

CHAPTER 7

AGRICULTURE & RURAL DEVELOPMENT

The Agricultural activity is continuously declining in Delhi due to rapid urbanization and growth in other economic activities. The number of rural villages also reducing and the number came down from 214 in 1981 to 112 in 2011 Census.

- 1.1 The percentage distribution of Gross State Value Added (GSVA) of Delhi at 2011-12 prices showed a declining trend of agriculture and the allied sector. More clearly, the percentage contribution of agriculture sector to GSVA of Delhi at current prices reduced from 0.94% in 2011-12 to 0.31% in 2022-23.

2. Land Holding Pattern

The information on the agricultural land holding pattern and area operated for agricultural purposes in Delhi is available as per last Agriculture Census 2015-16. As compared to Agricultural Census 2010-11, the total number of operational holdings in Delhi showed an increase of 1.68% as per Agriculture Census 2015-16. The maximum increase in number of operational holdings of 20.35% was for Small Size Group and maximum decrease of 21.65% is for Medium Size Group. However, the total operated area in Delhi showed a decrease of 2.21% as per Agriculture Census 2015-16 as compared to Agriculture Census 2010-11. The maximum increase in area of operational holdings of 27.95% is for Small Size Group and maximum decrease of 19.39% is for Medium Size Group.

3. Land Use Pattern in Delhi

The total gross cropped area in Delhi got increased to 47850 hectares in 2021-22 which was at 36445 hectares during 2011-12. Similarly, the estimated gross cropped area in 2022-23 is decreased to 32984 hectares (Estimated). 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 the reduction in agriculture area in Delhi are fast urbanization and the shift in occupational pattern, especially during the last two decades. This results in the reduction of the share of this sector to the Gross State Domestic Product of Delhi. The information on land use pattern of Delhi is available at Table 7.1(Annexure)

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 which refers to raising a number of crops from the same field during one agricultural year. The index of crop intensity is 100 if one crop has been grown in a year. Higher the index, greater is the efficiency of land use. The crop intensity has a

direct correlation with assured irrigation which enables farmers to go in for multiple cropping and use a higher dose of fertilizers and High Yield Variety (HYV) seeds. The information regarding the crop intensity of Delhi during the last 10 years is presented in statement 7.1.

STATEMENT 7.1

CROP INTENSITY OF DELHI DURING 2012-13 TO 2022-23

(In Hectares)

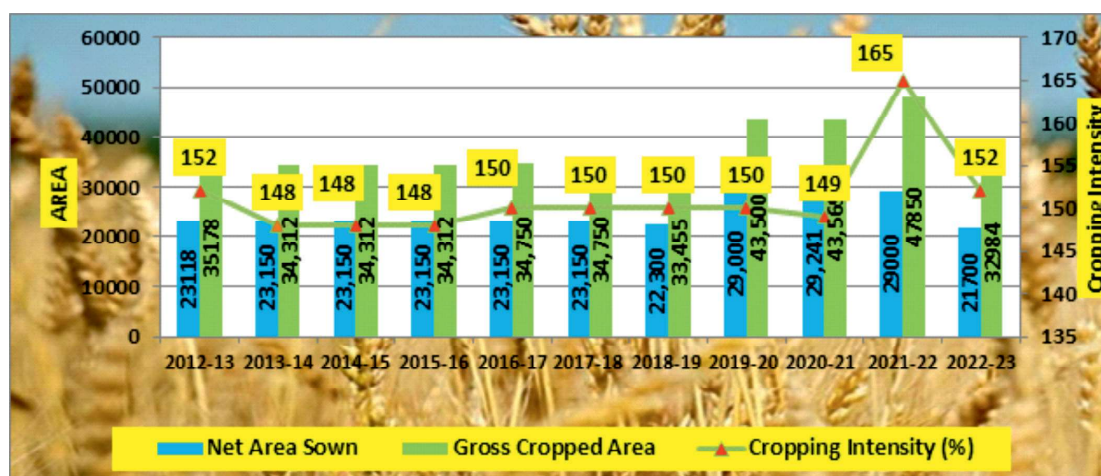
S.No	Year	Net Area Sown	Gross Cropped Area	Cropping Intensity (%)
1.	2012-13	23118	35,178	152
2.	2013-14	23,150	34,312	148
3.	2014-15	23,150	34,312	148
4.	2015-16	23,150	34,312	148
5.	2016-17	23,150	34,750	150
6.	2017-18	23,150	34,750	150
7.	2018-19	22,300	33,455	150
8.	2019-20	29,000	43,500	150
9.	2020-21	29,241	43,569	149
10.	2021-22	29,000	47,850	165
11.	2022-23*	21,700	32,984	152

