

7 Agriculture and Allied Activities



7. AGRICULTURE AND ALLIED ACTIVITIES

7.1 Agriculture and allied activities, one of the prime sectors of the economy, accounts for on an average 12.1 per cent share in the Gross State Value Added. More than half of the rural population in the State is dependent on agriculture and allied activities sector for their livelihood. Government has been implementing various schemes & programmes to support this sector and taking various measures to tackle impact of natural calamities on this sector.

AGRICULTURE

7.2 One-third area of the State falls under rain-shadow region, where rains are scanty and erratic. The net sown area is about 54 per cent of the total geographical area of the State. It is important to devise crop diversification methods and cropping patterns that optimise the use of available resources. Government is encouraging farmers for sustainable use of resources, promoting crop diversification and providing information on market, weather, credit facilities & e-commerce.

7.3 Millets being climate and drought-resilient crops, can easily grow in adverse climatic conditions with lesser inputs. GoI is rigorously promoting use of millets on various platforms to increase the consumption which would result in higher demands for millets. The year 2023 is declared as the 'International Year of Millets' by United Nations at the behest of GoI with the aim to create awareness and increase production & consumption of millets.

Monsoon 2022

7.4 Monsoon rains arrived on 10th June, 2022 in the State. As compared to the normal rainfall, the rainfall received in the State was 71.4 per cent in June, 146.0 per cent in July, 91.0 per cent in August, 141.6 per cent in September and 199.2 per cent in October. Total rainfall in the State during monsoon 2022 was 119.8 per cent of the normal. Out of 355 talukas (excluding those in Mumbai City & Mumbai Suburban districts) in the State, 204 talukas received excess rainfall, 145 talukas received normal and six talukas received deficient rainfall. Classification of talukas according to rainfall received is given in Table 7.1. Region wise actual rainfall received is given in Table 7.2.

Table 7.1 Classification of talukas according to rainfall received

Rainfall class (percentage to normal)	No. of talukas [#]									
	June		July		August		September		October	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
120 & above	231	42	177	279	35	99	298	250	150	301
100 – 120	58	44	64	43	22	52	13	51	46	27
80 – 100	32	70	57	25	48	61	13	37	54	13
60 – 80	17	75	39	6	107	52	19	14	44	7
40 – 60	12	76	15	2	91	56	9	3	31	4
20 – 40	5	44	3	0	46	32	3	0	23	3
0 – 20	0	4	0	0	6	3	0	0	7	0

Source : Commissionerate of Agriculture, GoM

[#] Excluding talukas in Mumbai City & Mumbai Suburban districts

Table 7.2 Regionwise actual rainfall received

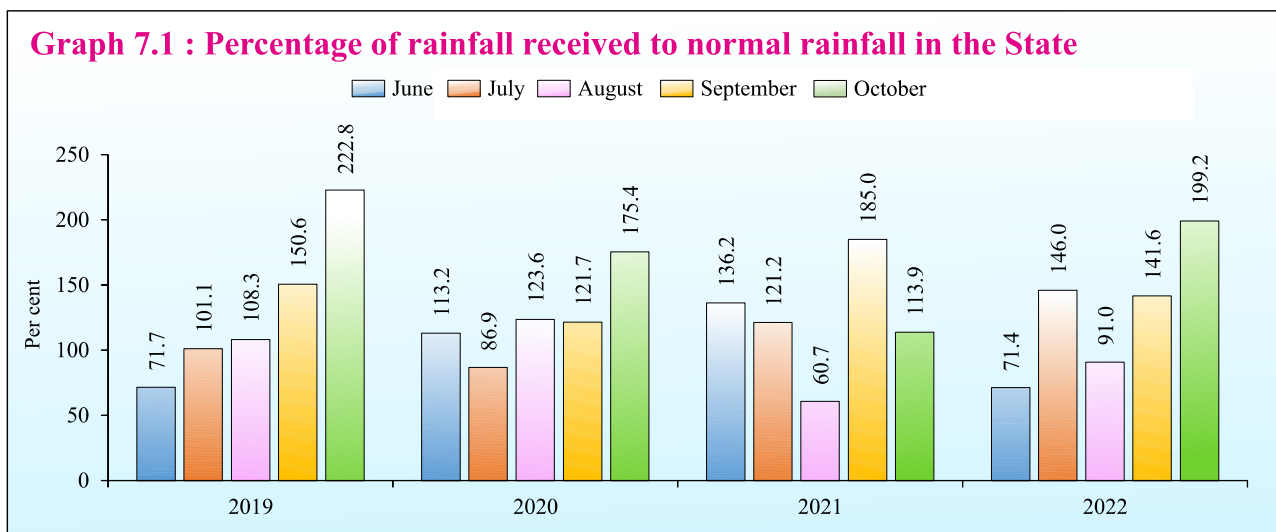
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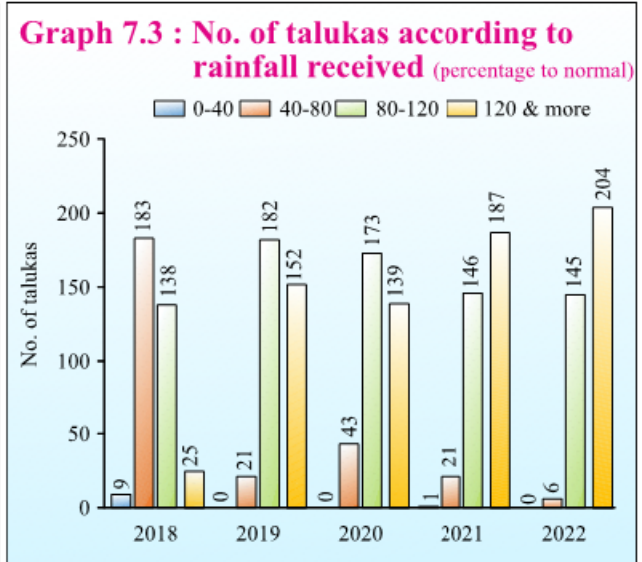
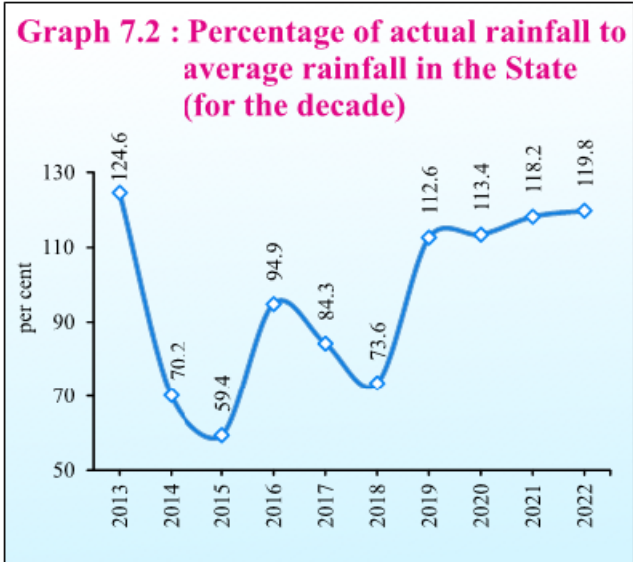
Rainfall during			Region						
			Konkan [#]	Nashik	Pune	Aurangabad	Amravati	Nagpur	Maharashtra
June		Normal	662.5	139.7	198.6	134.0	147.6	187.1	207.6
	2021	Actual	952.4	126.6	234.6	200.9	212.7	237.7	282.7 (136.2)
	2022	Actual	451.0	110.9	84.9	137.1	106.8	125.3	148.2 (71.4)
July		Normal	1,063.8	218.5	327.2	186.2	239.6	362.3	330.9
	2021	Actual	1,428.1	146.0	374.5	265.0	247.5	359.2	401.0 (121.2)
	2022	Actual	1,218.0	282.1	345.3	352.9	393.9	680.8	483.2 (146.0)
August		Normal	766.3	197.4	247.5	193.3	231.7	347.8	286.0
	2021	Actual	385.0	136.3	86.1	174.2	163.6	192.8	173.6 (60.7)
	2022	Actual	737.7	158.3	239.0	90.1	179.0	419.4	260.4 (91.0)
September		Normal	375.5	151.5	171.7	166.0	130.9	175.3	179.7
	2021	Actual	760.1	268.8	152.9	380.4	289.7	321.6	332.5 (185.0)
	2022	Actual	515.2	234.9	215.2	191.8	200.7	301.8	254.5 (141.6)
October		Normal	108.6	53.1	96.5	71.3	57.5	53.4	71.1
	2021	Actual	102.1	74.9	89.2	91.9	87.6	34.0	81.0 (113.9)
	2022	Actual	194.1	113.5	206.5	142.7	105.7	84.6	141.6 (199.2)
June to October		Normal	2,976.7	760.2	1,041.5	750.8	807.3	1,125.9	1,075.3
	2021	Actual	3,627.7	752.6	937.3	1,112.4	1,001.1	1,145.3	1,270.8 (118.2)
	2022	Actual	3,116.0	899.7	1,090.9	914.6	986.1	1,611.9	1,287.9 (119.8)

Excluding Mumbai City & Mumbai Suburban districts

Note: Figures in bracket indicate percentage of actual rainfall to normal rainfall

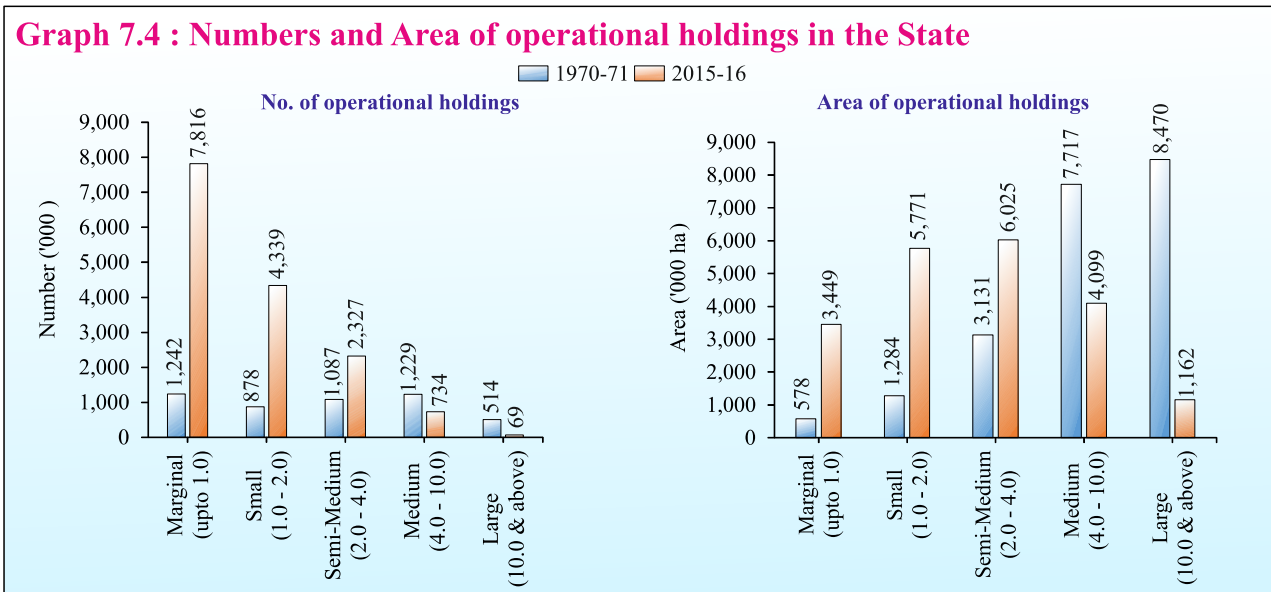
Source : Commissionerate of Agriculture, GoM





Operational holdings

7.5 First Agriculture Census was conducted in 1970-71 and tenth Agriculture Census was conducted in 2015-16. The eleventh Agriculture Census (2021-22) was launched on 28th July, 2022. The number of operational holdings were 0.50 crore in 1970-71 which increased to 1.53 crore in 2015-16. Area of operational holdings decreased from 2.12 crore ha in 1970-71 to 2.05 crore ha in 2015-16. The average size of holding decreased from 4.28 ha in 1970-71 to 1.34 ha in 2015-16.



7.5.1 The average size of land holding in 1995-96 for Scheduled Castes (SC) and Scheduled Tribes (ST) was 1.47 ha and 2.15 ha which reduced to 1.24 ha and 1.76 ha respectively in 2015-16. The share of female operational holders was 12.9 per cent with 1.58 ha of average size of land holdings in 1995-96 whereas it was 15.5 per cent with 1.22 ha of average size of land holding in 2015-16. Total number, area and average size of operational holdings in the State according to Agriculture Censuses are given in Annexure 7.1. Number and area of operational holdings in the State are given in Table 7.3 and the number and area of operational holdings in selected states are given in Table 7.4.

Table 7.3 Number and area of operational holdings in the State

Size class (ha)	No. of operational holdings ('000)		Area of operational holdings ('000 ha)	
	2010-11	2015-16	2010-11	2015-16
Marginal (upto 1.0)	6,709	7,816	3,186	3,449
Small (1.0 - 2.0)	4,052	4,339	5,739	5,771
Semi-Medium (2.0 - 4.0)	2,159	2,327	5,765	6,025
Medium (4.0 - 10.0)	711	734	3,993	4,099
Large (10.0 & above)	68	69	1,084	1,162
All size class	13,699	15,285	19,767	20,506

Source : Commissionerate of Agriculture, GoM

Table 7.4 Number and area of operational holdings in selected states

State	No. of operational holdings ('000)		Area of operational holdings ('000 ha)		Average size of operational holdings (ha)	
	2010-11	2015-16	2010-11	2015-16	2010-11	2015-16
Andhra Pradesh	7,621	8,524	8,096	8,004	1.06	0.94
Gujarat	4,886	5,320	9,898	9,978	2.03	1.88
Karnataka	7,832	8,677	12,161	11,724	1.55	1.35
Madhya Pradesh	8,872	10,004	15,836	15,671	1.78	1.57
Maharashtra	13,699	15,285	19,767	20,506	1.44	1.34
Punjab	1,053	1,092	3,967	3,953	3.77	3.62
Rajasthan	6,888	7,654	21,136	20,874	3.07	2.73
Tamil Nadu	8,118	7,938	6,488	5,971	0.80	0.75
Telangana	5,554	5,948	6,197	5,973	1.12	1.00
Uttar Pradesh	23,325	23,822	17,622	17,451	0.76	0.73
All India	1,38,348	1,46,454	1,59,592	1,57,817	1.15	1.08

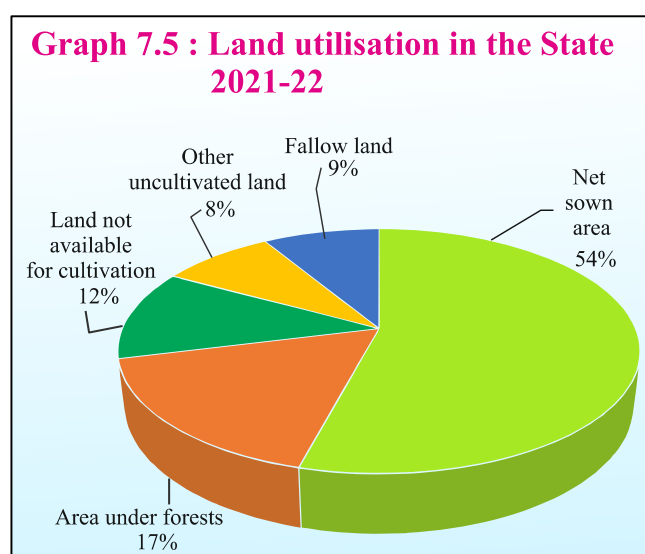
Source : Agriculture Census, GoI

Compensation for natural calamities

7.6 During November, 2021 to May, 2022 about 2.71 lakh ha area was affected in the State due to unseasonal rain, hailstorm & windstorm and compensation of ₹ 130.88 crore was sanctioned for about 1.33 lakh ha affected area. For crop and other losses for the affected areas due to heavy rainfall/flood/continuous rains & Snail attack (*Shankhi Gogalgay*) during June to October, 2022, assistance of ₹ 7,133.19 crore has been sanctioned from August, 2022 to February, 2023.

Land utilisation

7.7 As per the land utilisation statistics for 2021-22, the gross cropped area was 241.49 lakh ha while net sown area was 165.90 lakh ha (about 53.9 per cent) of the total 307.58 lakh ha geographical area of the State. Land Utilisation Statistics of the State is given in Annexure 7.2.



