

CHAPTER 10

AGRICULTURE AND RURAL DEVELOPMENT

It is altogether different from national perspective so far as priority and contribution of agriculture and rural development in Delhi's economy is concerned. Ever increasing urbanization in Delhi is leading to diminishing rural areas. Further very fast growth of services sector is making agriculture and rural economic activities less attractive. As a result, the contribution of agriculture and allied activities in the Gross State Domestic Product at current prices in Delhi declined from 1.09 per cent in 2004-05 to 0.87 per cent in 2011-12. As per Census of 2011, rural population in Delhi was 4.19 lakh (2.50 per cent of the total population of 167.53 lakh). Around 25 per cent of the total area of NCT, as per 2011 census, was in rural and the remaining 75 per cent in urban. The number of rural villages in Delhi reduced from 214 in 1981 to 112 in 2011.

2. Land Holding Pattern

- 2.1 As economy is moving alongwith rapid urbanization, the agriculture holdings in Delhi is also reducing at a speedy rate. This is evident as per the Agricultural Census. The information regarding the agricultural land holding pattern and area operated for agricultural purposes in Delhi, during the last two agricultural census is presented in Statement 10.1.

Statement 10.1
LAND HOLDINGS & OPERATIONAL AREA IN DELHI: 2000-01 & 2005-06

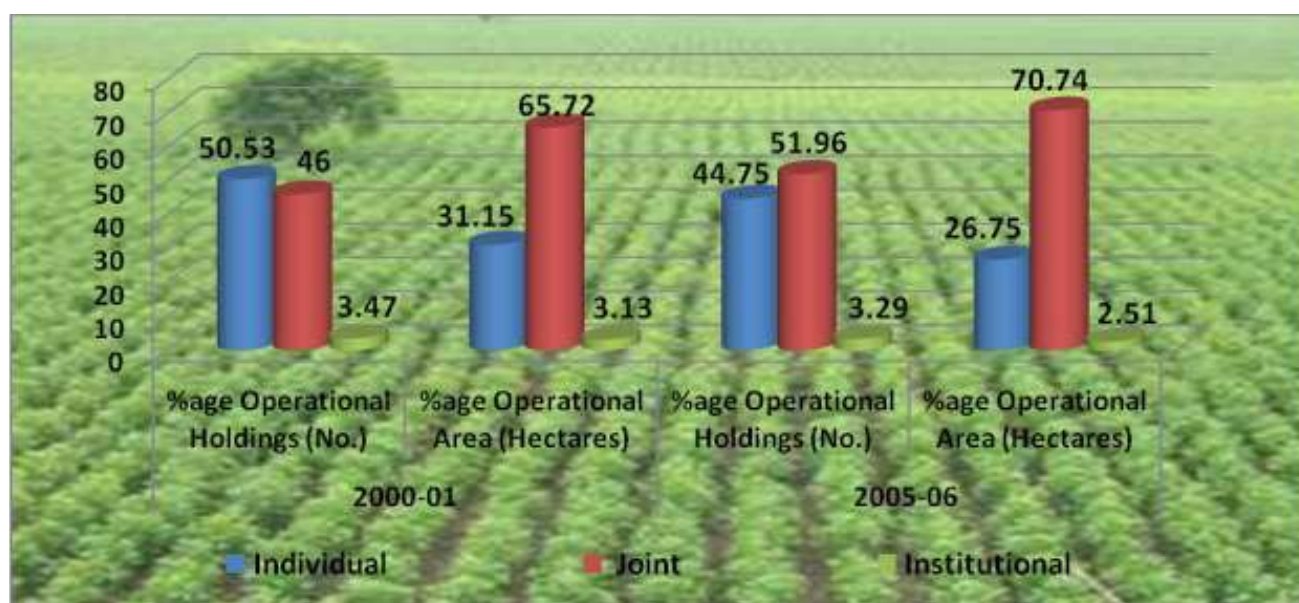
| Sl. No. | Details | Agricultural Census 2000-01 | Agricultural Census 2005-06 |
|---------|---------------------------------------|-----------------------------|-----------------------------|
| 1. | Operational Holdings (Number) | | |
| | a. Individual | 14309 (50.53) | 8913 (44.75) |
| | b. Joint | 13025 (46.00) | 10349 (51.96) |
| | c. Institutional | 981 (3.47) | 655 (3.29) |
| | Total | 28315 (100.00) | 19917 (100.00) |
| 2. | Operational Area (in Hectares) | | |
| | a. Individual | 13432 (31.15) | 8850 (26.75) |
| | b. Joint | 28345 (65.72) | 23404 (70.74) |
| | c. Institutional | 1349 (3.13) | 832 (2.51) |
| | Total | 43126 (100.00) | 33086 (100.00) |