* (Excluding vegetables, floriculture)

Source: Development Department, GNCTD and Delhi Statistical Handbook

CHART 7.1

CROPPING INTENSITY OF DELHI



4.2 It may be observed from Statement 7.1 that the cropping intensity is 152% in 2022-23, which is the same as in 2012-13.

5. Cropping Pattern

5.1 Cropping pattern is the sequential arrangement of crops of Paddy, Jowar (Fodder) Bajra, maize during Kharif season and Wheat, Mustard, Barley, Gram crops during the Rabi season 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 2021-22 is presented in Statement 7.2 the production and yield pattern of food grains crops in Delhi during 2007-08 to 2021-22 is given in Table 2 (Annexure).

STATEMENT 7.2

AREA, PRODUCTION & YIELD OF CROPS IN DELHI 2021-22

S. No.	Name of the Crops	Area (Hectare)	Production (Metric Ton)	Yield (Kg. per Hectare)
1.	Wheat	19,180	83,631	4,360
2.	Barley	50	150	3,000
3.	Bajra	1,325	5,340	4,030
4.	Maize	22	112	5091
5.	Paddy	6,171	29,620	4,800
6.	Mustard	3,650	7,300	2,000

Source: Development Department, Govt. of NCT of Delhi.

5.2 It may be observed from Statement 7.2 that wheat was the main food crop of production in Delhi during 2021-22.

5.3 The returns from traditional agriculture are presently less attractive as compared to other high value-added agriculture activities. The Govt. of NCT of Delhi is, therefore, encouraging farmers to take-up vegetables, floriculture production, mushroom cultivation etc.

6. Farmers Training

6.1. Under the programmers of Farmers Training and Education Centre, and Parali Training under Crop residue management 1372 farmers provided training in 73 numbers of training & demonstration camps held during 2021-22 and 653 farmers have been provided training in 28 training and demonstration camps held till 31st Oct 2022.

7. Horticulture/ Floriculture

7.1 Horticulture is the major diversified activities involving production of fruits, vegetables, spices, mushroom & flowers by the farmers of Delhi. Directorate of Horticulture is running schemes with mandate to create awareness amongst the farmers and

demonstrate growing techniques about flowers, fruits, vegetables cultivation, vermi-composting, organic farming etc. 2450 farmers were imparted trainings on latest techniques in horticulture/ floriculture in 98 Kisan Gosthies organized in 2021-22. Nurseries at Dwarka, Patparganj, Hauzrani, Libaspur, Masoodabad, Chilla and KharKhari Nahar are mainly concerned for development / production of Vegetables seeds & seedlings, Mushroom production, Vermi Compost, Ornamental & Flower plants, Medicinal Plants etc. Details of achievements made in respect of these items in 2021-22 and 2022-23 (Up to Dec., 2022) in Delhi are as below:-

STATEMENT 7.3

AREA & PRODUCTION UNDER HORTICULTURE/ FLORICULTURE CROPS

S. No.	Description of items	2021-22		2022-23	
		Target	Achievement	Target	Achievement (up to Dec. 2022)
1.	Area brought under Floriculture (in Ha.)	6530	6354	6530	5657
2.	Area brought under Vegetables (in Ha.)	23500	24543	23500	21126
3.	Production of Fruits/ Vegetables (in MT)	370500	370048	370500	274139
4.	Plantation on Gaon Sabha / Community/ Govt. lands (in Nos)	1000	1000	1000	1060

Source: Horticulture Unit, Environment Department, Govt. of NCT of Delhi.