Agricultural Production

7.8.1 **Kharif crops:** During *kharif* season of 2022-23, sowing was completed on 157.97 lakh ha, as against 163.79 lakh ha during previous year in the State. Area under oilseeds is expected to increase while area under cereals, pulses, sugarcane and cotton is expected to decrease as compared to the previous year. Area and production of principal *kharif* crops is given in Table 7.5.

Table 7.5 Area and production of principal *kharif* crops

Crop	Area ('000 ha)			Production ('000 MT)		
	2021-22	2022-23 (tentative)	Per cent change [#]	2021-22	2022-23 (tentative)	Per cent change [#]
Rice	1,473	1,555	6	3,133	3,481	11
Jowar	339	143	(-58)	262	140	(-47)
Bajra	645	408	(-37)	600	447	(-25)
Ragi	81	69	(-16)	103	96	(-7)
Maize	811	881	9	2,186	2,719	24
Other Cereals	44	41	(-7)	17	21	19
Total Cereals	3,393	3,095	(-9)	6,301	6,904	10
Tur	1,419	1,176	(-17)	1,650	849	(-49)
Moong	415	270	(-35)	205	171	(-17)
Udid	380	358	(-6)	184	226	23
Other Pulses	79	81	3	68	75	10
Total Pulses	2,292	1,884	(-18)	2,106	1,320	(-37)
Total Foodgrains	5,686	4,980	(-12)	8,407	8,224	(-2)
Soyabean	4,526	4,910	8	5,447	6,585	21
Groundnut	232	161	(-31)	269	189	(-30)
Sesamum	17	6	(-66)	3	2	(-46)
Nigerseed	6	5	(-8)	1	1	49
Sunflower	11	16	51	5	7	49
Other Oilseeds	3	3	5	1	1	20
Total Oilseeds	4,794	5,101	6	5,725	6,785	19
Cotton (Lint) [@]	4,410	4,229	(-4)	7,791	8,192	5
Sugarcane ^{**}	1,489	1,488	(-0)	1,39,159	1,44,518	4
All crops	16,379	15,797	(-4)	-	-	-

@ Production of cotton in '000 bales of 170 kg each ** Harvested area # Calculated on the basis of actual figures

Note: i) Figures for 2021-22 are based on final estimates & for 2022-23 are based on second advance estimates

ii) Figures may not add up due to rounding

Source : Commissionerate of Agriculture, GoM

7.8.2 **Rabi crops:** During *rabi* season of 2022-23, sowing was completed on 57.74 lakh ha as against 60.10 lakh ha during previous year in the State. Area under pulses and oilseeds is expected to increase whereas area under cereals is expected to decrease as compared to previous year. Area and production of principal *rabi* crops is given in Table 7.6.

Table 7.6 Area and production of principal rabi crops

Crop	Area ('000 ha)			Production ('000 MT)		
	2021-22	2022-23 (tentative)	Per cent change [#]	2021-22	2022-23 (tentative)	Per cent change [#]
Jowar	1,935	1,289	(-33)	1,878	1,406	(-25)
Wheat	1,132	1,071	(-5)	2,144	2,184	2
Maize	367	366	0	1,285	1,014	(-21)
Other cereals	11	9	(-17)	4	4	(-13)
Total cereals	3,445	2,736	(-21)	5,312	4,608	(-13)
Gram	2,372	2,830	19	2,715	3,639	34
Other pulses	129	143	11	58	86	48
Total pulses	2,501	2,973	19	2,773	3,725	34
Total foodgrains	5,946	5,709	(-4)	8,086	8,333	3
Sesamum	2	1	(-35)	1	1	(-66)
Safflower	28	29	7	21	18	(-13)
Sunflower	4	7	77	4	4	(-1)
Linseed	6	6	(-11)	3	2	(-18)
Rapeseed & mustard	23	21	(-9)	9	8	(-10)
Total oilseeds	64	65	2	38	33	(-13)
Total	6,010	5,774	(-4)	-	-	-

Calculated on the basis of actual figures

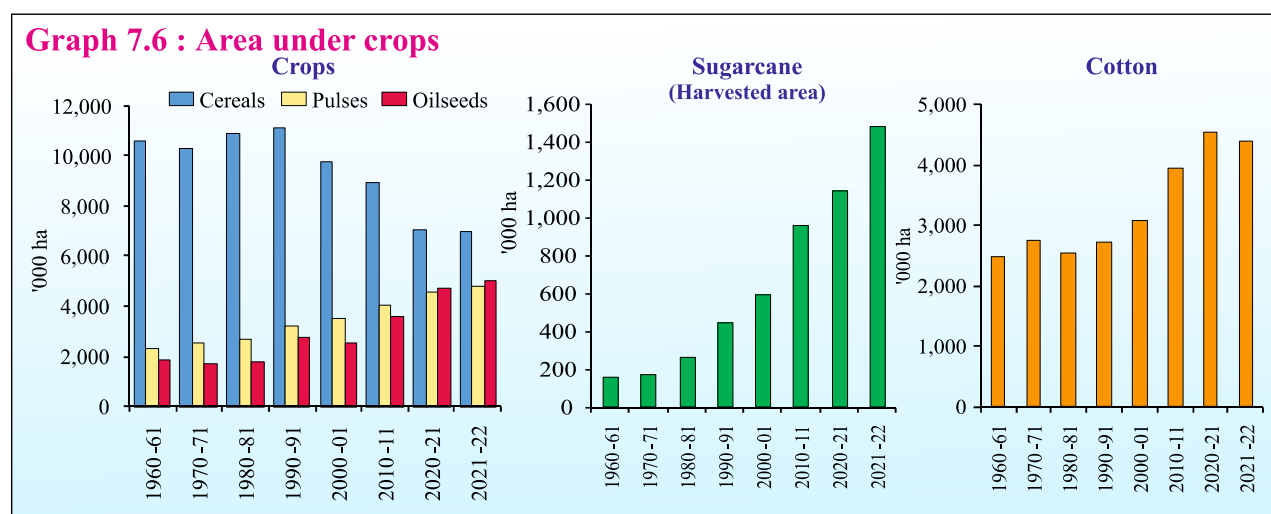
Note : i) Figures for 2021-22 are based on final estimates and for 2022-23 are based on second advance estimates

ii) Figures may not add up due to rounding

Source : Commissionerate of Agriculture, GoM

7.8.3 Summer crops: During summer 2021-22, the sown area of summer crops was 4.17 lakh ha. Sowing target of 4.21 lakh ha has been set for 2022-23.

7.8.4 The State has recorded substantial progress in crop production over last six decades. Area under principal crops, production and yield is given in Annexure 7.3. Triennial average yield for selected commodities for selected states is given in Table 7.7.



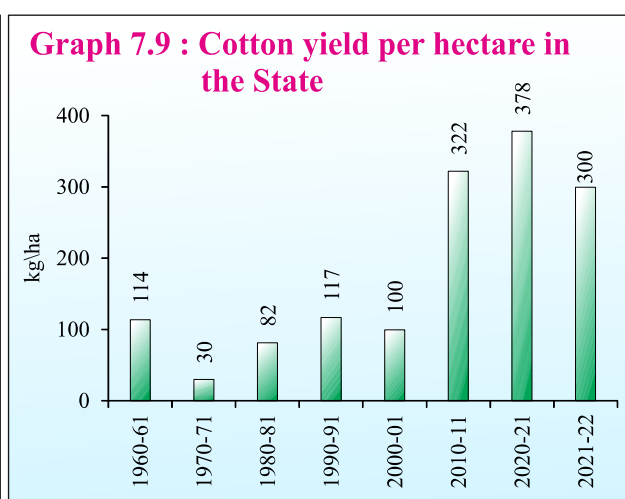
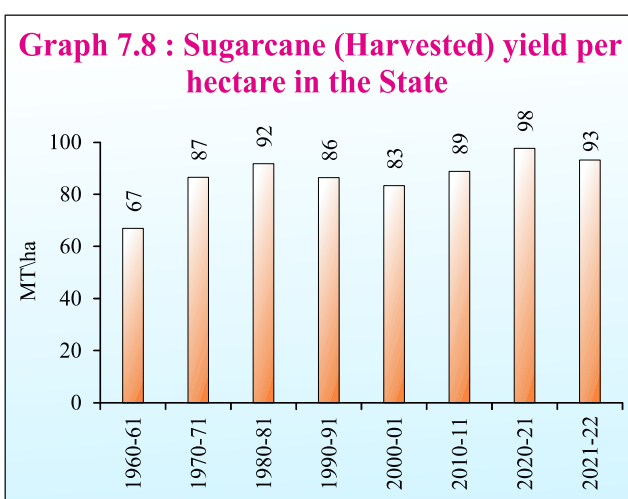
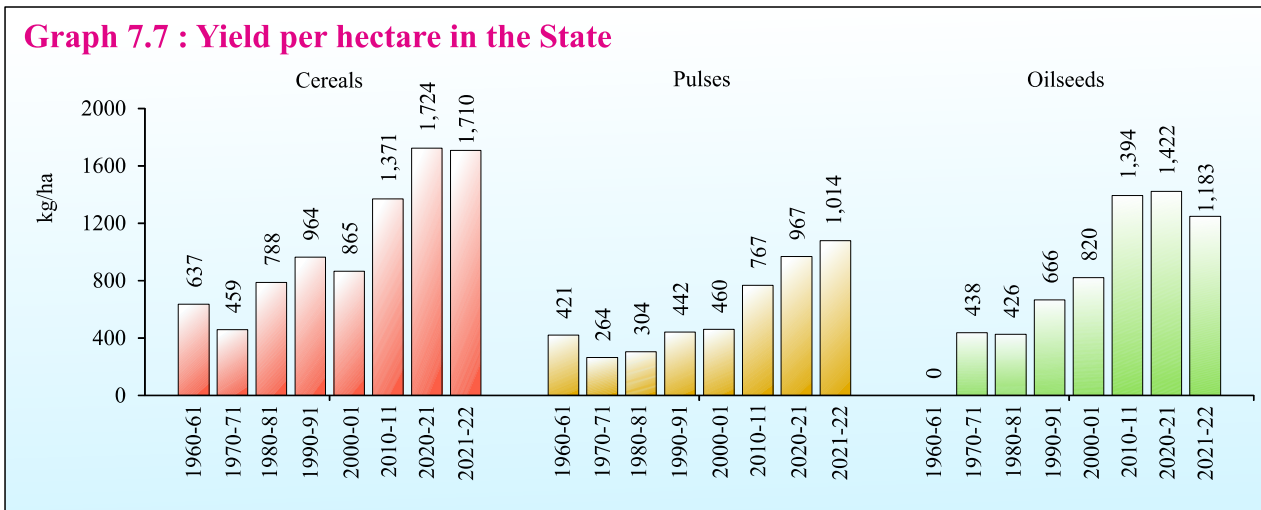


Table 7.7 Triennial average yield for selected commodities for selected states

State	Triennial average yield (2018-19 to 2020-21)				
	Cereals (kg/ha)	Pulses (kg/ha)	Oilseeds (kg/ha)	Cotton (kg/ha)	Sugarcane (MT/ha)
Andhra Pradesh	3,765	790	879	502	78
Gujarat	2,479	1,165	1,874	498	74
Karnataka	2,291	627	961	432	92
Haryana	4,003	965	1,945	495	82
Madhya Pradesh	2,734	956	961	487	55
Maharashtra	1,455	839	1,221	298	84
Punjab	4,614	927	1,506	764	82
Rajasthan	2,025	679	1,456	615	79
Tamil Nadu	3,623	657	2,427	377	105
Telangana	3,614	973	1,811	440	79
Uttar Pradesh	3,087	1,041	1,018	NA	81
All India	2,783	822	1,247	428	81

NA Not available

Source : Directorate of Economics and Statistics, Department of Agriculture, Co-operation and Farmers Welfare, GoI

7.8.5 The cropwise index numbers of agricultural production (Base : Triennial 1979-82) in the State is given in Annexure 7.4.

7.9 **Horticulture:** Area under horticulture crops was 23.46 lakh ha in 2022-23 as against 23.92 lakh ha in 2021-22. As per the first advance estimates, total area under fruit crops in the State during 2022-23 is 8.32 lakh ha, of which area under mango is highest (1.64 lakh ha) followed by pomegranate (1.56 lakh ha), grapes (1.19 lakh ha), mandarin orange (1.20 lakh ha), banana (0.91 lakh ha) and mosambi (0.65 lakh ha). As per the first advance estimates, total area under vegetables in the State during 2022-23 is 11.62 lakh ha, of which onion is highest (9.18 lakh ha) followed by tomato (0.60 lakh ha) and green chilly (0.33 lakh ha). Area and production of horticulture crops is given in Table 7.8.

Table 7.8 Area and production of horticulture crops

Crop	Area ('000 ha)			Production ('000 MT)		
	2021-22	2022-23*	Per cent change	2021-22	2022-23*	Per cent change
Fruits	830.64	831.78	0.1	12,706.97	12,606.54	(-)0.8
Vegetables	1,192.71	1,162.03	(-)2.6	17,421.05	18,927.55	8.7
Plantation crops	224.80	225.30	0.2	475.52	477.81	0.5
Spices	130.62	115.64	(-)11.5	2,063.07	1,749.00	(-)15.2
Flowers [@]	11.93	10.26	(-)14.0	115.10	147.08	27.8
Aromatic & Medicinal Plants	1.20	0.84	(-)30.0	2.41	1.87	(-)22.4
Total Horticulture Crops	2,391.90	2,345.85	(-)1.9	32,784.12	33,909.86	3.4

@ includes cut and loose flowers

* Provisional

Note : Figures for 2021-22 are as per final estimates and for 2022-23 are based on first advance estimates.

Source : Horticulture Area Production Information System (HAPIS), GoI

7.10 **Organic Farming:** The demand for organic products is increasing from both domestic and international markets. Various schemes are being implemented in the State for promoting organic farming. The State ranks second in India in terms of organic farm production (20 per cent share) after Madhya Pradesh. Area and production under organic farming is given in Table 7.9. Export of organic products and value is given in Table 7.10.

Table 7.9 Area and production under organic farming

Year	Area ('000 ha)		Production ('000 MT)	
	Maharashtra	All India	Maharashtra	All India
2019-20	293.14	366.98	905	2,746
2020-21	371.80	433.92	776	3,497
2021-22	1,133.67	9,119.87	691	3,410

Source : Commissionerate of Agriculture, GoM

Table 7.10 Export of organic products

Year	Quantity ('000 MT)		Value (₹ Crore)	
	Maharashtra	All India	Maharashtra	All India
2019-20	73.18	639.00	471.44	4,685.91
2020-21	126.27	888.18	913.74	7,078.50
2021-22	85.53	460.32	696.71	5,249.32

Source : Commissionerate of Agriculture, GoM

Improved seeds

7.11 Maharashtra State Seed Corporation and National Seed Corporation are public sector organisations in production and distribution of quality seeds. GoI has fixed seed replacement targets of 33 per cent for self pollinated crops (paddy, wheat, tur, moong, udid, etc), 50 per cent for cross pollinated crops (maize, jowar, bajra, sunflower, etc.) and 100 per cent for hybrid crops. The quantity of improved seeds distributed for *kharif* & *rabi* seasons is shown in Table 7.11.

Table 7.11 Quantity of improved seeds distributed for *kharif* & *rabi* seasons

		('000 quintal)			
Distribution Agency	Season	2020	2021	2022	Per cent change in 2022 over 2021
Public	<i>Kharif</i>	310	222	115	(-)48.2
	<i>Rabi</i>	311	247	336 [#]	36.0
	Total	621	469	451	(-) 3.8
Private	<i>Kharif</i>	1,394	1,517	1,670	10.1
	<i>Rabi</i>	790	832	794 [#]	(-)4.6
	Total	2,184	2,349	2,464	4.9
Total	<i>Kharif</i>	1,704	1,739	1,785	2.7
	<i>Rabi</i>	1,101	1,079	1,130 [#]	4.7
	Total	2,805	2,818	2,915	3.4

Source : Commissionerate of Agriculture, GoM

Expected availability of seeds

Fertilisers and pesticides

7.12 Use of chemical fertilisers is given in Table 7.12 and use of pesticides is given in Table 7.13. Regionwise use of nitrogenous (N), phosphatic (P) and potassic(K) chemical fertilisers is given in Table 7.14.