Sources: - Agricultural Census 2000-01 & 2005-06

Note: - Figures in parenthesis relate percentage to total

2.2 It may be inferred from Statement 10.1 that the number of operational holdings in Delhi reduced from 28315 in 2000-01 to 19917 in 2005-06. The reduction in land holdings in Delhi worked out at 5.93 per cent per annum. The reduction of operational holdings by the individual category was highest at 7.5 per cent per annum; while the same in joint and institutional category at 4.11 per cent and 6.65 per cent per annum respectively. The operational area of Delhi decreased from 43126 hectares during 2000-01 to 33086 hectares during 2005-06. The reduction in operational area during the last two agricultural census in Delhi was worked out at 4.66 per cent per annum. The reduction in operational area of institutional category during the same period was highest at 7.66 per cent per annum. The same in case of individual and joint category was worked out at 6.82 per cent per annum and 3.49 per cent per annum respectively. The land holdings and operational area of Delhi during the last two agricultural census is depicted in Chart 10.1.

Chart 10.1
LAND HOLDINGS & OPERATIONAL AREA IN DELHI: 2000-01 & 2005-06



2.3 During the last agricultural census conducted during 2005-06, near about three fifth of the operational holdings size was less than one hectare, commonly called marginal size. Near about one fifth of the holdings were under the category of small size and the size was in between one and two hectares. Very less percentage of operational holdings was under the category of large holdings and the size was above ten hectares. Area operated in agriculture in Delhi was highest in medium size and it constitutes near about one third of the total areas operated. The information regarding number and area of operational holdings – all social groups in Delhi is presented in Table 10.1.

3. Land Use Pattern in Delhi

As per village records, the total cropped area during 2000-01 was at 52816 hectares, reduced to 36041 hectares in 2005-06 and in 2012-13 was to tune of 35178 hectares. The reduction of cropped area during this period was worked out at 2.57 per cent per annum. Simultaneously the percentage of cropped area from total area was reduced from 35.81 per cent in 2000-01 to 23.85 per cent in 2012-13. The remaining areas of the Delhi are being used for various other uses such as non-agricultural purposes, forest, fallow land, uncultivable land, etc. The main reasons behind such reduction in agriculture area in Delhi are due to the fast urbanization, and shift in occupational pattern especially during the last two decades. This results in reduction of share of this sector to the Gross State Domestic Product of Delhi. The information regarding the land use pattern of Delhi during the last twelve years is presented in Table 10.2.

4. Crop Intensity

- 4.1 Crop intensity is an index of agriculture development and is directly related to irrigation facilities. It is the percentage ratio of gross cropped area to net area sown. The information regarding crop intensity of Delhi during the last 13 years is presented in Statement 10.2.

Statement 10.2
CROP INTENSITY OF DELHI DURING 2000-01 TO 2012-13

(Hectares)

