengal has got first rank in subsidies as well as productivity during per-liberalisation period (1980-81).
Table 5.5
In east zone, it is observed that in all the states subsidies have increased and variations are found in productivity in absolute terms during 1980-81 to 2006-07. As post-liberalisation period (in 2006-07) is compared to pre-liberalisation period (in 1990-91), it is found that in Orissa the subsidies have increased maximum i.e. 18.58 times followed by West Bengal (5.94 times) and Bihar (4.07 times), whereas productivity has declined in Bihar 1.09 times, followed by Orissa (1.08 times) and West Bengal (1.02 times). In 2006-07, West Bengal has received 1.6 times more of productivity and 1.32 times more of subsidies as compared to Bihar. In 1990-91, West Bengal has got 1.46 times of more productivity than that of Bihar and Bihar has got 1.09 times of more subsidies than that of West Bengal.

The total subsidies and productivity of all the states of north-east zone of India is shown in table 5.6. This table indicates that Assam state has got subsidies of Rs.25.59 in 1980-81, increased to Rs.165.81 and declined to Rs.159.44 in 1996-97 and again increased to 837.17 in 2006-07 and productivity of this state also increased from 12,804 kgs. in 1980-81 to 54,182 kgs. in 1990-91 and declined to 49,377 kgs. in 2006-07. In Tripura, total subsidies have increased from Rs.8.91 in 1980-81 to Rs.330.37 in 1990-91 and declined to Rs.186.16 in 1996-97 and again increased to 962.96 in 2006-07, whereas productivity in the same state has declined from 22,244 kgs. in 1980-81 to 20,737 kgs. in 1996-97.

In Manipur, the total subsidies has increased from Rs.49.04 in 1980-81 to 2,325.77 in 1996-97 and declined to Rs.2,176.17 in 2000-01 and again increased to Rs.10,988.83 in 2006-07. Productivity has declined from 12,475 kgs. in 1980-81 to 45,829 kgs. in 2006-07. In Meghalaya, the subsidies have increased from Rs.10.26 in 1980-81 to Rs.137.68 in 1996-97 and declined by 68.49 per cent in 2006-07 as
compared to 2000-01, on the other side, variations are seen in productivity throughout the study period.

During study period, it has been found that in Nagaland the total subsidies have increased from Rs.0.45 in 1980-81 to Rs.19.56 in 1990-91 and declined to Rs.11.36 in 2000-01 and again increased to Rs.11.40 in 2006-07, whereas the productivity has declined from 10,592 kgs. in 1980-81 to 1,903 kgs. in 1985-86 and increased to 46,277 kgs. in 1990-91 and again declined to 64,061 kgs. in 2006-07. Mizoram received a little amount of subsidies i.e. Rs.0.58 in 1980-81, increased to Rs.203.71 in 2006-07, whereas in productivity variations are seen.

In Sikkim, the amount of total subsidies have increased from Rs.4.06 in 1980-81 to Rs.37.24 in 1990-91 and declined to Rs.26.94 in 1996-97 and again increased to Rs.70.35 in 2000-01 and again declined to Rs.26.42 in 2006-07, whereas the productivity within the same state has increased from 3346 kgs. in 1980-81 to 12,981 kgs. in 1985-86 and declined to 7368 kgs. in 1990-91 and again increased to 9,823 kgs. in 2006-07.

It is found that in Assam the percentage share of subsidies has declined from 1.88 in 1980-81 to 0.41 in 1996-97 and increased to 0.77 in 2000-01 and declined to 0.71 in 2006-07, whereas percentage share in productivity has increased from 2.74 in 1980-81 to 4.30 in 1985-86 and declined to 2.53 in 2006-07. The percentage share of subsidies in Tripura is less than its percentage share in productivity during 1980-81 to 2006-07, except in 1985-86, same pattern is found in Meghalaya, Nagaland, whereas in Manipur, Mizoram, Sikkim and in Arunachal Pradesh, the percentage share of subsidies is more than that of their productivity during pre as well as post liberalisation periods.
TABLE 5.6
Above table indicates that in absolute terms, variations are found in the subsidies as well productivity in all the states of north-east zone during the study period. As compared the year 2006-07 with the year 1990-91, it is observed that subsidies have increased in all the states except in Nagaland, Mizoram and Sikkim and productivity has increased except in Meghalaya and Sikkim. During 1996-97 to 2000-01, in Tripura productivity remains same (20737 kgs.), whereas in 2000-01, total subsidies have increased by 1.85 times more as compared to 1996-97.