Table 7.12 Use of chemical fertilisers

Year	Chemical fertiliser consumption (Lakh MT)			Per hectare consumption (kg)
	<i>Kharif</i>	<i>Rabi</i>	Total	
	2020-21	46.94	26.72	
2021-22	43.52	27.15	70.67	119.3
2022-23	37.67	37.00 [#]	74.67 [#]	149.5 [#]

Source : Commissionerate of Agriculture, GoM # anticipated

Table 7.13 Use of pesticides

Year	Pesticides (MT)					
	Chemical			Bio		
	<i>Kharif</i>	<i>Rabi</i>	Total	<i>Kharif</i>	<i>Rabi</i>	Total
2020-21	9,525	4,105	13,630	654	280	934
2021-22	9,207	3,968	13,175	654	280	934
2022-23 [#]	10,819	4,637	15,456	1,748	749	2,497

Source : Commissionerate of Agriculture, GoM # anticipated

Table 7.14 Regionwise use of Nitrogenous, Phosphatic and Potassic chemical fertilisers

Region	Chemical fertilisers ('00 MT)							
	2021-22				2022-23 [#]			
	Nitrogenous (N)	Phosphatic (P)	Potassic (K)	Total	Nitrogenous (N)	Phosphatic (P)	Potassic (K)	Total
Konkan	325	60	55	440	410	97	85	592
Nashik	3,948	2,395	1,630	7,973	4,963	3,087	2,312	10,363
Pune	3,938	2,109	1,385	7,433	4,740	2,796	2,078	9,614
Aurangabad	4,107	2,984	1,386	8,477	5,091	3,932	1,850	10,873
Amravati	1,778	1,468	564	3,809	2,462	1,966	833	5,261
Nagpur	1,844	1,106	274	3,224	2,495	1,476	452	4,423
Maharashtra	15,940	10,122	5,294	31,356	20,161	13,354	7,610	41,126

Source : Commissionerate of Agriculture, GoM

anticipated

Irrigation

7.13 The irrigated area in command area under the jurisdiction of Water Resources Department, GoM is 43.38 lakh ha in 2021-22. Number of irrigation projects and irrigation potential created & utilised are given in Table 7.15. Number of minor irrigation projects (local sector) and irrigation potential created & utilised are given in Table 7.16.

Table 7.15 Number of irrigation projects and irrigation potential created & utilised

Particulars	Projects of Water Resources Department		
	Major & Medium	Minor	Total
No. of projects completed & ongoing as on 30 th June, 2022*	406	3,291 ^{§@}	3,697
Irrigation potential (lakh ha)			
(i) Irrigation potential created upto 30 th June, 2021	41.18	14.06	55.24
(ii) Area under irrigation by canal & river during 2021-22*	21.62	7.90	29.52
(iii) Area under irrigation by wells in command area during 2021-22*	11.57	2.29	13.86
(iv) Total area under irrigation during 2021-22 (ii+iii)*	33.19	10.19	43.38

§ Includes lift irrigation schemes implemented through Irrigation Development Corporation of Maharashtra
 @83 minor projects have been transferred to Soil & Water Conservation Department.

* Provisional

Source : Chief Auditor, Water and Irrigation, Aurangabad under Water Resources Department

Table 7.16 Number of minor irrigation projects (local sector) and irrigation potential created & utilised

Particulars	K.T. Weirs	Lift Irrigation schemes	Other important types			Total
			M.I. Tanks	Percolation tanks	Others [§]	
No. of projects as on 30 th June, 2022						
Completed	13,434	2,901	2,982	24,252	67,858	1,11,427
Ongoing	1,748	106	541	950	4,549	7,894
Irrigation potential (Lakh ha)						
(i) Created upto June, 2021	3.69	0.43	2.69	6.93	5.71	19.45
(ii) Created upto June, 2022	3.81	0.43	2.84	7.01	5.89	19.98
(iii) Utilised in 2021-22	1.33	0.15	0.99	3.51	2.95	8.93

§ Includes diversion weir, storage *bandhara*, *maji mal gujari* tank, village tank, cement *nalla bunds*, etc.

Note : Irrigation potential utilised is assumed to be 35 per cent of the irrigation potential created

Source : Office of the Additional Commissioner, Water Conservation, Pune, GoM

7.13.1 Reservoir storage: The total live storage as on 15th October, 2021 in the major, medium and minor irrigation (State sector) reservoirs taken together was 34,438 million cubic meters, which was nearly 79.0 per cent of the storage capacity as per the project design. Live storage of water, irrigation potential and actual irrigated area are given in Table 7.17.

Table 7.17 Live storage of water, irrigation potential and actual irrigated area

Year	Storage capacity as per project design (MCM)	Live storage as on 15 th October (MCM)	Percentage of live storage	Irrigation potential created (as on 30 th June) (Lakh ha)	Actual irrigated area (1 st July to 30 th June) (Lakh ha)	Percentage of actual irrigated area to irrigation potential created
2017-18	43,752	27,607	63.1	50.37	39.42	78.3
2018-19	43,572	23,004	52.8	51.23	35.97	70.2
2019-20	43,837	30,110	68.7	53.04	40.97	77.2
2020-21	43,934	34,236	77.9	54.15	41.59	76.8
2021-22*	43,591	34,438	79.0	55.24	43.38	78.5

MCM : Million Cubic Meters

*Provisional

Source : Chief Auditor, Water and Irrigation, Aurangabad.

7.13.2 Water Users Associations: Upto 15th August, 2022 in all 11,544 Water Users Associations (WUAs) with Cultivable Command Area (CCA) of 53.18 lakh ha are formed under Water Resources Department for management of irrigation systems by farmers. Out of these WUAs, 2,826 WUAs covering 11.74 lakh ha CCA are registered under Maharashtra Management of Irrigation System by Farmers Act, 2005 and 565 WUAs covering 1.8 lakh ha area are constituted

under Maharashtra Co-operative Societies Act, 1960. The data on irrigation and non-irrigation water charges is given in Annexure 7.6.

Electrification of agricultural pumps

7.14.1 In the State, in all 45.86 lakh agricultural pumps have been energised upto March, 2022 and 91,914 agricultural pumps were energised during 2022-23 upto December.

7.14.2 **Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan:** GoI is implementing *Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan* (PM-Kusum) scheme. The scheme is being implemented during 2019-20 to 2025-26 and two lakh solar standalone agricultural pumps have been approved for the State. Under this scheme, farmers can install standalone solar agricultural pumps with off-grid pump capacity of 3 HP, 5 HP and 7.5 HP. The scheme has 30 per cent central financial assistance, 60 per cent financial assistance from the State and the remaining 10 per cent has to be deposited by general category beneficiary. The scheme has 30 per cent central financial assistance, 65 per cent financial assistance from the State and the remaining five per cent has to be deposited by the SC/ST category beneficiary. In all 36,381 solar agricultural pumps are installed upto December, 2022.

7.14.3 **Mukhyamantri Saur Krishi Pump Yojana:** GoM has launched this scheme in 2018-19 with the main objectives of day time power availability for agricultural pumps and replacement of diesel pumps to reduce pollution. GoM has targeted deployment of one lakh off-grid solar power agricultural pumps in three consecutive years. The scheme is implemented for farmers from remote & tribal non-electrified area or for area which is not electrified by MAHADISCOM. Farmers who do not have electric agricultural pump and own agriculture land with assured source of water are eligible under the scheme. Share contribution of beneficiaries from general category is 10 per cent and from SC/ST category is five per cent. Since inception of the scheme in all one lakh solar agricultural pumps have been commissioned by MAHADISCOM upto June, 2022.

Agricultural finance

7.15 Financial assistance is provided to farmers by way of short-term loans, credit, etc. by government through various banks and co-operative institutions. The National Bank for Agriculture and Rural Development (NABARD) provides agricultural short term & medium term loans through Maharashtra State Co-operative Bank (MSCB) & District Central Co-operative Banks (DCCB), Regional Rural Banks (RRB) and Scheduled Commercial Banks. Annual Credit Plan for priority sector of the State for 2022-23 is of ₹ 5.22 lakh crore. Share of Agricultural and allied activities sector in Annual Credit Plan is 24.1 per cent. Loans disbursed by Scheduled commercial banks, RRBs and MSCB & DCCBs are given in Table 7.18.

Table 7.18 Loans disbursed by Scheduled Commercial banks, RRBs and MSCB & DCCBs

(₹ Crore)

Type of loan	Scheduled Commercial Banks		RRBs		MSCB & DCCBs		Total	
	2021-22	2022-23 ⁺	2021-22	2022-23 ⁺	2021-22	2022-23 ⁺	2021-22	2022-23 ⁺
Crop loan	24,788	15,830	3,189	4,005	18,308	18,248	46,285	38,083
Agriculture term loan	56,003	33,125	320	228	1,042	552	57,365	33,905
Total	80,791	48,955	3,509	4,233	19,350	18,800	1,03,650	71,988

+ upto September

Source : State Level Bankers' Committee, Maharashtra State

7.16.1 The institutions directly associated with agricultural finance at grass root level in the State are Primary Agricultural Credit Co-operative Societies (PACS) which provide short-term crop loans to their cultivator members. During 2020-21, loans of ₹ 17,757 crore were disbursed to 31.71 lakh member farmers while during 2021-22, loans of ₹ 18,417 crore were disbursed to 29.79 lakh member farmers through PACS. The crop loan disbursement target for 2022-23 has

been set to ₹ 21,580 crore, of which PACS have disbursed crop loans of ₹ 16,609 crore to 25.61 lakh member farmers during *kharif* season by the end of September and ₹ 1,159 crore to 1.64 lakh member farmers during *rabi* season upto December.

7.16.2 Kisan Credit Card Scheme: Maharashtra State Co-operative Bank has newly issued 29.89 lakh *Kisan* Credit Cards (KCC) in the State during 2021-22. The amount of loans sanctioned to the new KCC holders during 2021-22 was ₹ 18,756 crore. KCC linked agriculture loans disbursed to farmers by MSCB are given in Table 7.19.

Table 7.19 Agriculture loans to farmers by MSCB linked to KCC

Year	Short term loans		Long term loans	
	No of farmers ('000)	Amount (₹ Crore)	No of farmers ('000)	Amount (₹ Crore)
2020-21	3,165	17,372	18	277
2021-22	2,965	18,449	24	308
2022-23 ⁺	2,568	16,365	5	25

Source: Maharashtra State Co-op. Bank Ltd.

+ upto November

Crop Insurance & Financial Assistance

7.17.1 Pradhan Mantri Fasal Bima Yojana: This scheme is being implemented from *kharif* season 2016 in the State to provide insurance coverage and financial support to farmers in the event of failure of any of the notified crops as a result of natural calamities, pests & diseases. Under the scheme, farmers have to pay insurance premium maximum upto five per cent of amount assured, depending on the type of crop. During 2021-22, in all 96.38 lakh farmers participated in the scheme wherein area insured was 57.10 lakh ha with sum assured of ₹ 21,862.28 crore and gross premium sanctioned was ₹ 5,179.61 crore. During 2021-22, compensation claims of ₹ 3,484.32 crore were sanctioned for 64.45 lakh beneficiary farmers. During 2022-23, in *Kharif* 2022 season 96.61 lakh farmers participated in the scheme, wherein area insured was 57.64 lakh ha with sum insured of ₹ 27,836.69 crore and gross premium sanctioned was ₹ 4,414.63 crore. Interim compensation claims of ₹ 2,228.38 crore are proposed for 63.40 lakh beneficiary farmers.

7.17.2 Weather Based Crop Insurance Scheme for Fruit Crops: Weather Based Fruit Crop Insurance scheme is being implemented for grapes, mango, pomegranate, banana, orange, sweet orange, guava, sapota, lemon, cashew nut, custard apple and strawberry in the State. During 2021-22, in all 2.85 lakh farmers participated in the scheme, wherein area insured was 2.10 lakh ha with sum assured of ₹ 2,624.99 crore and gross premium paid is ₹ 736.62 crore. During 2021-22, insurance claims of ₹ 935.62 crore (progressive) were settled for 2.31 lakh beneficiary farmers.

7.17.3 Dr. Babasaheb Ambedkar Krishi Swavalamban Yojana: Under the scheme financial assistance is provided in the form of 100 per cent subsidy to SC & Neo-Buddhist farmers holding land 0.20 ha to six ha and having annual income upto ₹ 1.50 lakh, with an objective to provide sustainable irrigation facility such as new well (for new well minimum 0.40 ha land is essential), old well repairing, plastification of farm pond, inwell boring, pumpset, electric connection charges, micro irrigation set, etc. During 2021-22, expenditure of ₹ 230.40 crore was incurred for 14,151 beneficiaries selected under the scheme. During 2022-23 upto December, expenditure of ₹ 46.50 crore was incurred for 14,151 beneficiaries.

7.17.4 Birsa Munda Krishi Kranti Yojana: Under the scheme financial assistance is provided in the form of 100 per cent subsidy to ST farmers holding land 0.20 ha to six ha and having annual income upto ₹ 1.50 lakh, with an objective to provide sustainable irrigation facility such as new well (for new well minimum 0.40 ha land is essential), old well repairing, plastification of farm pond, inwell boring, pumpset, electric connection charges, HDPE/PVC pipe, micro irrigation set, kitchen garden, etc. During 2021-22, expenditure of ₹ 89.72 crore was incurred for 6,442 beneficiaries selected under the scheme. During 2022-23 upto December, expenditure of ₹ 38.76 crore was incurred for 4,350 beneficiaries.

7.17.5 Mahatma Jyotirao Phule Shetkari Karjamukti Yojana 2019: The State has experienced drought like situation and unseasonal rains during 2015-16 to 2018-19. Due to these natural calamities, farmers' short term & medium term crop loans became overdue and farmers were deprived of borrowing fresh loans. To relieve the farmers from this vicious circle, GoM announced this scheme during 2019-20 with the objective to waive off loans borrowed during 1st April, 2015 to 31st March, 2019 from one or more institutions and have become overdue as on 30th September, 2019. Under the scheme, overdue loans upto ₹ two lakh, including principal & interest are waived off without any limit of size of land holding. The scheme is applicable only to individual farmer borrowers of Scheduled Commercial banks, RRBs, DCCBs and PACS. Since inception of the scheme upto 31st December, 2022, benefit of ₹ 20,425 crore was given to 32.03 lakh beneficiary farmers.

7.17.5.1 Protsahanpar Labha Yojana under Mahatma Jyotirao Phule Shetkari Karjamukti Yojana 2019: This scheme is being implemented in the State from July, 2022 to encourage the farmers repaying crop loan regularly. Under this scheme, benefit of maximum ₹ 50,000 is being given on crop loan principal amount to those farmers who have taken crop loans in any two years from 2017-18 to 2019-20 and repaid full loan amount in prescribed period. During 2022-23 upto December, benefit of ₹ 2,982 crore was given to 8.13 lakh beneficiary farmers.

7.17.6 Dr. Punjabrao Deshmukh interest rebate scheme: The scheme is being implemented in the State to motivate farmers for regular repayment of the short term crop loan. Under the scheme, from April, 2021 onwards, interest subsidy of three per cent for the loan amount upto ₹ 3.00 lakh is given to the farmers repaying full loan amount every year upto 30th June. Under the scheme during 2020-21, interest subsidy of ₹ 16.05 crore was given to 4.26 lakh beneficiary farmers whereas during 2021-22, interest subsidy of ₹ 119.48 crore was given to 9.08 lakh beneficiary farmers. During 2022-23 upto December, interest subsidy of ₹ 88.44 crore was given to 6.52 lakh beneficiary farmers.

7.17.7 Pradhan Mantri Kisan Samman Nidhi: GoI is implementing the *Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)* scheme since 2018-19, to augment the income of small & marginal farmers. Under this scheme, eligible farmers' families (husband, wife and children below 18 years of age) get ₹ 6,000 in three equal installments of ₹ 2,000 each and the amount is credited directly into their *Aadhaar* linked bank accounts. Under the scheme, upto 2nd February, 2023 total amount of ₹ 21,991.86 crore has been deposited in the bank accounts of 110.31 lakh beneficiary farmers in the State.

7.17.8 Pradhan Mantri Kisan Maandhan Yojana: *Pradhan Mantri Kisan Maandhan Yojana (PMKMY)*, a voluntary and contribution based pension scheme, has been initiated in the State to provide old age protection and social security to all small & marginal farmers. Under the scheme, a fixed pension of ₹ 3,000 per month is to be given to all eligible small and marginal farmers. Farmers in the age group 18 to 40 years, as on 1st August, 2019, are eligible to enroll in the scheme. Farmers have to contribute an amount between ₹ 55 to ₹ 200 per month in the pension fund till they reach age of 60 years. Pension is to be paid to the farmers from a pension fund managed by Life Insurance Corporation of India. GoI contributes an equal amount in the pension fund. Upto 2nd February, 2023 in all 79,222 beneficiary farmers in the State have been enrolled under PMKMY.