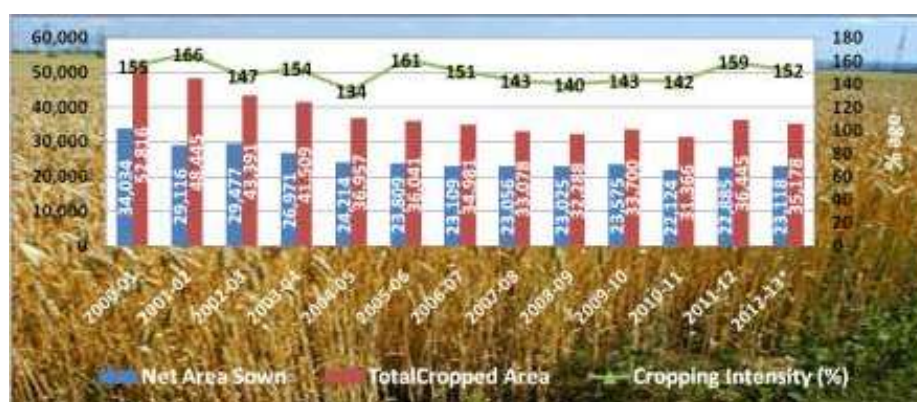
| Sl. No. | Year | Net Area Sown | Total Cropped Area | Cropping Intensity (%) |
|---------|------------|---------------|--------------------|------------------------|
| 1. | 2000-2001 | 34,034 | 52,816 | 155 |
| 2. | 2001-2002 | 29,116 | 48,445 | 166 |
| 3. | 2002-2003 | 29,477 | 43,391 | 147 |
| 4. | 2003-2004 | 26,971 | 41,509 | 154 |
| 5. | 2004-2005 | 24,214 | 36,957 | 134 |
| 6. | 2005-2006 | 23,809 | 36,041 | 161 |
| 7. | 2006-2007 | 23,109 | 34,981 | 151 |
| 8. | 2007-2008 | 23,056 | 33,078 | 143 |
| 9. | 2008-2009 | 23,025 | 32,288 | 140 |
| 10. | 2009-2010 | 23,575 | 33,700 | 143 |
| 11. | 2010-2011 | 22,124 | 31,366 | 142 |
| 12. | 2011-2012 | 22,885 | 36,445 | 159 |
| 13. | 2012-2013* | 23118 | 35178 | 152 |

Source:- Development Department, Government of NCT of Delhi

Delhi Statistical Hand Book, 2012, Directorate of Economics and Statistics, Government of NCT of Delhi

* Estimated

Chart 10.2a
CROP INTENSITY OF DELHI DURING 2000-01 TO 2012-13



- 4.2 It may be observed from Statement 10.2 that the crop intensity was highest at 166 per cent during 2001-02 and lowest at 134 per cent during 2004-05. The crop intensity of Delhi during 2012-13 is estimated at 152 per cent. In addition, area under the food grain crops have decreased during this period but the same in vegetables increased.

5. Cropping Pattern

- 5.1 Cropping pattern is the sequential arrangement of crops on a piece of land. Paddy, Jowar and Bajra during Kharif and Wheat and Mustard crops during the Rabi seasons are the major crops in Delhi. The cultivation of vegetables is a continuous process throughout the year. The information regarding the area, production and yields of some of the selected crops in Delhi during 2011-12 is presented in Statement 10.3.

Statement 10.3
AREA, PRODUCTION AND YIELD OF CROPS IN DELHI – 2011-12*

| Sl. No. | Crops | Area (Hectare) | Production (Metric Ton) | Yield (Kg. Per Hectare) |
|---------|-----------|----------------|-------------------------|-------------------------|
| 1 | Wheat | 18927 | 82142 | 4340 |
| 2 | Barley | 66 | 195 | 2985 |
| 3 | Bajra | 1439 | 2689 | 1872 |
| 4 | Maize | 38 | 834 | 2050 |
| 5 | Jowar | 3140 | 30328 | 965 |
| 6 | Paddy | 7248 | 30297 | 4180 |
| 7 | Gram | 13 | 12 | 923 |
| 8 | Potatoes | 48 | 14928 | 17360 |
| 9 | Sugarcane | 3 | 226 | 75235 |

Source: - Delhi Statistical Hand Book, 2012, Directorate of Economics and Statistics, Government of NCT of Delhi

* Estimated

- 5.2 It may be observed from the Statement 10.3 that the main food grain crop in Delhi during 2011-12 was wheat and area, production and yield of the same was recorded at 18927 Hectare, 82142 metric tonne and 4340 kg per hectare respectively. During the same period, the yield of Paddy, Barely, Bajra, Maize, Potatoes and sugarcane are at 4180, 2985, 1872, 2050, 17360 and 75235 kg per hectare respectively. The information regarding production and yield of food grain in Delhi during 2002-12 is presented in Table 10.3.
- 5.3 The returns from traditional agriculture are presently less compared to the high value of commercial horticulture and other high value added agriculture activities. The Government of NCT of Delhi is therefore encouraging farmers to take-up vegetables, floriculture production, mushroom cultivation etc. The area under floriculture has increased from 5479 hectares in 2004-05 to 12635 hectares during the year 2011-12.