STATEMENT 7.4

PRODUCTION OF SEEDS, PLANTS, SEEDLINGS & WORMY COMPOST

S. No.	Description of items	2021-22		2022-23	
		Target	Achievement	Target	Achievement (upto Dec. 2022)
1.	Ornamental plants (in Nos)	37000	34857	37000	27342
2.	Bulbs of bulbus plants (in Nos)	4000	3850	4000	3600
3.	Flower Seedling (in Nos)	300000	285000	300000	147570
4.	Flower seeds (in Kg.)	40	38.95	60	85.8
5.	Vegetable seedlings (in No's)	600000	472000	600000	154051
6.	Vegetable seeds (in Kg.)	700	595	700	30.2
7.	Wormy Compost (Kg.)	40000	44740	400000	308880
8.	Medicinal Saplings (in Nos)	20000	22260	20000	10440

7.2 Due to continuous decline in the area for crops in Delhi, modern techniques of Hydroponics will be popularized with the aim to ensure the soil less cultivation of

vegetables and herbal crops. Similarly, National Beekeeping & Honey Mission (NBHM-CSS) was introduced in NCT of Delhi. A District level Seminar on Bee-Keeping has also been organised through KVK Ujwa, in the month of December-2022 and one more Seminar & 4 Scientific Training have also to be organized during 2022-23.

- 7.3 To facilitate income & employment of farmers and the demands of the public at large in a cost effective manner, the Project “Creation of Integrated Supply Chain for fruits and vegetables in Delhi” is integrated with the “Mission for Integrated Development Horticulture”- already in operation in Delhi. The aim is to do away with middle- man and to make available the vegetables and fruits to the consumers, on their easy reach on cheap price.

8. Soil Testing & Soil Reclamation

Services are being provided for testing of Soil & Water Samples of the farmers of NCT of Delhi. The following activities / parameters achieved during 2021-22 and 2022-23 (Up to Oct, 2022) against the targets as mentioned in the Statement 7.5

STATEMENT 7.5

SOIL TESTING AND ISSUANCE OF SOIL HEALTH CARDS

S. No	Activity (in No's)	2021-22		2022-23	
		Target	Achievement	Target	Achievement upto Oct, 2022
1.	Testing of Soil samples	400	408	400	00
2.	Testing of Water samples	45	04	45	05
3.	Soil Health cards issued	400	Nil	400	195