Agricultural marketing

7.18 Agricultural Produce Market Committees (APMCs) are established under Maharashtra Agricultural Produce Marketing (Development & Regulation) Act, 1963 and provides infrastructure for sale of agricultural produce so that farmers get adequate price of their agricultural produce and are protected

Table 7.20 Quantity & value of arrivals in all APMCs of the State

Year	Quantity (Lakh MT)	Value (₹Crore)
2020-21	180.30	53,049
2021-22	197.50	56,422
2022-23 ⁺	110.37	40,973

+ upto 15th February

Source : Maharashtra State Agriculture Marketing Board.

from exploitation by traders and middlemen by offering low prices. In all 306 APMCs and 621 sub-yards are functioning in the State. Number of direct marketing licenses issued upto December, 2022 was 1,535. Apart from these, 81 private market licenses have been issued. The quantity and value of arrivals in all APMCs of the State are given in Table 7.20.

7.19 Minimum Support Price Scheme:

GoI declares Minimum Support Prices (MSP) for selected crops before their sowing seasons in order to give guaranteed price & assured market to the farmers and protect them from the price fluctuations, which is a preventive measure to make agricultural activity economically viable. Under the scheme, procurement in the State is undertaken by Maharashtra State Co-operative Marketing Federation, Maharashtra State Co-operative Tribal Development Corporation, National Agricultural Co-operative Marketing Federation and Maharashtra State Co-operative Cotton Growers Federation. The MSP declared for selected crops by GoI are given in Table 7.21.

Table 7.21 MSP declared for selected crops by GoI

Crop	MSP (₹/quintal)		
	2020-21	2021-22	2022-23
Paddy (FAQ)	1,868	1,940	2,040
Paddy (Grade A)	1,888	1,960	2,060
Jowar (Hybrid)	2,620	2,738	2,970
Jowar (Maldandi)	2,640	2,758	2,990
Wheat	1,975	2,015	2,125
Maize	1,850	1,870	1,962
Bajra	2,150	2,250	2,350
Gram	5,100	5,230	5,335
Tur	6,000	6,300	6,600
Moong	7,196	7,275	7,555
Udid	6,000	6,300	6,600
Sunflower	5,885	6,015	6,400
Soyabean	3,880	3,950	4,300
Groundnut-in-shell	5,275	5,550	5,850
Cotton (Medium Staple)	5,515	5,726	6,080
Cotton (Long Staple)	5,825	6,025	6,380
Safflower	5,327	5,441	5,450
Ragi	3,295	3,377	3,578

FAQ : Fair Average Quality

Source : Directorate of Marketing, GoM

Information & Communication technology

7.20.1 Electronic National Agriculture Market (e-NAM): e-NAM, a pan-India electronic trading portal launched in 2016, helps to directly connect APMC mandis which can be accessed online. This provides a single window service for all APMC related information & services including information on commodity arrivals & prices, buy & sell trade offers, provision to respond to trade offers. An online market facility reduces transaction costs and information asymmetry. In all 118 APMCs in the State have been included under e-NAM. Online gate entry, e-auction have been started in 118 APMCs and e-payment has been started in 77 APMCs. As on 15th February, 2023, in all 495 lakh MT of grains amounting to ₹ 11,642 crore have been e-auctioned and e-payment of ₹ 293 crore has been done. Quality assaying laboratories have been established in 118 APMCs to assess and certify the quality of agriculture produce.

7.20.2 State e-Governance Programme: MahaAgritech, e-Thibak, e-Parwana, e-soil 3.00, Cropsap, Mahakrishi Mobile application and web portal etc. systems are developed under this programme to spread agriculture technology at village level, transfer the latest technology related to agriculture and convey the information of agricultural schemes to farmers.

7.20.3 MahaAgritech project: MahaAgriTech project initiated by GoM is a unique project envisaging synergistic use of multiple technologies towards improving agriculture situation in the State. The main objective of the project is to maximise the use of modern technology, especially with the help of satellite imaging and drone technology, to accurately calculate crop-wise area, conduct crop health surveys, estimate post-harvest yields and integrate information from various computer systems for giving accurate advice and guidance to farmers through an integrated computer and mobile application system. For this project, separate web portal and mobile application has been developed.

7.20.4 MahaDBT Portal: MahaDBT portal is used for transferring subsidies & benefits of about 29 central and state schemes related to agriculture directly into bank accounts of eligible farmers.

An integrated computerised system under the title ‘*Shetkari yojana*’ is developed for the convenience of farmers to provide benefits of all the schemes through single application. On this portal, more than 29 lakh farmers are registered upto January 2023 and ₹ 2,341 crore have been distributed to farmers.

7.20.5 mKisan portal: mKisan portal is mobile based service which enables farmers and all other stakeholders to obtain advisories and information on agricultural meteorological advisory, hurricane, crop & pest infestation, crop insurance, market price, etc. being sent by experts and government organisations at different levels through mKisan portal free of cost. The number of farmers registered on this portal are 66.49 lakh. In all 547 advices and about 3.46 crore messages have been sent to farmers through this portal from 1st April to 11th November, 2022.

Agricultural development schemes for overall improvement

7.21 Rashtriya Krishi Vikas Yojana- Cafeteria : *Rashtriya Krishi Vikas Yojana* was launched in 2007-08 with the aim of holistic development of agriculture and allied sectors. Since 2017-18 this scheme is being implemented as RKVY-RAFTAAR with an objective of making farming a remunerative economic activity through strengthening farmers’ efforts, risk mitigation and promoting agri-business entrepreneurship. This Scheme is being implemented from the year 2022-23 as RVKY-Cafeteria. It includes two streams viz. Annual Action Plan (AAP) and Detailed Project Report (DPR). Under AAP based stream, (i) Per Drop More Crop (Micro irrigation), (ii) Sub Mission on Agriculture Mechanisation, (iii) Rainfed Area Development, (iv) Soil Helath Card & Management, (v) Organic Farming (*Paramparagat Krishi Vikas Yojana*) are included. Under DPR stream, 70 per cent grant is reserved for growth in production, infrastructure & assets to states, 20 per cent for special sub-schemes of national priority under RKVY-Cafeteria and 10 per cent for innovation & agri-entrepreneurship development projects. Expenditure incurred upto December, 2022 was ₹ 533.60 crore for 2020-21 and 2021-22.

7.22 Rashtriya Krishi Vikas Yojana - Per Drop More Crop: ‘*Pradhan Mantri Krishi Sinchayee Yojana* (PMKSY) - Per Drop More Crop’ micro irrigation scheme is being implemented from 2015-16 with the objective of getting maximum crop production from every drop of water by increasing water use efficiency. From 2022-23, Per Drop More Crop component is implemented under RKVY. Under this scheme, the criteria for subsidy is 55 per cent for small and marginal farmers and 45 per cent for other farmers limited to five ha area. From 2020-21, subsidy under this scheme is distributed through MahaDBT portal. Area covered under micro irrigation upto 2021-22 is about 8.86 lakh ha. During 2021-22, subsidy of ₹ 532.88 crore was distributed to 2,12,964 eligible farmers. During 2022-23 upto October, 4,48,351 applications are received, of which 3,50,674 farmers are selected through lottery and subsidy distribution to 83,611 farmers who have installed micro irrigation sets is under process. Sprinkler & drip irrigation sets and subsidy distributed are given in Table 7.22.

Table 7.22 Sprinkler & drip irrigation sets and subsidy distributed

Year	Sprinkler irrigation sets		Drip irrigation sets		Subsidy (₹ Crore)
	No. of sets	Area (ha)	No. of sets	Area (ha)	
2019-20	77,279	46,538	1,21,979	1,05,190	505.44
2020-21	47,889	35,322	39,655	33,960	163.37
2021-22	1,01,899	66,277	1,11,980	85,534	532.88
2022-23 (Target)	90,482	65,943	1,52,866	1,22,754	666.66 [#]

Source : Commissionerate of Agriculture, GoM

anticipated

7.23 Sub-Mission on Agricultural Mechanisation: This sub-mission is being implemented in the State since 2017-18 with an objective to tackle challenges posed due to declining size of land holding, decreasing number of bullocks, non-availability of labourers, increasing labour wages,

short period of *kharif* season, varied cropping pattern, etc. The components of this sub-mission are subsidy to farmers for purchase of improved agricultural implements and establishment of agricultural implements banks. Beneficiaries and subsidy given under Agricultural Mechanisation sub-mission are given in Table 7.23.

Table 7.23 Beneficiaries and subsidy given under Agricultural Mechanisation sub-mission

Year	Agricultural Implements		Agricultural Implements Banks		Total subsidy (₹ Crore)
	Number	Subsidy (₹ Crore)	Number	Subsidy (₹ Crore)	
2020-21	4,021	23.88	70	3.82	27.71
2021-22	14,642	91.42	272	12.78	104.20
2022-23 ⁺	25,555	146.10	249	12.34	158.44

Source : Commissionerate of Agriculture, GoM

+ upto January

7.24 Rainfed Area Development Programme: Rainfed agriculture is risk prone activity mainly due to its dependence on climate. Objective of Rainfed Area Development programme is to minimise risk by providing agriculture based income generating opportunities and sustaining the rainfed agriculture through optimum utilisation of potential of natural resources and resources created through various interventions. During 2021-22, expenditure incurred was ₹ 10.55 crore for 7,345 beneficiaries. During 2022-23, upto December expenditure of ₹ 7.23 crore was incurred for 4,013 beneficiaries.

7.25 Soil Health Management and Distribution of Soil Health Cards: The sub-mission Soil Health Management (SHM) and Distribution of Soil Health Cards (SHCs) is implemented to promote integrated nutrient management for maintaining soil health and improving soil fertility. For providing the service of testing of soil and water samples, GoM has set 32 Soil Testing Laboratories (STLs) in the State. Apart from these, private STLs are also engaged for this purpose. There are five fertiliser sample testing laboratories at Amravati, Aurangabad, Nashik, Pune and Kolhapur. SHCs are being distributed to farmers in phases to create awareness about soil health status and suggest measures to improve soil health. Under this sub-mission, 1.31 crore SHCs in 2015-17, 1.31 crore in 2017-19 and 0.02 crore in 2019-20 have been distributed to farmers. During 2020-21, training and demonstrations were conducted in 3,510 villages. During 2022-23 upto December, 1.86 lakh SHCs have been distributed.

7.26 Paramparagat Krishi Vikas Yojana: The objectives of *Paramparagat Krishi Vikas Yojana* (PKVY) are (i) enhancing soil fertility and producing healthy food through organic practices without use of chemicals, (ii) empowering farmers through cluster approach in farm practice management, (iii) quality assurance and (iv) direct marketing of agriculture produce through innovative means. Benefits of the scheme are given to each cluster having 20 ha of land, for three consecutive years. During 2020-21 to 2022-23, in all 370 groups of 8,420 beneficiary farmers with total area of 17,106 ha were formed. Expenditure incurred during 2020-21 and 2021-22 was ₹ 12.89 crore and ₹ 5.09 crore respectively. During 2022-23 upto December, ₹ 2.17 crore expenditure was incurred.

7.27 Punyashlok Ahilyadevi Holkar Nursery Scheme: Since 2020-21, this scheme is being implemented in the State under RKVY to motivate farmers for production of chemical free export quality vegetables & their export. Farmers having minimum 0.40 ha land and having permanent source of water for establishment of nursery are eligible under the scheme. Female agriculture graduates & their groups and vegetable producing small & marginal farmers and their groups are given priority for selection. For the project in year 2020-21 and 2021-22, in all 388 beneficiaries have been given assistance of ₹ 8.32 crore upto December, 2022.

7.28 Support to State Extension Programmes for Extension Reforms : The scheme aims at making the extension system to be farmer driven and farmer accountable by disseminating

technology to farmers through Agricultural Technical Management Agency (ATMA). The components of the scheme are trainings, demonstrations, farmers' exposure visits, formation & capacity building of farmers' groups, farm school, *kisan goshtie*, agriculture exhibitions, *kisan mela*, farmers' friends, etc. During 2021-22, expenditure incurred was ₹ 56.03 crore. During 2022-23 upto December, expenditure of ₹ 40.34 crore has been incurred.

7.29 National Food Security Mission (NFSM): Main objectives of NFSM are to increase production of rice, wheat, pulses, coarse cereals and nutri-cereals through area expansion & productivity enhancement in a sustainable manner, restoring soil fertility and productivity at the individual farm level and enhancing farm level economy to restore confidence amongst the farmers. The component wise expenditure incurred under NFSM is given in Table 7.24.

Table 7.24 Component wise expenditure incurred under NFSM

(₹ Crore)

Component	Expenditure incurred		
	2020-21	2021-22	2022-23 ⁺
Rice	4.16	6.68	1.39
Wheat	1.54	1.87	0.40
Pulses	76.62	104.94	30.93
TRFA Pulses	10.42	6.91	2.74
Coarse Cereals (Maize)	3.37	4.27	1.19
Nutri Cereals	24.45	47.08	29.94
Commercial Crops (Sugarcane & Cotton)	4.38	5.18	1.58
Oilseeds & Oilpalm	31.24	27.84	25.84
All components	156.18	204.77	94.01

TRFA- Targetting Rice Fallow Areas

+ upto December

Source : Commissionerate of Agriculture, GoM

7.30 Krishi Unnati Yojana - Seeds and Planting Material: This scheme has two components viz. Seed Village Programme and Seed Processing Plant & Storage Godown.

a. Seed Village Programme: The programme is being implemented since 2014-15 through Maharashtra State Seeds Corporation. Under this programme, certified seeds are supplied to farmers for one acre area per farmer, at affordable prices for increasing the production. Under the scheme, 50 per cent assistance is provided for cereal and 60 per cent assistance is provided for pulses & oilseeds. During 2021-22, expenditure incurred was ₹ 18.46 crore. During 2022-23 upto January, expenditure of ₹ 7.91 crore was incurred.

b. Seed Processing Plant and Storage Godown: This scheme is implemented in the State from 2019-20. During 2019-20 to 2022-23, in all 34 projects are completed and five projects are in progress.

7.31 Crop Pest Surveillance and Advisory Project (CROPSAP): CROPSAP is online, realtime Crop Pest Management Advisory Project which is being implemented in collaboration with Indian Council of Agricultural Research Institute and agriculture universities in the State. The objectives of the project are (i) surveillance of pest & diseases of major crops and provide advisories for management of pest & diseases, (ii) to create awareness among the farmers regarding pest & diseases management, (iii) to provide bio/chemical pesticides on subsidy basis to the farmers in critical situation. The project covers Paddy, Soyabean, Cotton, Tur, Gram, Maize, Sorghum and Sugarcane. During 2021-22, special emphasis was given on the management of Yellow Mosaic on Soyabean, Pink Bollworm on Cotton, Pod Borer Complex on Tur, Gram Pod Borer, Fall Army Worm on Maize & Sugarcane and White Grub on Sugarcane crop. During 2021-22, expenditure of ₹ 12.46 crore was incurred. During 2022-23 upto December, expenditure incurred was ₹ 6.00 crore and 175.45 lakh plant protection advisory SMS were sent to farmers for management of pest & diseases.

7.32 National Horticulture Mission: National Horticulture Mission (NHM) has been launched by GoI in 2005-06 with the main objective of increasing the area and productivity under horticulture and also to promote post-harvest management. From 2015-16, the Mission for Integrated Development of Horticulture (MIDH) is implemented in 34 districts. Since inception upto December, 2022, total expenditure incurred is ₹ 2,186.18 crore. Physical and financial progress under NHM-MIDH during 2021-22 & 2022-2 is given in Table 7.25.