6. Irrigation in Delhi

- 6.1 Irrigation in Delhi mainly depends upon ground water and partly upon surface water. Irrigation from the ground water is provided through shallow cavity and the deep cavity state tube-wells, whereas surface irrigation provided by way of utilizing treated effluent available from existing sewage treatment plants located at Coronation Pillar, Okhla and Keshopur. Water from Western Yamuna Canal System under the control of Haryana Government is also utilized for irrigation purpose.
- 6.2 Due to fast urbanization taking place in the rural areas of Delhi, cultivable command area under irrigation is getting reduced day by day. In Master Plan of 2021 for Delhi, Delhi Development Authority has also proposed complete urbanization of Delhi. Hence, any increase in the command area in future is not possible. The information regarding the source-wise irrigated area in Delhi during the last seven years is presented in Statement 10.4.

Statement 10.4
SOURCE-WISE IRRIGATED AREA IN DELHI- 2005-06 to 2011-12

(In Hectares)

| Sl. No. | Sources | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 |
|---------|---|---------|---------|---------|---------|---------|---------|---------|
| 1 | Canals | 2277 | 2255 | 2249 | 2245 | 2238 | 2241 | 2225 |
| 2 | Wells | 21953 | 19537 | 21783 | 21492 | 21205 | 21742 | 19561 |
| 3 | Area Irrigated | 24230 | 21792 | 24232 | 23737 | 23442 | 23982 | 21786 |
| 4 | Area Irrigated under more than one crop | 9967 | 12243 | 7387 | 7370 | 7310 | 8309 | 7875 |
| 5 | Gross area Irrigated | 34197 | 34035 | 31619 | 31107 | 30752 | 32291 | 29661 |

Source: - Delhi Statistical Hand Book, 2012, Directorate of Economics and Statistics, Government of NCT of Delhi

- 6.3 It may be inferred from Statement 10.4 that the area irrigated under more than one crop was reduced from 9967 hectare in 2005-06 to 7875 hectare in 2011-12 and the rate of reduction of area irrigated under more than one crop recorded at 3.00 per cent per annum. Like-wise, the gross area irrigated in Delhi also reduced from 34197 hectare in 2005-06 to 29661 hectares in 2011-12. Wells in Delhi constitutes a large share of irrigation and the same during the 2011-12 recorded at more than 85 per cent. The information regarding area irrigated by different sources in Delhi during 2000-2012 is presented in Table 10.4.
- 6.4 Rain fall is also one of the other main sources of irrigation in Delhi. Generally rain fall in Delhi is concentrated in three months viz. July, August and September. The detail of rainfall during the last six years in Delhi especially in the months of July, August and September is presented in Statement 10.5.

Statement 10.5
RAIN FALL IN DELHI (JULY- SEPTEMBER)

(mm)

| Sl. No. | Details | July | August | September |
|---------|---------------|--------------|--------------|--------------|
| 1. | Normal | 231.5 | 258.7 | 127.8 |
| 2. | 2006 | 313.3 | 98.0 | 129.60 |
| 3. | 2007 | 163.1 | 214.3 | 85.6 |
| 4. | 2008 | 146.2 | 301.7 | 165.4 |
| 5. | 2009 | 161.20 | 216.60 | 191.10 |
| 6. | 2010 | 239.60 | 455.10 | 329.30 |
| 7. | 2011 | 111.60 | 190.30 | 225.80 |

Source: - Metrological Department, Government of India.

- 6.5 It may be observed from above Statement that the rainfall in Delhi during 2010 was higher than the normal rain fall in Delhi. Normal rain fall relates to the norms of the Metrological Department of Government of India.

7. Animal Husbandry

- 7.1 Animal Husbandry is the occupation which takes care of domestic animals that are used primarily as food or product sources. It is an important component in the agriculture sector and directly and indirectly affects the development of economy.
- 7.2 The word “livestock” is an umbrella term used for domesticated animals raised in an agricultural environment, with the intent of providing food, textiles, labour, or fertilizer to their owners. Common examples of livestock are horses, pigs, goats, buffaloes cows,

sheep, and poultry, etc.,. Raising livestock is an important part of life for people all over the world. The information regarding the livestock in Delhi during 1997, 2003 and 2007 is presented in Statement 10.6.