**Section - II**

In this section, the relationship between total subsides and productivity at districts level is discussed. The district-wise distribution of total subsidies and productivity of Punjab state is shown in table 5.7. This table indicates that in Gurdaspur, total subsidies have increased from Rs. 213.55 in 1980-81 to Rs.424.19 (98.64 per cent) in 1985-86 and Rs.5,492.67 (250.25 per cent more than that of 2000-01) in 2009-10, whereas the productivity declined from 31,885 kgs. in 1980-81 to 16,293 kgs. in 1985-86 and increased to 41,254 kgs. in 2009-10. (4.42 per cent more than that of 2000-01).

In Amritsar, total subsidies have increased from Rs.216.77 in 1980-81 to Rs.5,805.45 in 2009-10, whereas productivity has increased from 36,726 kgs. in 1980-81 to 43440 kgs. in 2009-10. In Kapurthala, the subsidies have increased throughout the study during 1980-81 to 2009-10, whereas productivity also increased during pre as well as post liberalisation periods except in 1985-86.

In Hoshiarpur, the total subsidies increased from Rs.231.28 in 1980-81 to Rs.4,639.42 in 2009-10. The productivity of crops has declined from 31425 kgs. in 1980-81 to 14,246 kgs. in 1985-86 and increased to 61,312 kgs. in 1996-97 and again
declined to 34952 kgs. in 2000-01 and again increased to 45693 kgs. in post-liberalisation period (2009-10). In Rupnagar, the total subsidies declined from Rs. 442.82 in 1980-81 to Rs.372.09 in 1985-86 and increased to Rs.4771.11 in 2009-10, whereas the productivity declined from 37663 kgs. in 1980-81 to 21071 kgs. in 1985-86 and increased to 43168 kgs. in 2009-10.

In Ludhiana, the total subsidies have increased throughout, whereas the productivity increased except in 1985-86 and 2000-01. In Ferozepur, the total subsidies increased 20.94 per cent in 1985-86 from previous year, 44.16 per cent in 1990-91, 64.41 in 1996-97, 46.55 in 2000-01 and 308.38 in 2009-10. The productivity declined by 41.04 per cent in 1985-86 from the previous year and increased 69.91 per cent in 1990-91 from 1985-86. It is found during the study that in this district there is direct relationship between the percentage share of subsidies and productivity at state level except in 1996-97.

In Faridkot, the subsidies have declined in the years 1985-86 and 2009-10, whereas the productivity has declined in 1985-86, 1996-97, 2000-01 and in 2009-10 as compared to the predecessor year in the table. In Sangrur, the total subsidies has increased from Rs.284.36 in 1980-81 to Rs.548.57 in 1990-91 and again increased by 385.43 per cent in 2009-10 as compared to 2000-01 and productivity declined by 42.12 per cent 1985-86 from the year 1980-81 and increased by 3.69 per cent in 2000-01 as compared to 1996-97 and declined by 2.06 in 2009-10 from the 2000-01.

At Punjab level, Gurdaspur district has got 4.74 percentage share of subsidises in 1980-81, increased to 6.78 in 2000-01 and declined to 4.90 in 2009-10, whereas it has got 7.22 percentage share of productivity in 1980-81 declined to 4.75 in 2009-10. The percentage share of productivity has declined from 8.32 in 1980-81 to 5.01 in 2009-10, whereas the percentage share of this district in productivity is
more than its percentage share in subsidies except in 1985-86 and 2000-01 in Amritsar.

In Jalandhar, the percentage share of total subsidies has increased from Rs.4.77 in 1980-81 to 8.37 in 1990-91 and declined to 6.27 in 2000-01 and again increased to 6.37 in 2009-10, whereas the percentage share in productivity has declined from 8.21 in 1980-81 to 5.22 in 1996-97. In Hoshiarpur, the percentage share of subsidies in the state level has increased from 5.14 in 1980-81 to 4.14 in 2009-10, on the other hand, the percentage share of productivity declined from 7.11 in 1980-81 to 4.90 in 2000-01 and increased to 5.27 in 2009-10.