Table 7.25 Physical and financial progress under NHM -MIDH

Component	2021-22		2022-23 ⁺	
	Physical	Financial (₹ lakh)	Physical	Financial (₹ lakh)
1. Production of Planting Material	1	38.26	2	22.87
2. Area Expansion (ha)	37.29	26.32	440.37	108.37
3. Rejuvenation (ha)	249.83	41.96	227.29	42.02
4. Community Tank (no.)	405	521.10	1,030	1,318.39
5. Protected Cultivation (ha/no.)	1,022.47	280.77	1,640.38	1,060.52
6. INM/IPM [§] (no.)	27	12.73	0	0.00
7. Pollination support through beekeeping (no.)	4	0.42	12	0.94
8. Horticulture Mechanisation (no.)	1,640	1,198.02	5,081	4,325.78
9. Human Resource Development (no.)	5,798	237.73	4,437	205.32
10. Integrated Post Harvest Management	787	1,460.28	460	737.48
11. Establishment of Marketing Infrastructure (no.)	2	0.30	0	0.00
12. Mission Management	-	541.16	-	381.53
All components		4,359.05		8,203.22

§ Integrated Nutrient Management/Integrated Pest Management

Source : Commissionerate of Agriculture, GoM

+ upto December

7.33 Orchard Plantation Scheme under Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA): This scheme is being implemented in 34 districts of the State since 2011-12. Objectives of the scheme are to enhance income of MGNREGA job card holder farmers and employment generation through orchard plantation in their own productive or fallow land upto two ha. Beneficiaries under the scheme are selected by *Gramsabha*. It is mandatory for a beneficiary to hire a MGNREGA job card holder as a labourer for this work. The subsidy amount is deposited directly in bank account of the farmer on the basis of percentage survival of plants. During 2021-22, the State has achieved plantation on 43,789 ha. During 2022-23 upto October, horticulture plantation is achieved on 27,918 ha area.

7.34 Bhausaheb Fundkar Falbaug Lagwad Yojana: GoM is implementing this 100 per cent subsidy scheme from *kharif* season of 2018-19 in the State for farmers not registered under MGNREGA. The objectives of the scheme are to enhance income of farmers, create employment for young farmers, change cropping pattern, create a sustainable source of income and increase production of raw materials required for agro-processing industries. This scheme covers plantation of 16 perennial horticulture crops. Since inception of the scheme upto March, 2022 in all 25,698 beneficiaries have undertaken fruit plantation on 23,527 ha area and expenditure of ₹ 124.87 crore was incurred.

7.35 Plantation of horticulture and vegetable crops in kitchen garden of tribal families: The scheme is being implemented in 14 tribal districts of Maharashtra viz. Thane, Pune, Nashik, Dhule, Nandurbar, Jalgaon, Ahmednagar, Nanded, Amravati, Yavatmal, Gadchiroli, Chandrapur, Palghar and Gondia which have been facing the problem of malnutrition. The scheme aims at providing balanced diet rich in vitamin A & C and other essential minerals like iron & other nutrients, by promoting plantation of fruit trees and vegetables in the kitchen gardens of tribal families. During 2021-22, expenditure of ₹ 17.99 lakh was incurred for 7,412 beneficiary families. During 2022-23, upto December expenditure incurred was ₹ 16.27 lakh for 4,172 beneficiary families.

7.36 **Exports of fruits, vegetables and flowers:** Grapes, mango, pomegranate and bananas are the major fruits exported from the State. The quantity and value of export of fruits, vegetables & flowers are given in Table 7.26.

Table 7.26 Quantity & value of exports of fruits, vegetables & flowers

Commodity	Export from	2020-21		2021-22		2022-23 ⁺	
		Quantity (MT)	Value (₹Crore)	Quantity (MT)	Value (₹Crore)	Quantity (MT)	Value (₹Crore)
Mango	Maharashtra	19,184	241	20,874	283	15,835	269
	India	21,034	272	27,873	327	19,459	314
Grapes	Maharashtra	1,79,126	2,034	1,65,245	1,890	31,416	357
	India	2,46,107	2,298	2,63,076	2,302	67,428	514
Banana	Maharashtra	1,63,696	556	2,73,381	923	1,40,402	551
	India	2,32,518	740	3,76,572	1,179	2,04,607	724
Orange	Maharashtra	1,46,565	424	1,07,826	382	18,488	40
	India	1,62,540	454	1,19,548	406	21,950	54
Pomegranate	Maharashtra	17,724	224	16,381	236	7,613	121
	India	67,977	517	99,043	689	31,772	250
Onion	Maharashtra	7,96,898	1,515	5,78,473	1,400	8,05,555	1,590
	India	15,75,923	2,822	15,36,905	3,431	15,17,988	2,720
Other vegetables (excluding Onion)	Maharashtra	1,12,363	655	1,09,242	607	69,659	431
	India	6,82,086	2,143	7,70,233	2,161	5,70,440	1,562
Rose Flowers	Maharashtra	187.5	11.5	210.6	12.3	47.0	2.6
	India	853.9	27.4	1,199.0	36.8	622.4	18.3
Rose Plants	Maharashtra	15.7	0.9	21.2	1.3	99.5	1.2
	India	17.0	1.0	22.8	1.4	103.7	1.4
Raisins	Maharashtra	22,631	195	17,741	159	18,828	178
	India	24,406	216	19,521	181	19,912	192
Mango Pulp	Maharashtra	16,892	127	15,065	128	5,074	68
	India	98,370	714	1,23,477	925	85,191	916
Other processed Fruits & Vegetables ^s	Maharashtra	79,490	793	1,02,397	1,065	87,046	1,001
	India	3,06,991	3,173	3,74,260	3,626	2,58,493	3,038

\$ excluding Mango pulp + upto November

Source : Commissionerate of Agriculture, GoM

7.36.1 **Cold Storage:** Subsidy is given to private sector for cold storage. There are 172 private cold storages in the State having fruits storage capacity of about 3.76 lakh MT upto December, 2022.

7.37 **Watershed development programme:** Watershed development programme aims to increase agriculture productivity while conserving natural resources. Since majority of area in the State is rainfed, various schemes are being implemented to increase the productivity of dry land farming, prevention of deterioration of soil, conservation of moisture in soil and water conservation. Completed and ongoing micro watersheds are given in Table 7.27.

7.38 **Jalyukta Shivar Abhiyan 2.0 :** Jalyukta Shivar Abhiyan 2.0 is being implemented in the State from January, 2023. To carry out soil and water conservation works in the villages where the first phase of Jalyukt Shivar Abhiyan as well as other watershed development programmes were not implemented and are eligible as per the village selection criteria, to carry out watershed development works in the villages where Jalyukta Shivar Abhiyan first phase and other watershed development programmes were implemented and where water is required and there is a gap left to block, efforts for water availability and efficient use in villages through water literacy and sustainable development of watershed area through available ground water are included in this abhiyan.

Table 7.27 Completed and ongoing micro watersheds

Scheme	Number of micro watersheds		Expenditure incurred upto June, 2022 (₹ Crore)
	Selected	Completed	
1. Vidarbha Panlot Vikas Mission	1,032	1,032	365.36
2. Marathwada Panlot Vikas Mission	285	285	137.34
3. River Valley Project	271	226	580.80
4. Western Ghat Development Programme	160	160	137.19
5. National Watershed Development Programme	1,028	956	290.59
6. Accelerated Watershed Development Programme	11,027	7,934	3,084.70
7. Rural Infrastructure Development Programme- NABARD assistance	364	364	86.87
8. Integrated Watershed Management Programme	14,935	14,935	3,116.00
9. Jalyukt Shivar Abhiyan	22,586	22,581	9,731.32
10. Other Schemes (DPAP, Hariyali, Jawahar, Ashwasit, etc.)	5,680	5,680	-

Source : Commissionerate of Agriculture, GoM

7.39 Chief Minister Sustainable Agriculture Irrigation Scheme: In order to provide sustainable irrigation facilities to the farmers, this scheme is being implemented in the State. Under this scheme, apart from the admissible subsidy under *Rashtriya Krishi Vikas Yojana* - per drop more crop scheme, 25 per cent top up subsidy is being given to small & marginal farmers and 30 per cent top up subsidy is being given to other farmers. In all, 1,74,222 farmers received subsidy of ₹ 250.90 crore under this scheme during 2021-22 & 2022-23 upto October, 2022.

7.40 Atal Bhujal Yojana : This scheme is being implemented through financial assistance from GoI and World Bank for five years. Under this scheme for micro irrigation, top up subsidy of 25 per cent and 30 per cent is being given to small & marginal farmers and other farmers respectively in 1,440 villages of 1,339 *gram panchayats* from 42 *talukas* of 13 districts. During 2022-23 upto October, in all 11,509 farmers are selected through lottery on MahaDBT portal and ₹ 13.11 crore subsidy is distributed to 10,351 farmers.

7.41 Dr. Punjabrao Deshmukh Jaivik Sheti Mission: For promotion of organic farming, this mission is being implemented in the State through cluster approach (20 to 30 farmers in a cluster of 50 acre land) from 2019-20. Benefits of the scheme are given for three consecutive years to each cluster. In the first phase, six distressed districts in the Vidarbha region viz. Buldana, Akola, Washim, Amravati, Yavatmal and Wardha, are included in the programme. Since inception upto October, 2022 expenditure of ₹ 8.30 crore is incurred for 355 groups of 7,855 farmers covering 13,106 ha area.

7.42 Hon. Balasaheb Thackeray Agribusiness and Rural Transformation (SMART) Project: GoM has launched this project with the financial support of World Bank from 2020-21. The main objective of the project is to support development of inclusive and competitive agriculture value chains, focusing on small holder farmers and agri-entrepreneurs in the State. The total project cost is ₹ 2,100 crore. Under SMART project, full projects/sub-projects of 423 Community Based Organisations (CBOs) from 32 districts have been sanctioned. These CBOs include Farmer Producer Companies, Cluster Level Federations promoted by Maharashtra State Rural Livelihood Mission, Community Managed Resource Centres promoted by MAVIM. Value Chain

Development School has been conducted for 348 CBOs of 13 districts. SMART Cotton sub-project is being implemented in 465 villages of 12 districts covering 58,289 farmers. Under this component the trash & contamination free cotton is being produced and traded through online marketing platform under SMART Cotton brand. Under this scheme, expenditure incurred on different components of the project during 2020-21 and 2021-22 was ₹ 7.16 crore and ₹ 17.76 crore respectively. During 2022-23 upto January, expenditure of ₹ 97.03 crore was incurred.

7.43 Nanaji Deshmukh Krishi Sanjeevani Prakalp (Project on Climate Resilient Agriculture -PoCRA): This project is being implemented by GoM with the assistance of World Bank to enhance climate-resilience and profitability of small holder farming systems in selected districts of the State. The project is being implemented in 5,220 villages in the State. This project includes benefit to individual farmers, financial assistance to farmer producer companies/ farmer group/self help group, soil and water conservation works, farm schools, capacity building, agro-climatic advisory services, etc. The project is for six years upto 2024. Through this project, financial assistance of ₹ 2,625.68 crore has been provided to four lakh farmers, expenditure of ₹ 38.89 crore was incurred for completion of soil & water conservation works and 2,682 agri-business projects are benefitted with ₹ 277.86 crore.

7.44 Formation and promotion of 10,000 Farmer Producer Organisations: GoI is implementing this scheme since 2020-21. The objectives of the scheme are (i) To promote holistic system to facilitate development of vibrant and sustainable income oriented farming, (ii) To enhance productivity through efficient, cost-effective and sustainable resource use, (iii) To provide support to new farmer producer organisations (FPOs) upto five years in all aspects of management of agricultural activity and (iv) Capacity building to develop agriculture farmer producer organisations entrepreneurship skills to become economically viable and self-sustaining. During 2021-22, in all 127 FPOs have been set up.

7.45 Prime Minister Formalisation of Micro Food Processing Enterprises Scheme: This scheme is being implemented in the State on 'One District One Product' basis for a period of five years from 2020-21 to 2024-25. A target of empowering 22,234 micro food processing industries is set for the State. Individual micro food processing units would be provided 35 per cent of the project cost as credit-linked capital subsidy with a maximum limit of ₹ 10 lakh per unit. Under common infrastructure group enterprises would be provided 35 per cent credit linked subsidy with maximum limit of ₹ 300 lakh per unit. Under seed capital component, Self Help Groups (SHG) would be provided seed money upto ₹ four lakh per unit through Maharashtra State Rural Livelihood Mission (MSRLM), National Urban Livelihood Mission (NULM). In all, 3,393 projects are sanctioned and subsidy of ₹ 57.29 crore is released to 1,702 projects upto January, 2023.

7.46 Chief Minister Agro and Food processing scheme: This scheme is being implemented in the State since 2017-18 for five consecutive years. The main objectives of the scheme are to encourage modern technology based projects for quality enhancement of agriculture produce, to encourage exports, to create skilled manpower for agro & food processing and employment generation through small & medium agro and food processing units in rural areas. Under the scheme, since inception upto 2021-22, subsidy of ₹ 79.14 crore was given to 243 projects.

7.47 Establishment of Gram Krishi Vikas Samiti : The State has mandated the establishment of *Gram Krishi Vikas Samiti* in each village with objectives of overall development in agriculture,

maximum use of natural resources, setting priorities of works to be undertaken through various schemes & projects. Upto December, 2022 in all 18,538 *Gram Krishi Vikas Samiti* have been established.

7.48 ***Vikel te Pikel' Abhiyan***: GoM has initiated this *Abhiyan* in October, 2020 to assess demands of farmers and consumers and protect farmers from market uncertainties. Main objectives of the *abhiyan* are changing cropping pattern according to demand, enhancing quality of agricultural products and making agriculture activity economically viable. This *abhiyan* is being implemented through convergence of various schemes. There are 14,643 selling points operating under *Sant Shiromani Savata Mali Rayat Bajar Abhiyan* for direct sale of fresh produce, vegetables and fruits. Contracts have been made with 3,970 buyers to sell the produce through selecting sellers/buyers. Innovative and marketable *kharif* crops (red rice, black rice, geranium, dragon fruit, exotic vegetables, turmeric, millet fortified, maize baby corn/sweet corn, mulberry, panpimpri etc.) on about 56,772 ha area have been encouraged.

7.49 ***Jilha Krishi Mahotsav***: The scheme has been initiated with an objective to help farmers to get exposure to new technologies developed in agriculture from production to processing, experience sharing of progressive farmers, entrepreneurs & scientists and create opportunity to develop direct marketing linkages thereby developing supply chain. The scheme is being implemented in 34 districts with a grant of ₹ 20 lakh per district. Agro-exhibition, Seminar/workshops, *Dhanya Mahotsav*- Direct Marketing, Buyer Seller meet, Felicitation of farmers etc. are major components of the scheme. During 2022-23, *Jilha Krishi Mahotsav* were arranged in 26 districts and ₹ 3.58 crore expenditure was incurred upto 15th February, 2023.

7.50 **Turmeric Research and Processing Policy - Hon. Balasaheb Thackeray Haridra (Turmeric) Research and Training Centre**: India is the largest producer and consumer of turmeric. The State shares about 25 per cent area under turmeric in the country. To help farmers overcome the difficulties faced during production, processing, marketing and export, Turmeric Research and Processing Policy 2022-2027 for the State has been formulated in September, 2022. To implement this policy, Hon. Balasaheb Thackeray Haridra (Turmeric) Research and Training Centre is being established at Basmath in Hingoli district. GoM has sanctioned ₹ 100 crore for establishing this centre.

7.51 **International Year of Millets 2023**: Due to limited demand, area and production of millets crops is continuously declining. Around 20 years ago, area under these crops was 72.30 lakh ha and the production was 53.16 lakh MT. During 2021-22, the area under these crops was 23.07 lakh ha and the production was 22.69 lakh MT. 'Maharashtra Millet Mission' is being implemented in the State to increase the production of millets. Processing of millets is being encouraged to increase its consumption. Innovative concepts like 'Millet of the month', '*Shet tithe poushtik trundhanya*' are also being implemented in the State to popularise millets.

ALLIED ACTIVITIES

7.52 Animal husbandry, dairy, fishery and forestry are allied activities to agriculture. These activities not only supplement family income but also generate employment opportunities in the rural areas, particularly among landless labourers, small & marginal farmers and women. It also provides nutritious food at low cost.

Animal husbandry

Livestock Census

7.53 As per Livestock Census 2019, the State ranks seventh at national level with total livestock of about 3.31 crore and ranks fifth at national level with total poultry birds 7.43 crore. Livestock and poultry birds in selected states as per Livestock Census 2019 are given in Table 7.28 and time series data is given in Annexure 7.7.