Statement 10.6

LIVESTOCK IN DELHI AND ITS GROWTH: 1997, 2003 & 2007

| Sl. No. | Livestock | Livestock Census (Number) | | | Growth (%) | |
|--------------|-----------|---------------------------|---------------|---------------|--------------|-------------|
| | | 1997 | 2003 | 2007 | Per cent | Per annum |
| 1. | Cow | 95660 | 91589 | 107730 | 12.61 | 1.26 |
| 2. | buffaloes | 203054 | 230552 | 266626 | 31.31 | 3.13 |
| 3. | Sheep | 10674 | 3377 | 5896 | -44.76 | -4.48 |
| 4. | Goats | 25358 | 16779 | 21176 | -16.49 | -1.65 |
| 5. | Others | 33375 | 32481 | 21891 | -34.39 | -3.44 |
| Total | | 368121 | 374778 | 423319 | 14.99 | 1.50 |

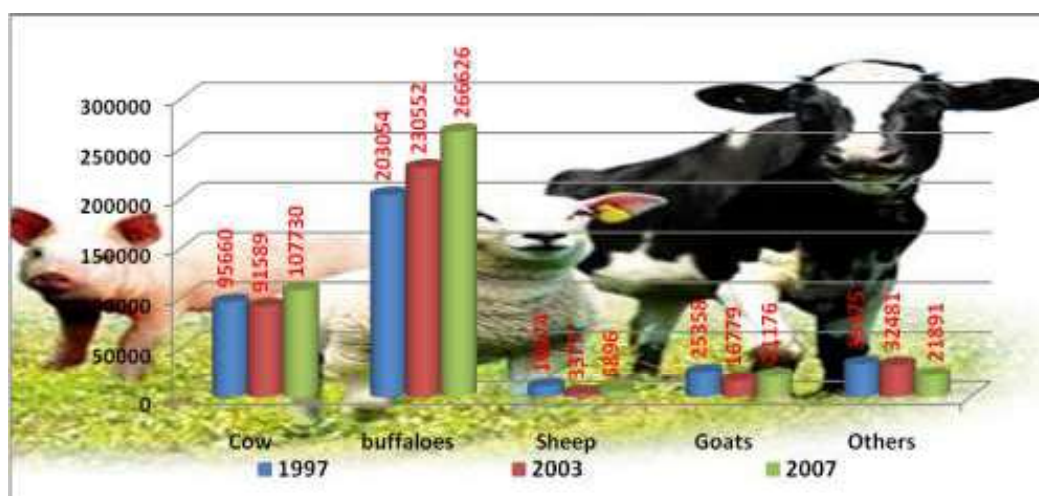
Source:- Delhi Statistical Hand Book, 2012, Directorate of Economics and Statistics, Government of NCT of Delhi

- 7.3 It may be observed from Statement 10.6 that the livestock in Delhi increased from 3.68 lakh in 1997 to 4.23 lakh in 2007 recorded an annual growth at 1.50 per cent. The highest growth of livestock was mentioned in the above statement in buffaloes at 3.13 per cent per annum. During the same period, the growth of cow recorded at 1.26 per cent per annum. On the contrary, the number of goats, sheep and others recorded a negative growth at 1.65 per cent per annum, 4.48 per cent per annum and 3.44 per cent per annum respectively. The livestock in Delhi during 1997, 2003 and 2007 is depicted in Chart 10.2b.

Chart 10.2b

LIVESTOCK IN DELHI: 1997, 2003 AND 2007

(In Number)



- 7.4 The important livestock products in Delhi are milk, eggs and meat. The production of these products during the last eleven years is presented in Table 10.5. During 2010-11, the production of milk was to the tune of 480.00 MT, meat at 42000 MT and eggs at 1.00 million respectively.
- 7.5 As is evident from Table 10.5 that livestock production in milk and meat increased considerably during the last eleven years at 6.44 per cent per annum and 2.66 per cent per annum respectively. On the contrary, the production of eggs has reduced at a speedy rate from 41.52 million in 2000-01 to 1.00 million in 2010-11.