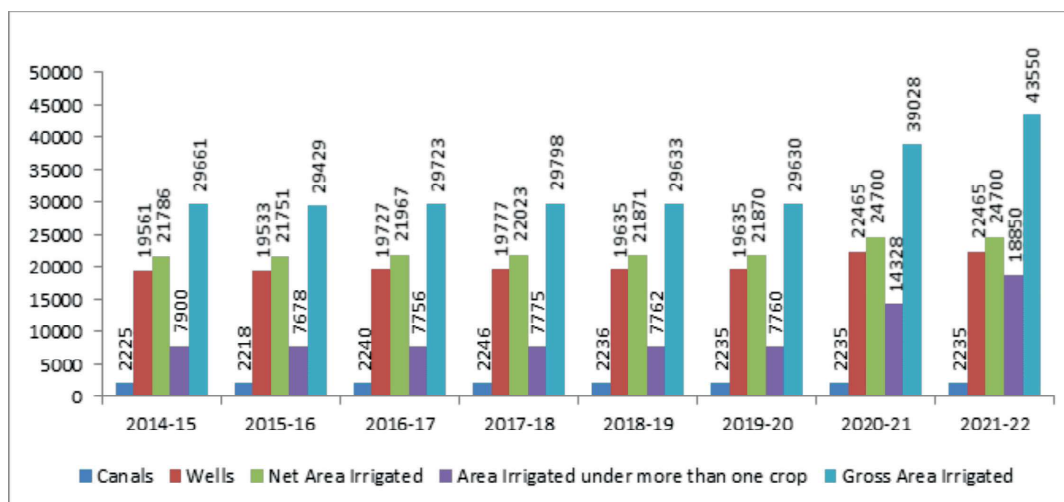
9. Irrigation in Delhi

- 9.1 Irrigation in Delhi mainly depends upon groundwater and partly upon surface water. Irrigation from the groundwater is provided through the 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 the Western Yamuna Canal system is also utilized for irrigation purpose.
- 9.2 Due to fast urbanization taking place in the rural areas of Delhi, cultivable command data under irrigation is getting reduced day by day. In Master Plan of 2022 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 irrigation and irrigated area in Delhi during the last ten years is presented in Table 7.3.

CHART 7.2

SOURCE-WISE IRRIGATED AREA IN DELHI

(Area in Hectare)



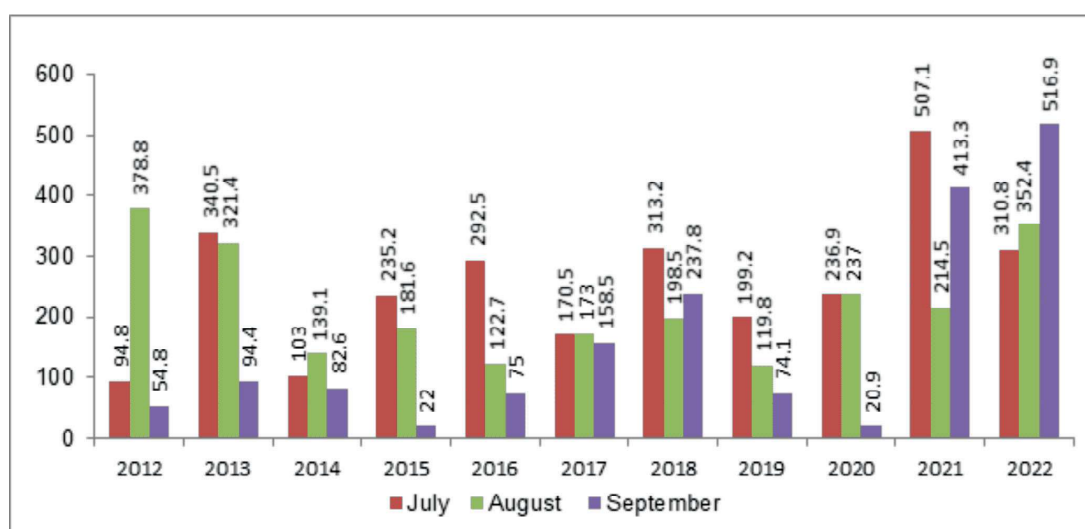
Source : Revenue & Development Department, GNCTD
Delhi Statistical Handbook, DES, GNCTD

9.4 Rainfall is also one of the other main sources of irrigation in Delhi. Generally, rainfall in Delhi is concentrated in three months viz. July, August and September. The detail of rainfall during the last thirteen years in Delhi especially in the months of July, August and September is presented in Table 7.4 (Annexure).

CHART 7.3

RAINFALL IN DELHI (JULY-AUGUST-SEPTEMBER)

(In mm)



Source: Regional Metrological Centre, New Delhi & Delhi Statistical Handbook

9.5 It may be observed from the above graph that the rainfall in Delhi during 2010 and 2022 was higher than the normal rainfall in Delhi during all three months. However, rainfall was lower than the normal rainfall during all these three months in 2007, 2014 and 2019. The rainfall in September month of 2022 was well higher the normal level.

10. Animal Husbandry

10.1 Livestock is an important component in the agriculture sector which affects the development of the economy directly and indirectly. Animal husbandry is the occupation which takes care of domestic animals that are used primarily as food and food products for protein source. Due to rapid urbanization and limited availability of food /faddy/posture land in NCT of Delhi scope of Animal Husbandry is being reduced continuously. Delhi has become a consumer state wherein Livestock and livestock products are being supplied from other states. As per 20th Livestock Census (2019) no. of livestock has been reduced to 3, 07,267 from 3,66,397 in 19th Livestock Census (2012). Presently Animal Husbandry Unit is providing Veterinary Healthcare services to the Livestock and companion animals through a network of 78 Veterinary Hospital, Dispensaries and Laboratory.