The percentage share of subsidies has declined from 9.84 in 1980-81 to 4.25 in 2009-10, on the other hand the percentage share of productivity increased from 8.53 in 1980-81 to 8.82 in 1985-86 and declined to 4.97 in 2009-10 in Rupnagar. It is seen that the percentage share of Bathinda in productivity is only 8.90, which is approximately three times less than its percentage share in subsidies in 1980-81 and during 1990-91 to 2000-01, its percentage share in subsidies is less than percentage share in productivity. In this district both subsidies and productivity declined in 1984-85, whereas in 2000-01 these subsidies have increased and productivity declined as compared to 1996-97. In Patiala, these subsidies increased by 46.93 per cent in 1985-86, 35.54 per cent in 1996-97 and 292.28 per cent in 2009-10 as compared to 1980-81, 1990-91 and 2000-01 respectively.
TABLE 5.7
TABLE 5.7
| Table 5.7 |
It is observed that in absolute terms, total subsidies have increased during the study period in all the districts of Punjab state, whereas productivity has declined in 1985-86 in all the districts. As post-liberalisation period (2009-10) is compared to pre-liberalisation period (1990-91), it is found that total subsidies have increased in all the districts, whereas productivity also increased in all the districts except in Faridkot. The interesting fact is found that in all the districts except in Faridkot (in this district productivity declined) that the productivity has increased less than two times i.e. in Kapurthala 1.63 times followed by Hoshiarpur 1.55, Jalandhar 1.33, Ludhiana 1.3, Amritsar 1.29, Gurdaspur 1.25, Ferozepur 1.13, Sangrur 1.07, Bathinda 1.03 and Patiala 1.02. In Sangrur, total subsidies have increased the maximum i.e. 11.88 times followed by Hoshiarpur 11.33, Jalandhar 11.23, Ferozepur 9.8, Patiala 9.54, Amritsar 9.24, Kapurthala 8.86, Gurdaspur 7.76, Rupnagar 7.39 and 7.33 in Ludhiana.

In 1990-91, Gurdaspur has got 1.00 times of total subsidies and 1.13 times of productivity as compared to Kapurthala, whereas in 2009-10, Kapurthala has got 1.14 times of subsidies and 1.17 times of productivity than that of Gurdaspur. In 2009-10, Sangrur has got 1.1 times of subsidies as well as productivity more than that of Bathinda.

From the above discussion, it is concluded that in India, the total subsidies of fertilizers, electricity and of irrigation have increased in terms of per hectare during pre, first as well as second liberalisation periods, whereas the increasing rate is higher in 1985-86 among all the other years and lowest rate in 2000-01. Productivity has declined in the year 1996-97 at country as well as zone level.

State-wise analysis shows that states like Tamil Nadu (in 1980-81), Pondicherry (during 1996-97 to 2006-07), Gujarat (2000-01), Maharashtra (in 2006-07) and Mizoram (during 1985-86 to 1990-91) have received more amounts of total subsidies at national level, these have got less percentage share of productivity, while
some states like Kerala (during 1996-97 to 2006-07), Rajasthan Karnataka, Tamil Nadu (in 2006-07), Madhya Pradesh (1980-81 to 1996-97), Orissa (during 1980-81 to 2006-07) and Gujarat (in 1980-81) have showed better performance in case of productivity by consuming a little amount of subsidies.

District-wise analysis revels that in the districts, the increasing rate of total subsidies is higher in 2009-10 (as compared to 2000-01) among all the other years of study. It is also observed that during pre-liberalisation period, districts like Gurdaspur, Kapurthala and Rupnagar (in 1990-91), Ludhiana (in 1985-86), Bathinda and Faridkot (in 1980-81), whereas during post-liberalisation period, districts i.e. Jalandhar (in 1996-97) and Moga (in 2009-10), has got more percentage share in total subsidies than that of productivity. On the other hand, districts like Kapurthala, Jalandhar, Amritsar and Ludhiana (in 1980-81), Faridkot (in 1990-91 and in 2009-10) and Sangrur (in 1985-86), Rupnagar and Hoshiarpur (in 2009-10) have got more percentage share in productivity as compared to total subsidies.

As state-wise analysis shows that during pre-liberalisation period (in 1990-91), Tamil Nadu has ranked first by getting maximum percentage share of productivity (in Kgs. per hectare) i.e. 7.21, followed by West Bengal (5.72 per cent), Gujarat (5.59 per cent), Maharashtra (5.58 per cent) and Haryana (5.44 per cent), whereas during post-liberalisation (in 2006-07), Tamil Nadu (6.73 per cent) has got first position followed Gujarat (5.58 per cent), Andhra Pradesh (5.51 per cent), Haryana (5.14 per cent) and West Bengal (5.07 per cent).

The district-wise analysis shows that Faridkot is leading all the other districts of Punjab by receiving 20.63 per cent of productivity (in Kgs. per hectare) followed by Patiala (9.29 per cent), Sangrur (8.60 per cent), Rupnagar (8.02 per cent) and Ludhiana (7.83 per cent) in 1990-91, whereas Ludhiana (6.23 per cent) has ranked first followed by Patiala (5.82 per cent), Fatehgarh Sahib (5.72 per cent), Barnala (5.70 per cent) and Sangrur (5.65 per cent) in 2009-10.