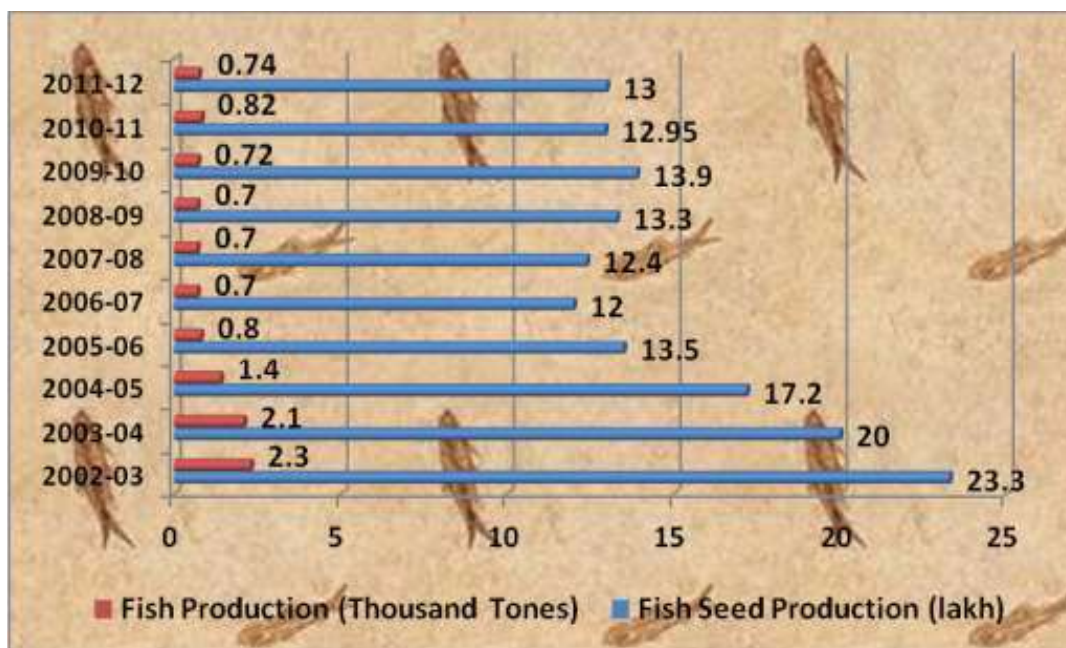
8. Veterinary Facilities

In Delhi there are 46 Veterinary Hospitals (inc. Vety. Poly. Clinic), 28 Veterinary Dispensaries and 250 private clinics. In addition to these, there are two laboratories / research centre for veterinary facilities in Delhi. The number of veterinary hospitals and veterinary dispensaries in Delhi during the last one decade was more or less the same. That means there is no expansion of veterinary facilities in Delhi. But the number of private veterinary clinics in Delhi increased from 72 in 2000-01 to 250 in 2011-12. The increase in number of private veterinary clinics in Delhi increased considerably during the last five years. The animals treated in these clinics during 2010-11 were 4.84 lakh and the same during 2011-12 were 4.16 lakh, while the same in 2000-01 was 3.64 lakh. It may be due to the knowledge among the farmers and enhancement of education and awareness among the farmers. The information regarding veterinary services in Delhi is presented in Table 10.6.

9. Fisheries

Fishing, as an occupational activity, is decreasing very sharply on account of rapid urbanization and resultant non-availability of water bodies of required nature fit for fishing. In this background, the objective of fisheries unit is to regulate fishing under the Punjab Fisheries Act, 1914, Indian Fisheries Act, 1857 and prevent destructive practices and unscrupulous fishing. During the year 2010-11, the fish production in Delhi was around 0.82 thousand tonne and fish seed production 12.95 lakh and the same during the year 2011-12 recorded at 0.74 thousand tonne and 13.00 lakh respectively. The information regarding production of fish seed and fish is presented in Chart 10.3.

Chart 10.3
FISH SEED AND FISH PRODUCTION IN DELHI : 2002-12



Source: - Development Department, Government of National Capital Territory of Delhi

10. Rural Development

As per 2011 census, total rural area of Delhi was at 369.35 Sq. Km i.e. 24.91 per cent of the total area of Delhi and 2.50 per cent of the total population. The number of villages in Delhi reduced from 304 in 1951 to 112 in 2011. The information regarding the villages, rural population during the last seven decade is presented in Statement 10.7.