10.2 The information regarding the livestock Census in Delhi during 2012 and 2019 is presented in Statement 7.8.

STATEMENT 7.8
LIVESTOCK IN DELHI AND ITS GROWTH: 2012 AND 2019

S. No.	Livestock	Livestock Census(Number)		Growth (%)	
		2012	2019	% (During 2012-2019)	Per annum
1.	Cow	86433	124638	44.2	6.31
2.	Buffalo	162142	157675	-2.75	-0.39
3.	Sheep	932	2003	115	16.42
4.	Goat	30470	17085	-44	-6.28
5.	Others	86420	5866	-93	-13.28
	Total	366397	307267	-16.13	-2.30

10.3 It may be inferred from statement 7.8 that the livestock in Delhi has decreased recording a negative growth at -16.13%. The highest growth of livestock was reported at 16.42% per annum in case of sheep category of the livestock. Similarly, growth of 6.31% per annum was recorded in case of cows. On the other hand, the highest negative growth also reported at -13.28% per annum in others, -6.28% in Goats animals and -0.39%per annum in buffaloes. The main reason for decline in number of livestock may be attributed to decline in agricultural and allied activities and rapid urbanization in Delhi.

11. Veterinary Facilities

11.1 There are 48 Govt. Veterinary hospitals, 29 Veterinary Dispensaries, 1 laboratory, 01 Farmers Information Centre, and two (2) Ambulatory clinics for providing veterinary facilities in Delhi. The main objective is to control contagious/infectious diseases like Hemorrhagic Septicemia (Galgotu) and Foot and Mouth Disease (Muh-Khur), Rabies etc. Training camps are organized for livestock farmers. Animal disease diagnostic facility is available at disease diagnostic laboratory at Palam. Testing of samples is done free of cost. The number of animals treated in Govt. Veterinary Hospitals/ Dispensaries has increased from 4,15,986 during the year 2011-12 to 5,10,999 during the year 2021-22 and 2,73,049 up to September 2022. The information regarding Veterinary services being provided in Delhi is presented in statement 7.9 & 7.10.

STATEMENT 7.9
VETERINARY SERVICES IN DELHI DURING 2011-12 TO 2022-23

S. No.	Years	Veterinary Facilities (No.)			Animal treated
		Hospitals (inc. one Vety. Poly. Clinic)	Dispensaries	Labs Research Centres	
1.	2011-12	46	28	2	415986
2.	2012-13	47	28	1	391152
3.	2013-14	47	28	-	378359
4.	2014-15	47	28	-	367518
5.	2015-16	47	28	2	412363
6.	2016-17	47	28	2	438504
7.	2017-18	49	26	2*	469474
8.	2018-19	49	26	2*	460769
9.	2019-20	48	29	2*	582242
10.	2020-21	48	29	2*	511562
11.	2021-22	48	29	2*	510999
12.	2022-23	48	29	2*	273049 (upto September 2022)

* 01 Lab & 01 Farmers Information Centre

Source: Development Department, GNCTD.

11.2 To facilitate treatment of animals in remote areas two (02) mobile veterinary clinics is functioning in South West and North West District. One 24x7 emergency services at Veterinary Hospital Tis Hazari and two 08:00 AM to 08:00 PM services at VH Ghazipur and VH Palam are being operated by the department.