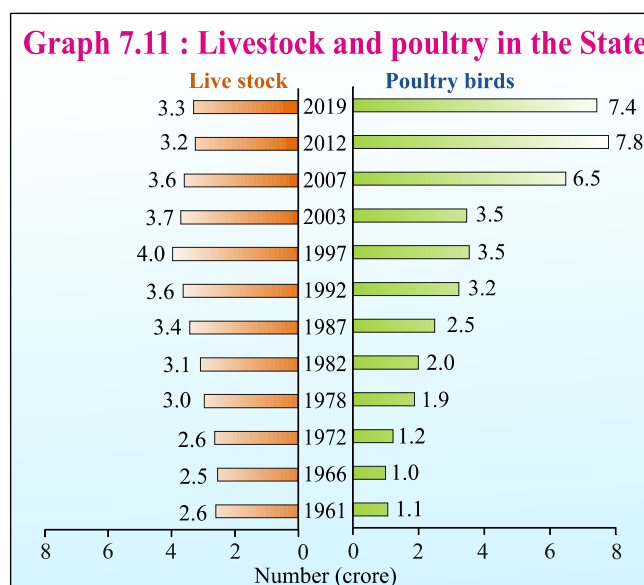
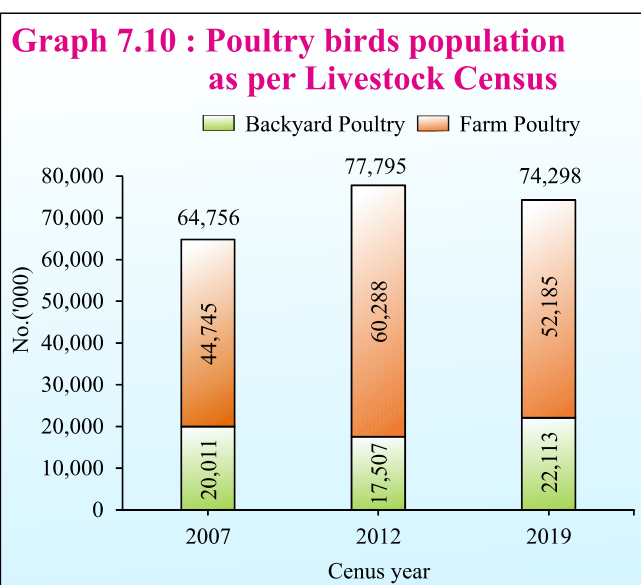
Table 7.28 Livestock and poultry birds in selected states as per Livestock Census 2019

(‘000)

State	Livestock				Total	Total poultry birds [#]
	Cattle	Buffaloes	Sheep and Goats	Other [@]		
Andhra Pradesh	4,601	6,219	23,149	99	34,068	1,07,863
Gujarat	9,634	10,543	6,655	61	26,893	21,773
Karnataka	8,469	2,985	17,220	339	29,013	59,494
Madhya Pradesh	18,751	10,307	11,389	190	40,637	16,660
Maharashtra	13,993	5,604	13,285	198	33,080	74,298
Rajasthan	13,938	13,693	28,744	426	56,801	14,623
Tamil Nadu	9,519	519	14,389	74	24,501	1,20,781
Telangana	4,232	4,226	23,998	185	32,641	79,999
Uttar Pradesh	19,020	33,017	15,465	511	68,013	12,516
All-India	1,93,463	1,09,852	2,23,146	10,300	5,36,761	8,51,810

@ includes pigs, horses & ponies, mules, camels and donkeys # includes birds in poultry farm

Source : Department of Animal Husbandry & Dairying, GoI



Veterinary health care infrastructure of the State Government

7.54 The State has provided facilities for animal health care upto village level through a network of the veterinary institutions. Veterinary health care infrastructure of the State Government is given in Table 7.29.

Table 7.29 Veterinary health care infrastructure of the State Government

(As on 31st March, 2022)

Veterinary region	Polyclinics [#]	Mini polyclinics	Veterinary dispensaries		Mobile veterinary clinics	Total [#]	District artificial insemination centres
			Grade I	Grade II			
Mumbai	6	20	138	359	12	535	5
Nashik	5	25	366	491	6	893	5
Pune	6	26	458	559	7	1,056	5
Aurangabad	4	20	161	288	2	475	4
Latur	5	20	164	291	3	483	4
Amravati	6	28	191	394	17	636	5
Nagpur	7	30	263	459	18	777	6
State	39	169	1,741	2,841	65	4,855	34

includes six polyclinics attached to Veterinary colleges at Mumbai, Parbhani, Nagpur, Shirval (Satara), Udgir (Latur) & Akola

Source : Office of the Commissioner of Animal Husbandry, GoM

7.55 Veterinary medical facilities are provided for various diseases and vaccination programmes are implemented through veterinary institutions of the State. Cases treated and vaccinated are given in Table 7.30.

Table 7.30 Cases treated and vaccinated

(‘000)

Particulars	2020-21	2021-22	2022-23 ⁺
General treatment	15,479	14,252	8,110
Castration	761	689	304
Major operation	43	47	25
Minor operation	426	375	151
Vaccination (including poultry)	48,490	32,122	35,239

Source : Office of the Commissioner of Animal Husbandry, GoM

+ upto November

Artificial Insemination

7.56 Frozen semen laboratories are located at Pune, Nagpur & Aurangabad where semen straws are prepared and distributed to veterinary institutions through artificial insemination centres of 34 districts. Information about Artificial Insemination (AI) is given in Table 7.31.

Table 7.31 Information about Artificial Insemination

(‘000)

Particulars	2020-21	2021-22	2022-23 ⁺
I) Cow (AI)	1,507	2,027	736
Exotic	158	201	71
Cross breed	900	1,360	434
Indigenous	449	466	231
No. of calves born (Cow)	558	692	271
Cross breed	413	525	193
Indigenous	145	168	78
II) Buffalo (AI)	594	885	270
No. of calves born (Buffalo)	229	308	101

Source : Office of the Commissioner of Animal Husbandry, GoM

+ upto November

Nationwide Artificial Insemination Programme

7.57 Nationwide Artificial Insemination Programme (NAIP) is being implemented in 33 districts (except Kolhapur) of the State with an objective of genetic upgradation of cows & buffaloes using High Genetic Merit (HGM) bull semen. NAIP Phase I, II and III have been implemented during 2019-20, 2020-21 and 2021-22 respectively. NAIP Phase IV is being implemented in the State since August, 2022. Upto November, 2022 in all 31.15 lakh artificial inseminations have been performed under NAIP and expenditure of ₹ 9.50 crore is incurred.

Rashtriya Gokul Mission

7.58 *Rashtriya Gokul* Mission is being implemented in the State since 2014-15 with the following objectives

- Development and conservation of indigenous breeds of bovines
- Enhancing milk production & productivity of bovine population by increasing disease free HGM female population and control on spread of diseases
- Bringing all breedable bovine females under organised breeding policy through AI or natural service using germ plasm of HGM
- Arranging quality AI services at farmers' doorstep

7.58.1 Since inception upto November, 2022 GoI has released funds of ₹ 68.97 crore. Progress of *Rashtriya Gokul* mission is given in Table 7.32.

Table 7.32 Progress of *Rashtriya Gokul* Mission

Activity	Expenditure incurred (₹ Crore)
Strengthening of two bull mother farms and procurement of 600 high genetic <i>Gaolao</i> cows & <i>Pandharpuri</i> buffaloes at each mother farm	8.30
Establishment / Strengthening of Embryo Transfer (ET) and In-vitro Fertilization (IVF) Laboratories	11.09
Purchase of sex sorted semen of genetic merit bulls	0.81
<i>Pashusanjivani</i> (purchase of tags for identifying animals, tag applicators, tabs and computerisation, printing of health cards, etc.)	3.82
Other (Purchase of bulls, Establishment of Breeders Association, training, managerial expenses, purchase of biodegradable hand gloves, purchase of AI equipments, etc.)	7.42

Source : Office of the Commissioner of Animal Husbandry, GoM

National Livestock Mission

7.59 National Livestock Mission (NLM) was launched by GoI in 2014-15, by merging various schemes of sheep, goat, poultry, pig, livestock insurance, feed & fodder development, skill development, technology transfer and animal husbandry extension activities for socially and economically backward classes. The NLM is revised and realigned from 2021-22. The revised mission aims toward employment generation, entrepreneurship development, increase in per animal productivity and to create forward linkage for the produce available with the unorganised sector to the organised sector. The realigned NLM have three sub-missions viz. Breed development of livestock & poultry, feed & fodder development and Innovation & extension. Under the realigned mission during 2022-23, upto November about 2,375 online applications are received.

Livestock insurance scheme

7.60 Livestock insurance scheme is being implemented in the State by Maharashtra Livestock Development Board since 2006-07. The main objective of the scheme is to provide protection to livestock holders against any eventual losses due to death of animals because of natural calamity, accident or disease. For this scheme GoI sanctioned ₹ 2.12 crore for 2021-22 and ₹ 5.03 crore for 2022-23.

National Animal Disease Control Programme

7.61 National Animal Disease Control Programme is being implemented in the State since 2019-20 to achieve effective control on Foot & Mouth Disease (FMD) and Brucellosis by 2024-25 and complete eradication by 2029-30.

7.61.1 During first round of vaccination from 1st September, 2020 to 30th November, 2020, in all 1.47 crore animals were vaccinated against FMD. In the second round of vaccination from 15th September, 2021 to 31st January, 2022 in all 1.69 crore animals were vaccinated. The third round of vaccination is being implemented in the State since 8th December, 2022. In all 19.22 lakh animals were vaccinated upto the end of December, 2022.

7.61.2 Brucellosis control vaccination has begun in the State from 1st July, 2022. Bovine calves of the age group four to eight months are given one lifetime preventive dose of vaccine. Upto October, 2022 about 2.73 lakh bovine calves were vaccinated.

Lumpy Skin Disease

7.62 The State has experienced outbreak of Lumpy skin disease (LSD) from 2020-21 and has taken timely corrective measures. The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009 is invoked in the State to arrest the outbreak of LSD. Task forces have been formed for minimising financial loss by managing communicable diseases in a scientific manner at district, division and state level.

7.62.1 During 2020-21, in all 2.68 lakh bovines from 25 districts were infected. GoI provided funds of ₹ 30.85 lakh and 20.14 lakh animals were vaccinated. During 2021-22, in all 36,304 animals from 10 districts were infected and 12.73 lakh animals were vaccinated. During 2022-23 upto December, four lakh animals from 35 districts were infected and 138.9 lakh animals were vaccinated.

7.62.2 Since first outbreak of LSD in the State in 2020-21 upto December, 2022 about 28,437 animals have died. A compensation of ₹ 41.88 crore was given to 16,539 livestock owners.

Special project to increase milk production in Vidarbha & Marathwada region

7.63 GoM has started a special project in collaboration with National Dairy Development Board (NDDB) and Mother Dairy Fruit & Vegetable Pvt. Ltd. to increase milk production in 11 districts of Vidarbha & Marathwada regions viz. Akola, Amravati, Buldhana, Chandrapur, Jalna, Latur, Nagpur, Nanded, Osmanabad, Wardha & Yavatmal. This project includes fodder development programme, supply of quality cattle feed, supply of cattle feed supplements (mineral mixture) and veterinary services such as AI service at doorstep, vaccination, eradication of ticks & flies, infertility & treatment camps, etc. During 2021-22, in all 11.36 lakh AI were performed, 5.58 lakh animals were treated for infertility, 51.46 lakh animals were treated for various diseases and 118.44 lakh vaccinations were carried out. Since inception of the project upto October, 2022 expenditure of ₹ 45.72 crore was incurred. NDDB has collected 619 lakh litre of milk (2,45,132 litre daily) through 1,885 milk collection centres consisting of 27,117 villagers.

Chief Minister Animal Health Scheme

7.64 Chief Minister Animal Health Scheme aims at establishing mobile veterinary clinics in rural areas to provide veterinary services to remote, hilly and tribal villages. Farmers/livestock owners get medical treatment for their animals at their doorstep through these mobile veterinary health clinics. These veterinary clinics also provide services like preventive vaccination, artificial insemination, guidance regarding diet & health of animals and information about various schemes. At the end of November, 2022 in all 73 mobile veterinary clinics are functioning and a call centre to facilitate services of the mobile veterinary clinics is established. During May, 2021 to March, 2022, a total of 45,276 farmers/ livestock owners received online information while services were given to 5,010 animals. During April, 2022 to November, 2022, a total

of 37,801 farmers/ livestock owners received online information and services were given to 6,148 animals.

Fodder Development

7.65 Fodder cultivation and fodder production is implemented under district plan scheme in the State. During 2021-22, about 658.76 lakh saplings and 1,266.8 MT seeds were distributed and 30.60 thousand hectare of area was brought under fodder cultivation. Expenditure incurred was ₹ 13.17 crore and 25.84 lakh MT fodder production was expected.

Raje Yashwantrao Holkar Mahamesh Yojana

7.66 The scheme aims at promotion of sheep rearing for Nomadic Tribes-C beneficiaries. Under the scheme, 75 per cent subsidy is given for sheep unit (20 females + one male), distribution of improved male sheep, providing infrastructure for sheep rearing & balanced feed for each sheep unit and 50 per cent subsidy given for purchasing of mini silage baler-cum-wrapper machine & installation of animal feed units. During 2019-20 to 2021-22, sheep units were distributed to 1,303 beneficiaries, infrastructure for sheep rearing was provided to 139 beneficiaries, improved rams were distributed to 236 beneficiaries and balanced feed was provided to 1,600 sheep.

7.67 Various schemes are implemented in the State to uplift rural poor through livestock rearing, creating entrepreneurship and generating employment in rural areas. Progress of selected State level schemes is given in Table 7.33.

Table 7.33 Progress of selected State level schemes

Scheme	2019-20		2020-21		2021-22	
	Beneficiaries (no.)	Expenditure incurred (₹ Lakh)	Beneficiaries (no.)	Expenditure incurred (₹ Lakh)	Beneficiaries (no.)	Expenditure incurred (₹ Lakh)
Distribution of 6/4/2 Milch animal group	2,124	960	1,922	897	6,133	2,807
Distribution of Stall-fed group of 10 females & 1 male goat	1,848	829	1,656	730	5,602	2,774
Poultry farming (avocation) by rearing 1,000 broiler birds	674	879	492	591	1,217	1,529

Source : Office of the Commissioner of Animal Husbandry, GoM

Poultry development

7.68 The State has established four central hatcheries in Aurangabad, Kolhapur, Nagpur and Pune with the following objectives:

- To produce and supply improved chicks, pullets & hatching eggs to farmers at government approved rate
- To make arrangement to distribute improved variety of eggs, day old chicks and cockerels & pullets to beneficiaries under different poultry schemes
- To supply improved birds for rural poultry farming
- To impart poultry farming training to farmers, women self-help groups, educated unemployed youths, students, etc.
- To give technical advice and motivate farmers for poultry farming

The poultry birds supplied through central hatcheries during 2021-22 were 3.60 lakh as against 3.39 lakh during 2020-21.

Swayam Prakalp

7.69 The project is implemented since 2017-18 in scheduled areas of 16 tribal districts of the State to supply eggs for inclusion in childrens' diet in *Anganwadi* and creation of self-employment. The project aims at creating 104 mother units of poultry to supply 45 chicks of four weeks old to beneficiaries for rearing. The beneficiaries are motivated to raise the flock of 45 birds to 100 birds by hatching eggs domestically so as to have sustainable and significant source of income. The eggs produced are being supplied to children in *anganwadis* for protein nourishment. The total project cost is ₹ 22.56 crore. Capacity building of beneficiaries is carried under Maharashtra State Rural Livelihood Mission. During 2021-22, in all 100 mother units were established and 15.40 lakh four weeks old birds were distributed to 40,963 beneficiaries for self-employment generation.

Control of Bird Flu and other diseases

7.70 The State has taken corrective measures to arrest the outbreak of Avian Influenza (Bird Flu) during 2021 and managed to restrict the disease. The losses aroused due to culling of the birds were also compensated.

7.70.1 As per Avian Influenza Action Plan, 2021 all poultry birds, eggs, poultry feed and droppings from poultry farms within radius of one km from infected poultry farms have been destroyed scientifically. During 2021-22, in all 10.66 lakh poultry birds were culled, 60.76 lakh eggs & 322 MT poultry feed from the infected area was destroyed and compensation of ₹ 13.01 crore was given to poultry farmers.

Major livestock products

7.71 During 2020-21, the State was the first largest meat producer with 12.6 per cent share. The State ranks sixth in milk production and per capita availability of milk in the State is 305 gram per day as against 427 gram per day at the national level. The State ranks fifth in eggs production and per capita availability of eggs in the State is 52 eggs per annum as against 98 eggs per annum at the national level. Livestock and poultry products in the State are given in Table 7.34 and livestock and poultry products in selected states during 2020-21 are given in Table 7.35.