Statement 10.7
RURAL POPULATION OF DELHI: 1951-2011

| Sl. No | Years | Villages (Number) | Population | | |
|--------|-------|-------------------|------------|----------|---------------------|
| | | | Rural | Total | % of Rural to Total |
| 1. | 1951 | 304 | 306938 | 1744072 | 17.60 |
| 2. | 1961 | 276 | 299204 | 2658612 | 11.25 |
| 3. | 1971 | 243 | 418675 | 4065698 | 10.30 |
| 4. | 1981 | 214 | 452206 | 6220406 | 7.27 |
| 5. | 1991 | 199 | 949019 | 9420644 | 10.07 |
| 6. | 2001 | 165 | 944727 | 13850507 | 6.82 |
| 7. | 2011 | 112 | 419319 | 16753235 | 2.50 |

Source: Delhi Statistical Hand Book, 2012

11. Delhi Rural Development Board (DRDB)

- 11.1 Delhi Rural Development Board was re-constituted in 2004 with the aim to formulate a unified area plan for rural areas of Delhi and to monitor projects and schemes being implemented by all agencies such as Municipal Corporation of Delhi, Irrigation and Flood Control Department, Development Deptt. The Board's function is to advise the Government on issues connected with the infrastructure development for securing Planned growth of Rural Areas of Delhi. Board meets at regular intervals to review the progress of the implementation of the Schemes relating to Rural Area development.
- 11.2 In the year 2010-11, 705 schemes/ projects proposal amounting to ` 530 crore were approved by the Delhi Rural Development Board. Out of 705 project proposals, 406 proposals amounting to ` 277.27 crore were sanctioned during 2011-12 and 2012-13 to Irrigation and Flood Control Department, Unified Municipal Corporation of Delhi and Delhi Jal Board and 232 proposals has been dropped / rejected due to various reasons. DRDB also approved 679 proposals of ` 697.90 crore during 2012-13 out of which 187 works amounting to ` 142.22 crore has been sanctioned to I & FC and 23 works amounting to ` 5.29 crore have been sanctioned to Delhi Jal Board.
- 11.3 In the rural areas, 81 multipurpose community centers were constructed under the Mini Master Plan for Development of Rural Villages. However, because of various reasons, including high ground rent and locational disadvantages, many of the multipurpose community centers remained vacant or partly used. As such government has decided to offer these centers to Non Governmental Organizations/ Civil Societies for various socio economic activities for the benefit of local people and also for the community at large.

12. Conservation and Recharge of Water Bodies

- 12.1 A step to conserve water is a step to secure the future. The most essential among all the natural resources on earth is water. Water conservation is the most effective and environmentally sound method to fight global warming. The information regarding the water bodies in Delhi is presented in Statement 10.8.

Statement 10.8
AGENCY/ DEPARTMENT-WISE WATER BODIES IN DELHI

(As on 31.12.2012)

| Sl. No. | Agencies/ Departments /Revenue | Water Bodies (Numbers) | | | |
|---------|--|------------------------|-------------|-------------------|------------|
| | | Revived | Non-Revival | Pending/ Progress | Total |
| 1. | Revenue/Development Department/ I &FC Department | 230 | 155 | 91 | 476 |
| 2. | Delhi Development Authority | 47 | 40 | 31 | 118 |
| 3. | Archeological Survey of India | 11 | 2 | 2 | 15 |
| 4. | Forest Department | 12 | - | - | 12 |
| 5. | Central Public Works Department | 4 | - | - | 4 |
| 6. | Public Works Department | 1 | - | 1 | 2 |
| 7. | Municipal Corporations of Delhi | 1 | - | - | 1 |
| 8. | Indian Institute of Technology, Delhi | 1 | - | - | 1 |
| | Total | 307 | 197 | 125 | 629 |

Sources:- Office of the Chief Engineer, Irrigation and Flood Control Department,
Government of National Capital Territory of Delhi

12.2 It may be observed from Statement 10.8 that near about one half of the water bodies in Delhi are revived, more than one third of them are under the category of non-revival and the remaining less than one fifth of them are in progressing stage for completion. The information regarding status of water bodies in Delhi is depicted in Chart 10.4.

Chart 10.4
STATUS OF WATER BODIES IN DELHI (As on 31.12.2012)