STATEMENT 7.10
PHYSICAL ACHIEVEMENTS 2021-22 & 2022-23

S. No	Activity	Target 2021-22	Achievement 2021-22	Target 2022-23	Achievement 2022-23 (upto September)
1.	Treatment of Sick Animals (in lakh)	6.00	510999	6.00	273049
2.	Vaccination against Haemorrhagic Septicaemias and FMD Disease	HS-2.5 lakh (1 times) FMD-2.5 lakh (2 times on six months intervals)	148130 108303	HS-1.3 lakh (1 times) FMD-2.5 lakh (2 times on six months intervals)	77280 2744
3.	Anti-Rabies Vaccination DHLPPi Vaccination	1 lakh N.A	85979 19795	1 lakh N.A	36087 10197
4.	Animal to be benefited in Go-sadans	22000	29176	22000	16054
5.	Treatment of Sterility Cases	25000	14044	10000	7327
6.	Laboratory Test Conducted	-	2137	3000	1415

Source: Department of Animal Husbandry, GNCTD

12. Autonomous/ Grant in Aid Institutions

12.1. State Advisory Board for Animal Welfare (SABAW)

State Advisory Board for Animal Welfare **SABAW** is a non-institutional body for Govt. of NCT of Delhi concerning various animal welfare activities including release of grant in aid to NGOs/AWOs engaged in such activities in NCT of Delhi. The Board recognizes NGOs/ Institutions including DSPCAs and provides Grant-in Aid to them for maintenance, health care, treatment of unproductive/ abandoned / distressed animals/abused/case property of animals and other related welfare activities. The Board is also regulatory/monitoring body for implementation of different rules framed under the PCA Act, 1960 particularly the PCA (Dog Breeding and Marketing) Rules, 2017/PCA (Care and Maintenance of Case Property Animals) Rules, 2017/PCA (Pet Shop) Rules, 2018.

12.2 Delhi Society Prevention of Cruelty to Animals (SPCA)

SPCA is implementing the provisions of Cruelty to Animals Act, 1960. Infirmary under DSPCA at Tis Hazari provides shelter, feeding and healthcare to animals. The DSPCA also keeps case property animals confiscated under the PCA Act, 1960 it also promotes awareness in public for love and compassion towards animals. 12612 Animals rescued, 219 vehicles seized and ₹ 16, 60,345 has been collected during 2021-22. Further, 10,068 Animals rescued, 93 vehicles seized and ₹ 8, 88,960 has been collected upto September 2022 under PCA Act, 1960.

12.3 Gaushalas/ Gausadans

In pursuance of section 10 of the Delhi Agriculture Cattle Preservation Act 1994, 05

Gaushalas/ Gausadans were established in year 1995. Presently, four Gausadans namely (1) Shri Krishana Gausadan, Sultanpur Dabas (2) Gopal Gausadan, Harewali (3) Dabur Hare Krishna Gausadan, Surhera (4) Manav Gausadan, Rewla Kahnpur are operational and nearly 16051 cows & its progeny are being maintained therein. Payment of Grant in aid @ ₹20/- per day per cattle is paid to NGOs for the purpose of maintenance of the health of the cattle and for proper feeding, watering, shelter etc. of the animals in the Gaushalas/ Gausadans by NCT of Delhi.

13. Fisheries

- 13.1 The Fisheries Unit regulates fishing in public water under the Punjab fisheries Act 1914, and the Indian fisheries Act 1897, to prevent destructive practices and unscrupulous fishing. The year wise information regarding the production of fish seed and fish is presented in Statement 7.11

STATEMENT 7.11

FISH SEED AND FISH PRODUCTION IN DELHI 2011-12 TO 2022-23

S.No	Years	Fish Seed Production (Lakh)	Fish Production (Tons)
1.	2011-12	13.00	740
2.	2012-13	15.25	690
3.	2013-14	18.25	680
4.	2014-15	16.20	675
5.	2015-16	16.20	710
6.	2016-17	16.15	740
7.	2017-18	20.00	801
8.	2018-19	2.02	785
9.	2019-20	15.00	860
10.	2020-21	-	758
11.	2021-22	-	725
12.	2022-23 (Upto Sept 2022)	-	430

Source: Development Department, Govt. of NCT of Delhi.