Table 7.34 Livestock and poultry products in the State

Year	Meat ('000 MT)	Milk ('000 MT)	Egg (Crore)	Wool ('000 kg)
2018-19	1,021 (12.6)	11,655 (6.2)	596 (5.7)	1,457 (3.6)
2019-20	1,140 (13.3)	12,024 (6.1)	637 (5.6)	1,412 (3.8)
2020-21	1,109 (12.6)	13,703 (6.5)	640 (5.3)	1,550 (4.2)

Note: Figures in bracket indicate percentage share to All-India

Source : Basic Animal Husbandry Statistics-2021, Department of Animal Husbandry and Dairying, GoI

Table 7.35 Livestock and poultry products in selected states during 2020-21

State	Meat ('000 MT)	Milk ('000 MT)	Egg (Crore)	Wool ('000 kg)
Andhra Pradesh	954	14,714	2,496	0
Gujarat	33	15,853	193	2,004
Karnataka	364	10,936	762	1,052
Madhya Pradesh	116	17,999	265	431
Maharashtra	1,109	13,703	640	1,550
Rajasthan	213	30,723	280	15,676
Tamil Nadu	669	9,790	2,012	2
Telangana	920	5,765	1,585	3,366
Uttar Pradesh	1,038	31,359	363	886
All-India	8,798	2,09,960	12,205	36,931

Source : Basic Animal Husbandry Statistics-2021, Department of Animal Husbandry and Dairying, GoI

Dairy Development

7.72 Dairy is a supplementary activity to agriculture, which has potential for generating additional income & employment opportunities for the rural households besides improving nutrition levels. Milk production and per capita availability of milk are given in Table 7.36 and regionwise milk production is given in Table 7.37.

Table 7.36 Milk production and per capita availability of milk

Year	Milk production (Lakh MT)		Per capita availability (gram per day)	
	State	All-India	State	All-India
2018-19	116.55	1,877.49	264	390
2019-20	120.24	1,984.40	269	406
2020-21	137.03	2099.60	305	427

Source: Basic Animal Husbandry Statistics -2021, Department of Animal Husbandry and Dairying, GoI

Graph 7.12 : Average daily collection of milk by co-operative and government dairies

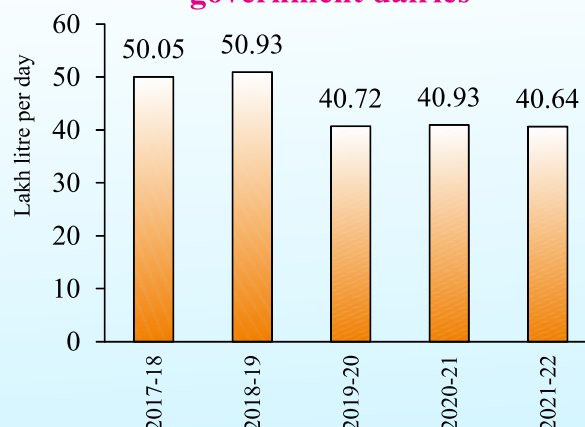


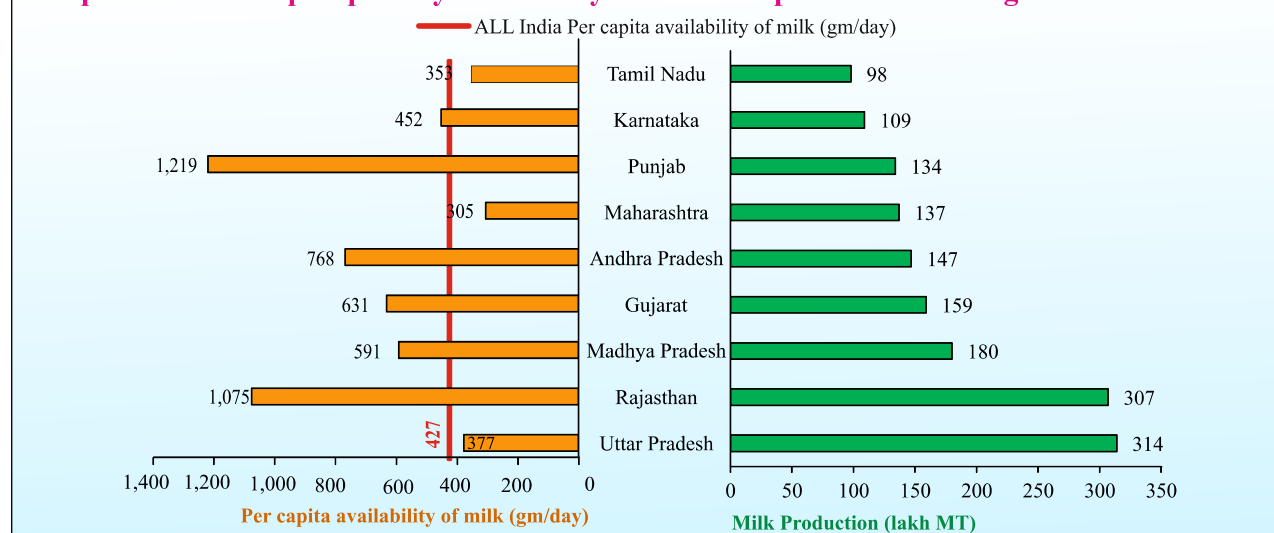
Table 7.37 Regionwise milk production

Region	(Lakh MT)		
	2018-19	2019-20	2020-21
Konkan	5.52	5.70	4.64
Nashik	33.34	34.40	36.68
Pune	49.58	51.14	62.41
Aurangabad	17.04	17.58	20.86
Amravati	6.10	6.29	6.51
Nagpur	4.97	5.13	5.93
State	116.55	120.24	137.03

Source: Office of the Commissioner of Animal Husbandry, GoM

7.73 At the end of March, 2022, there were 103 milk processing plant with capacity of 135.72 lakh litre per day and 122 chilling centres with capacity 36.57 lakh litre under co-operative sector. The average daily collection of milk by government & co-operative dairies was 0.39 lakh litre & 40.25 lakh litre during 2021-22 and 0.06 lakh litre & 37.92 lakh litre respectively during 2022-23 upto November. There were 215 cold storages with capacity of 11,276 MT, of which 196 cold storages with capacity of 10,881 MT were with private sector during 2022-23.

Graph 7.13 : Per capita per day availability of milk and production during 2020-21



Fisheries

7.74 The State has a coastline of 720 km with 1.12 lakh sq km area suitable for marine fishing. The State has developed 173 fish landing centers. During 2021-22, there were 15,224 marine fishing boats in operation, of which 13,172 were mechanised.

7.74.1 The area suitable for inland and brackish water fishing in the State is 3.49 lakh ha and 0.17 lakh ha respectively. There are 32 fish seed production centers in the State with 180.25 crore spawn production capacity per year to cater inland fishing. Fish production and exports are given in Table 7.38.

7.75 Under RKVY, development of 25 fishing jetties worth ₹ 177 crore have been undertaken since 2011-12, of which works of 15 jetties have been completed and works of seven jetties are in progress.

Pradhan Mantri Matsya Sampada Yojana

7.76 GoI launched *Pradhan Mantri Matsya Sampada Yojana* (PMMSY) on 20th May, 2020 for a period of five years. PMMSY is designed to address critical gaps in fish production & productivity, quality, technology, post-harvest infrastructure & management, modernisation & strengthening of value chain, establishing a robust fisheries management and fishers' welfare.

7.76.1 During 2020-21 under PMMSY, the State Level Approval and Monitoring committee approved a total amount of ₹ 63.75 crore for 376 beneficiaries, of which GoI, GoM and beneficiaries' share was ₹ 20.09 crore, ₹ 13.39 crore and ₹ 30.27 crore respectively. During 2021-22, the State Level Approval and Monitoring committee approved ₹ 216.54 crore for 1,142 beneficiaries of which GoI, GoM and beneficiaries' share was ₹ 71.85 crore, ₹ 47.90 crore and ₹ 96.79 crore respectively.

7.76.2 Major activities sanctioned under *Pradhan Mantri Matsya Sampada Yojana* are given in Table 7.39.

Table 7.38 Fish production and exports

Item	Unit	2020-21	2021-22	2022-23 ⁺
Fish production	Lakh MT			
Marine		3.99	4.33	0.45
Inland		1.25	1.57	0.31
Total		5.24	5.89	0.76
Gross value	₹ Crore			
Marine		6,006	6,655	1,088
Inland		1,659	1,915	NA
Total		7,665	8,570	1,088
Export of fish				
Quantity	Lakh MT	1.11	1.86	NA
Value	₹ Crore	3,681	5,878	NA

NA Not available

+ upto June

Source : Office of the Commissioner of Fisheries, GoM

Table 7.39 Major activities sanctioned under *Pradhan Mantri Matsya Sampada Yojana*

(2021-22)

Activity	No of beneficiaries	Cost (₹ Crore)
Installation of Cages in Reservoirs under cage fish farming	83	41.52
Establishment of Small/Medium/large Recirculating Aquaculture System (RAS)	235	41.18
Establishment of Cold storage / Ice manufacturing plant (storage of minimum 10/20/30/50 ton capacity)	37	37.06
Fish Feed Mills with production capacity 2/8/20 ton/day	46	22.10
Construction of New Growout Ponds	111	6.88
Open Sea cage culture (100-120 m ³)	9	4.50
Inputs for Freshwater Aquaculture including Composite Fish Culture, Scampi, Pangasius, Tilapia, etc.	111	3.93
Construction of Biofloc ponds for Freshwater areas including inputs of ₹ four lakh/ha	24	3.76
Establishment of New Freshwater Finfish Hatcheries	12	3.00
Other activities	474	52.61

Source : Office of the Commissioner of Fisheries, GoM

7.77 Cage culture fish farming is being implemented under PMMSY to increase fish production in the State. During 2022-23, in all 6,454 cages are sanctioned for inland fishing in 97 water reservoirs in the State. Since inception upto November, 2022 in all 5,664 cages are erected and 11,328 MT of fish production is expected.

7.78 A compensation scheme for the fishermen is being implemented in the State in which the fishermen are encouraged to cut their fishing nets to release marine animals viz. Whale, Shark, Dolphin, Sea Turtle, etc., protected under the Wildlife (Protection) Act, 1972 which get entangled in the fishing nets. Upon successful release of these animals back to the sea and submission of evidence, financial compensation (maximum upto ₹ 25,000 per case) is given to the fishermen. During 2021-22, in all 101 protected animals were released by the fishermen and a total compensation of ₹ 13.77 lakh was given to them. During 2022-23 upto December, total compensation of ₹ 4.80 lakh was given to 38 fishermen.

Sericulture

7.79 Sericulture is an agro-based industry which has high potential to generate employment opportunities in rural areas. Mulberry silk development programme is being implemented in 24 districts of the State. Mulberry plantation and silk production is given in Table 7.40.

Table 7.40 Mulberry plantation and silk production

Item	Unit	2020-21	2021-22	2022-23 ⁺
Area under plantation				
Total	ha	15,897	14,905	13,835
Old	ha	11,117	11,094	10,378
New	ha	4,780	3,811	3,457
Beneficiaries (farmers)	no.	15,073	14,296	13,030
Supply of disease free layings	Lakh	45.82	51.40	38.40
Cocoon production	MT	2,754.23	3,356.56	2,630.40
Production of raw silk	MT	423.71	516.39	404.70
Employment generated (mandays)	Lakh	46.60	56.81	44.50

Source : Directorate of Sericulture, GoM

+ upto December

7.79.1 Tasar silk development programme is being implemented in four districts of the State viz. Bhandara, Chandrapur, Gadchiroli and Gondia. Area under plantation of Ain and Arjun trees (on which Tasar silkworms are grown) in these four districts is 18,866 ha. During 2021-22 production of raw Tasar silk was 7.33 MT where as during 2022-23 upto December, it was 8.74 MT.

Forest

7.80 The forest area of the State at the end of March, 2022 was 61,907.08 sq km which was about 20.1 per cent of geographical area of the State. Of the total forest area in the State 55,827.96 sq km is under the jurisdiction of Forest department, about 3,461.91 sq km area is under the jurisdiction of Forest Development Corporation of Maharashtra (FDCM) and 1,434.31 sq km of area is under the jurisdiction of Revenue department. In addition to these 1,182.90 sq km of private forest is brought under possession of Forest department.

7.80.1 As per India State of Forest Report (ISFR) 2021, the total forest cover in the State is 50,798 sq km showing an increase of 20 sq km over that reported in ISFR 2019. The forest cover of the State is 16.5 per cent of the geographical area as against the goal of 33 per cent envisaged in the National Forest Policy, 1988. Of the total forest cover of the State the very dense forest constitutes 17.2 per cent, moderately dense forest constitutes 40.5 per cent and open forest constitutes 42.3 per cent. Forest circlewise distribution of forest area is given in Table 7.41 and forest cover of selected states is given in Table 7.42.

Table 7.41 Forest circlewise distribution of forest area

(as on 31st March, 2022)

Forest circle	Forest area (sq km)				Percentage to total forest area
	Reserved	Protected	Unclassed	Total	
Gadchiroli	11,229.87	1,403.05	264.30	12,897.22	20.8
Nagpur	4,454.17	2,156.26	1,142.58	7,753.01	12.5
Dhule	6,148.11	57.06	222.91	6,428.08	10.4
Thane	4,443.05	1,161.37	241.88	5,846.30	9.4
Nashik	4,994.05	238.43	54.10	5,286.58	8.5
Amravati	5,054.52	14.08	14.23	5,082.83	8.2
Chandrapur	3,835.68	877.66	123.47	4,836.81	7.8
Kolhapur	3,381.73	364.37	777.05	4,523.15	7.3
Yavatmal	3,368.70	6.30	95.86	3,470.86	5.6
Aurangabad	2,917.28	74.47	173.67	3,165.42	5.1
Pune	2,468.78	0.03	148.01	2,616.82	4.2
State	52,295.94	6,353.08	3,258.06	61,907.08	100.0

Source : Office of the Principal Chief Conservator of Forest, GoM

Table 7.42 Forest cover of selected states

(sq km)

State	Geographical area	Total forest cover	Percentage of forest cover to geographical area
Andhra Pradesh	1,62,968	29,784	18.3
Gujarat	1,96,244	14,926	7.6
Karnataka	1,91,791	38,730	20.2
Kerala	38,852	21,253	54.7
Madhya Pradesh	3,08,252	77,493	25.1
Maharashtra	3,07,713	50,798	16.5
Rajasthan	3,42,239	16,655	4.9
Telangana	1,12,077	21,214	18.9
Uttar Pradesh	2,40,928	14,818	6.2
All- India	32,87,469	7,13,789	21.7

Source : India State of Forest Report, 2021

Tree cover

7.81 Tree cover means patches of trees as well as isolated trees of less than one ha area located outside the recorded forest area. As per the ISFR, 2021 the State ranks first at national level with tree cover 12,108 sq km. Forest cover, tree cover and carbon stock is given in Table 7.43.

Table 7.43 Forest cover, Tree cover and Carbon stock

(sq km)

Year	Forest cover					Scrub forest	Tree cover	Carbon stock (MT)
	RFA	Very dense	Moderately dense	Open forest	Total			
2013	Within	8,369	15,962	13,132	37,463			
	Outside	351	4,808	8,010	13,169			
	Total	8,720	20,770	21,142	50,632	4,157	9,142	NA
2015	Within	8,361	15,939	13,143	37,443			
	Outside	351	4,808	8,026	13,185			
	Total	8,712	20,747	21,169	50,628	4,157	9,558	NA
2017	Within	8,027	14,168	11,596	33,791			
	Outside	709	6,484	9,698	16,891			
	Total	8,736	20,652	21,294	50,682	4,160	9,831	493
2019	Within	8,200	14,477	11,962	34,639			
	Outside	521	6,095	9,523	16,139			
	Total	8,721	20,572	21,485	50,778	4,256	10,806	441
2021	Within	8,476	15,068	12,496	36,040			
	Outside	258	5,521	8,979	14,758			
	Total	8,734	20,589	21,475	50,798	4,247	12,108	452

Source : India State of Forest Report

RFA Recorded forest area

NA Not available

Wild life, National Parks and Sanctuaries

7.82 There are six national parks, 50 sanctuaries and 23 conservation reserves in the State to preserve and conserve wildlife. Tiger census is carried out quadrennially by National Tiger Conservation Authority. According to Status of Tigers in India, 2018 report estimated number of tigers in the State were 312 as against 190 in 2014. Area of wildlife projects and expenditure incurred are given in Table 7.44.