- 13.2 Fishery activities have been decreased sharply in Delhi due to rapid urbanization. There is ample scope of high-tech fishery activities like Bio-floc culture, Re-circulatory Aquaculture System, (RAS), Ornamental fish breeding/farming & post-harvest infrastructure development etc. These activities will enhance the farmers' income significantly. This will also help in employment generation for local youth, fisherman, SC/ST communities and entrepreneurs in Delhi. Accordingly, the department is implementing beneficiary oriented projects of pond Bio-floc (04). Bio-floc culture system 25 tank (01) & Re-circulatory Aquaculture System, (RAS) (01), 251 fishermen have been insured in the current year 2022-23 for ₹ 5 Lakh in case of death under the Group Accidental Insurance Scheme (GAIS) under Pradhan

Mantri Matsya Sampada Yojna (PMMSY) being implemented by National Fisheries Development Board (NFDB).

14. Rural Development

As per Population Census 2011, the total area of Delhi was 1483 Sq. Km out of which rural area of Delhi was 369.35 Sq. Km (24.91%). 2.5% population of Delhi was residing in a rural area. As an economy moves towards a progressive state, rural area automatically converted into an urban area, consequently reduces the number of villages and the rural 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 decades is presented in Statement 7.12

STATEMENT 7.12

RURAL POPULATION OF DELHI: 1951-2011

S. 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	419042	16787941	2.50

Source: Delhi Statistical Handbook

15. Delhi Village Development Board

- 15.1 'Delhi Village Development Board (DVDB)' constituted in place of Delhi Rural Development Board (DRDB) vide Order dated 20.12.2017 as per cabinet decision no. 2520 dated 13.11.2017 for integrated development of both rural and urban villages in Delhi.
- 15.2 Delhi Village Development Board considers requests of infrastructure development of the area of the residents of all rural and urban villages of Delhi in consultation with elected representatives (MPs/MLAs). It recommended and prioritizes the projects and ensures time-bound implementation. Following are the functions of DVDB:
- To study the deficiencies in the existing infrastructure in Delhi rural areas.
 - To consider and recommend the prioritization of projects and schemes for implementation.
 - To examine the nature and extent of overlapping functions, if any, so as to secure an improvement in the provision of services and quicker redressal of public grievances.

- (d) To review, from time to time, the implementation of the projects, schemes and recommend measures for effecting coordination amongst the organizations and Departments of the Government in the matter of implementation of such projects and schemes.
- (f) The following nature of works are being recommended by the DVDB in the rural and urban villages of NCT of Delhi in Lal Dora areas, sizar roads and public utilities on Government land, except in unauthorized colonies of any status and resettlement colonies and JJ bastis falling under the jurisdiction of DUSIB:
- i) Construction of approach roads/ link roads/ village roads.
 - ii) Construction of drainage facilities.
 - iii) Development of Cremation Grounds, Parks, Playgrounds, Vyayamshalas, Village Libraries etc.
 - iv) Development of Ponds/ Water Bodies.
 - v) Construction/ repair/ maintenance of Chaupals, Barat Ghars, Community Centers.
 - vi) Other need-based works like drinking water facility, street lights etc.

16. Village Development Committees (VDCs)

To assist the DVDB in carrying out a baseline survey of the villages to assess the facilities available, facilities required and identifying the priority areas in the villages where holistic development of the rural/ urban villages is required, the DVDB may constitute a Village Development Committees (VDCs) for each rural and urban villages of Delhi. After the approval of DVDB, constitution order of 339 numbers of VDCs, duly recommended by Hon'ble MLAs, have been issued by the RD unit so far.

CHAPTER AT A GLANCE

➤	The percentage contribution of agriculture sector to GSVa of Delhi at current prices reduced from 0.94 per cent in 2011-12 to 0.31% in 2022-23.
➤	2450 farmers were imparted trainings on latest techniques in horticulture/ floriculture in 98 Kisan Gosthies organized in 2021-22.
➤	As per 20 th Livestock Census (2019), no. of livestock has been reduced to 3,07,267 from 3,66,397 in 19 th Livestock Census (2012).
➤	The number of villages in Delhi reduced from 304 in 1951 to 112 in 2011.