Table 7.44 Area of wildlife projects and expenditure incurred

Project	Area (sq km)		Expenditure incurred (₹ Crore)		
	Core	Buffer	2019-20	2020-21	2021-22
Tiger Project					
<i>Melghat</i>	1,500.49	1,268.04	23.67	19.84	21.37
<i>Tadoba-Andhari</i>	625.82	1,101.77	15.40	10.78	34.41
<i>Pench</i>	257.26	483.96	14.80	10.83	8.90
<i>Sahyadri</i>	511.87	565.45	8.17	1.05	2.96
<i>Navegaon-Nagzira</i>	653.67	1,241.27	12.94	4.02	11.76
<i>Bor</i>	138.12	678.14	5.70	3.72	3.36
Development of National Parks/Sanctuaries	-	-	8.55	4.47	-
Elephant Project, Kolhapur	Area not specified		0.43	0.27	-

Source : Office of the Principal Chief Conservator of Forest, GoM

Forest Produce

7.83 Forest provides major produce like timber & firewood and minor produce like bamboo,

Table 7.45 Production and value of forest produce

(₹ Crore)

Forest produce	Unit of production	2020-21		2021-22		2022-23 [@]	
		Production	Value	Production	Value	Production	Value
(A) Major forest produce**							
Timber	LCM	1.00	309.47	1.83	545.46	1.54	538.40
Firewood	LCM	1.50	37.10	2.07	65.92	2.07	55.31
Total (A)	LCM	2.50	346.57	3.90	611.38	3.61	593.71
(B) Minor forest produce							
Bamboo**	LMT	12.11	16.96	9.47	20.87	9.51	13.46
Tendu leaves	LSB	1.76	36.50	2.42*	54.95*	2.25	72.50
Grass	MT	253.00	0.10	1031*	0.15*	NA	NA
Gum	Quintal	3,285.50	0.15	2,461.5*	0.15*	NA	NA
Others (Lac, Hirda, Shikekai, etc.)	-	NA	5.81	NA	1.37*	NA	NA
Total (B)			59.52		77.49		85.96
Total (A + B)			406.09		688.87		679.67

* Provisional

@ expected

NA Not available

** including data of FDCM

LCM Lakh Cubic Metre

LMT Lakh Metric Tonne

LSB Lakh Standard Bags (1Bag is 1,000 bundles of 50 tendu leaves)

Source : Office of the Principal Chief Conservator of Forest, GoM

tendu leaves, gum, grass, etc. Production and value of forest produce is given in Table 7.45.

Tree Plantation

7.84 Tree plantation programme is mainly implemented in the State through Forest Department, FDCM and Directorate of Social Forestry. An amount of ₹ 349.42 crore was spent on plantation activity during 2021-22. Area under tree plantation and expenditure incurred is given in Table 7.46.

Table 7.46 Area under tree plantation and expenditure incurred

Year	Forest Dept.		FDCM		Social Forestry			
	Area (ha)	Expenditure incurred (₹ Crore)	Area (ha)	Expenditure incurred (₹ Crore)	Area (ha)	Length [@] (km)	Expenditure incurred (₹ Crore)	Plants supplied (crore)
2018-19	51,724	200.88	4,633	22.79	12,620	Nil	210.56	15.89
2019-20	1,02,987	388.35	8,987	89.72	21,032	17,858	521.94	35.14
2020-21	7,234	46.70	2,361	17.57	3,302	1,224	51.92	35.14
2021-22	10,698	98.76	11,835	12.65	7,413	7,238	238.01	NA

Source : Office of the Principal Chief Conservator of Forest, GoM NA Not available

@ includes plantation along road side

Social Forestry

7.85 Various social forestry schemes are being implemented in the State. Under social forestry, seedlings are planted on community land & along roads/railways/canals, etc. Seedlings are also provided to various institutions, *gram panchayats* & individuals for plantations. Major social forestry schemes is given in Table 7.47.

Table 7.47 Major social forestry schemes

Schemes	Unit	2020-21	2021-22	2022-23 ⁺
Seedlings planted on community land	Lakh	18.49	80.28	82.12
	seedlings			
a) Block Plantation	ha	951.00	6,279.17	5,416.96
b) Road / railway/ canal side Plantation	km	1,385.00	4,780.33	6,034.75
Seedlings supplied to <i>Gram panchayat</i> institutions and individuals	Lakh	5.74	27.05	39.40
	seedlings			
MGNREGA Scheme				
a) Farm bund plantation unit	Lakh	0.86	1.50	1.09
	seedlings			
b) Agroforestry Plantation	Lakh	11.49	10.01	2.63
	seedlings			
<i>Kanya Van samruddhi Yojana</i>	Lakh	0.20	1.22	0.38
	seedlings			

Source : Office of the Principal Chief Conservator of Forest, Social Forestry, GoM

+ upto November

Sant Tukaram Vangram Yojana

7.86 *Sant Tukaram Vangram Yojana* is launched to create awareness about the importance of forest & wild life, to protect the forest from illegal tree cutting, encroachments, etc. Under the scheme 12,081 Joint Forest Management Committees (JFMC) are formed in 15,500 villages. About 27.04 lakh ha of forest area is under the management of JFMCs.

Mangroves conservation

7.87 As per India State of Forest Report 2021, the total mangrove cover of the State is 324 sq km area showing an increase of four sq km over that reported in ISFR 2019. For conservation of mangroves, about 11,548 ha of mangroves have been declared as reserved forests under section 20 of the Forest Protection Act, 1927.

7.87.1 The State is implementing Mangrove Conservation and Livelihood Generation Scheme since 2017 with the participation of local communities across coastal stretch of the State covering over 145 villages from Palghar, Thane, Raigad, Ratnagiri and Sindhudurg districts. During 2022-23, the State has allocated funds of ₹ 15.80 crore for upscaling various livelihood activities such as Mud Crab Farming, Fish Cage Culture, Oyster & Mussel Farming, Ornamental Fish Culture, Eco-tourism and mangrove plantation under the scheme. These activities can be taken up as group activity or as an individual beneficiary. The group is entitled to receive 90 per cent subsidy, while individual beneficiary (land owners with more than one acre of mangroves) is entitled to get 75 per cent subsidy. During 2021-22, a profit of ₹ 57.28 lakh was earned by beneficiaries for 20 ha of mangrove plantation whereas, during 2022-23 upto October, profit of ₹ 95 lakh was earned by beneficiaries on 77.44 ha of mangrove plantation.

* * * * *

ANNEXURE 7.1

TOTAL NUMBER, AREA AND AVERAGE SIZE OF OPERATIONAL HOLDINGS IN THE STATE ACCORDING TO AGRICULTURAL CENSUSES

Sr. No.	Size class (ha)	Number of operational holdings ('00)							
		1970-71	1980-81	1990-91	1995-96	2000-01	2005-06	2010-11	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Below 0.5	6,834	9,914	16,672	22,409	27,462	31,658	36,457	43,722
2	0.5—1.0	5,585	9,345	16,075	20,252	25,595	29,525	30,633	34,436
3	1.0—2.0	8,783	15,409	27,276	31,755	36,056	41,503	40,523	43,392
4	2.0—3.0	6,266	10,275	13,969	14,745	15,791	17,020	15,463	16,964
5	3.0—4.0	4,606	6,583	7,289	6,774	6,949	7,496	6,128	6,306
6	4.0—5.0	3,576	4,601	4,469	3,874	3,780	4,037	3,142	3,353
7	5.0—10.0	8,715	9,316	7,241	5,558	4,873	5,214	3,964	3,984
8	10.0—20.0	4,180	2,819	1,530	1,029	773	622	590	576
9	20.0 and above	961	363	176	132	97	81	89	121
	Total	49,506	68,625	94,697	1,06,528	1,21,376	1,37,156	1,36,989	1,52,854

Sr. No.	Size class (ha)	Area of operational holdings ('00 ha)							
		1970-71	1980-81	1990-91	1995-96	2000-01	2005-06	2010-11	2015-16
(1)	(2)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	Below 0.5	1,634	2,630	4,119	5,746	7,328	7,740	9,180	10,278
2	0.5—1.0	4,142	7,103	12,057	15,120	19,159	20,274	22,680	24,209
3	1.0—2.0	12,842	23,337	39,833	46,059	51,271	52,476	57,391	57,711
4	2.0—3.0	15,386	25,363	33,689	35,420	37,414	37,542	36,681	38,844
5	3.0—4.0	15,920	22,815	25,108	23,303	23,676	23,756	20,974	21,412
6	4.0—5.0	15,961	20,556	19,864	17,210	16,717	16,717	13,901	14,778
7	5.0—10.0	61,213	63,937	48,700	37,150	32,084	32,135	26,027	26,216
8	10.0—20.0	56,302	37,213	19,749	13,514	9,961	6,776	7,524	7,251
9	20.0 and above	28,394	10,662	6,129	5,274	3,418	2,634	3,314	4,365
	Total	2,11,794	2,13,616	2,09,248	1,98,796	2,01,028	2,00,050	1,97,672	2,05,064

Sr. No.	Size class (ha)	Average size of holdings (ha)							
		1970-71	1980-81	1990-91	1995-96	2000-01	2005-06	2010-11	2015-16
(1)	(2)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1	Below 0.5	0.24	0.27	0.25	0.26	0.27	0.24	0.25	0.24
2	0.5—1.0	0.74	0.76	0.75	0.75	0.75	0.69	0.74	0.70
3	1.0—2.0	1.46	1.51	1.46	1.45	1.42	1.26	1.42	1.33
4	2.0—3.0	2.46	2.47	2.41	2.40	2.37	2.21	2.37	2.29
5	3.0—4.0	3.46	3.47	3.44	3.44	3.41	3.17	3.42	3.40
6	4.0—5.0	4.46	4.47	4.44	4.44	4.42	4.14	4.42	4.41
7	5.0—10.0	7.02	6.86	6.73	6.68	6.58	6.16	6.57	6.58
8	10.0—20.0	13.47	13.20	12.91	13.13	12.89	10.89	12.75	12.59
9	20.0 and above	29.55	29.37	34.82	39.95	35.24	32.52	37.24	36.07
	Total	4.28	3.11	2.21	1.87	1.66	1.46	1.44	1.34

Source - Commissionerate of Agriculture, GoM

ANNEXURE 7.2

LAND UTILISATION STATISTICS OF THE STATE

(Area '000 ha)

Year	Geographical area	Area under forests	Land not available for cultivation		Other uncultivated land			Fallow lands		Cropped Area		Gross cropped area
			Barren and uncultivable land	Land put to non-agricultural uses	Culturable waste land	Permanent pastures and grazing land	Land under miscellaneous tree crops and groves	Current fallows	Other fallows	Net area sown	Area sown more than once	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1986-87	30,758	5,350	1,679	1,152	1,044	1,367	196	909	1,057	18,004	2,320	20,324
1990-91	30,758	5,128	1,622	1,091	966	1,125	301	898	1,063	18,565	3,295	21,859
1995-96	30,758	5,148	1,544	1,349	960	1,166	292	1,072	1,248	17,980	3,524	21,504
2000-01	30,758	5,150	1,544	1,364	959	1,168	327	1,126	1,276	17,844	3,775	21,619
2005-06	30,758	5,212	1,720	1,407	914	1,252	249	1,327	1,204	17,473	5,083	22,556
2010-11	30,758	5,216	1,731	1,449	919	1,242	250	1,366	1,179	17,406	5,769	23,175
2011-12	30,758	5,210	1,728	1,450	919	1,243	250	1,378	1,191	17,385	5,720	23,106
2012-13	30,758	5,207	1,721	1,455	916	1,244	250	1,417	1,200	17,343	5,772	23,115
2013-14	30,758	5,205	1,723	1,460	915	1,242	249	1,401	1,192	17,368	6,012	23,380
2014-15	30,758	5,201	1,727	1,482	919	1,249	249	1,399	1,188	17,344	5,929	23,273
2015-16	30,758	5,194	1,731	1,521	887	1,249	251	1,477	1,255	17,191	5,671	22,863
2016-17	30,758	5,194	1,822	1,642	924	1,351	253	1,401	1,257	16,910	6,314	23,224
2017-18	30,758	5,219	1,834	1,650	923	1,287	256	1,365	1,262	16,942	6,326	23,268
2018-19	30,758	5,174	1,849	1,692	924	1,323	272	1,448	1,260	16,815	6,397	23,212
2019-20	30,758	5,222	1,882	1,712	935	1,353	273	1,444	1,215	16,722	6,848	23,570
2020-21	30,758	5,207	1,951	1,726	934	1,365	272	1,438	1,214	16,650	7,248	23,898
2021-22	30,758	5,209	1,975	1,744	943	1,364	274	1,455	1,203	16,590	7,558	24,149

Source - Commissionerate of Agriculture, GoM

Note - Figures for the years 2010-11 to 2019-20 are provisional.

ANNEXURE 7.3

AREA UNDER PRINCIPAL CROPS, PRODUCTION AND YIELD PER HECTARE
IN THE STATEArea : '000 ha
Production : '000 MT
Yield : Kg per ha

Foodgrains										
Sr. No.	Year	Rice			Wheat			Jowar		
		Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	1960-61	1,300	1,369	1,054	907	401	442	6,284	4,224	672
2	1970-71	1,352	1,662	1,229	812	440	542	5,703	1,557	273
3	1980-81	1,459	2,315	1,587	1,063	886	834	6,469	4,409	681
4	1990-91	1,597	2,344	1,467	867	909	1,049	6,300	5,929	941
5	2000-01	1,512	1,930	1,277	754	948	1,256	5,094	3,988	783
6	2010-11	1,516	2,691	1,775	1,307	2,301	1,761	4,060	3,452	850
7	2019-20	1,553	2,897	1,866	1,057	1,793	1,697	2,371	1,865	786
8	2020-21	1,561	3,291	2,109	1,126	2,071	1,839	2,320	2,186	942
9	2021-22	1,575	3,435	2,181	1,132	2,144	1,894	2,285	2,150	941

Sr. No.	Year	Bajra			Other Cereals			All Cereals		
		Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
(1)	(2)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	1960-61	1,635	489	299	480	272	567	10,606	6,755	637
2	1970-71	2,039	824	404	414	254	614	10,320	4,737	459
3	1980-81	1,534	697	454	451	340	754	10,976	8,647	788
4	1990-91	1,940	1,115	575	432	443	1,025	11,136	10,740	964
5	2000-01	1,800	1,087	604	664	544	819	9,824	8,497	865
6	2010-11	1,035	1,123	1,086	1,068	2,749	2,575	8,985	12,317	1,371
7	2019-20	673	512	761	1,322	2,150	1,626	6,976	9,218	1,321
8	2020-21	687	906	1,317	1,385	3,747	2,706	7,079	12,201	1,724
9	2021-22	667	619	928	1,393	3,714	2,667	7,052	12,062	1,710

Sr. No.	Year	Tur			Gram			Moong		
		Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
(1)	(2)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
1	1960-61	530	468	883	402	134	333	0	0	0
2	1970-71	627	271	432	310	87	281	0	0	0
3	1980-81	644	319	495	410	137	335	0	0	0
4	1990-91	1,004	419	417	668	355	532	0	0	0
5	2000-01	1,096	660	602	676	351	519	714	244	341
6	2010-11	1,302	976	750	1,438	1,300	904	554	372	672
7	2019-20	1,319	1,197	907	2,043	2,240	1,096	387	151	390
8	2020-21	1,340	1,450	1,082	2,231	2,397	1,074	401	207	517
9	2021-22	1,419	1,650	1,163	2,372	2,715	1,145	440	211	481

Sr. No.	Year	Udid			Other Pulses			All Pulses		
		Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
(1)	(2)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1	1960-61	0	0	0	1,417	387	273	2,349	989	421
2	1970-71	0	0	0	1,629	319	196	2,566	677	264
3	1980-81	0	0	0	1,661	369	222	2,715	825	304
4	1990-91	0	0	0	1,585	667	421	3,257	1,441	442
5	2000-01	574	205	357	497	177	356	3,557	1,637	460
6	2010-11	482	329	682	262	119	455	4,038	3,096	767
7	2019-20	341	151	444	226	110	487	4,316	3,849	892
8	2020-21	356	227	636	266	163	613	4,595	4,444	967
9	2021-22	380	184	484	210	127	605	4,821	4,887	1,014

(Contd.)

ANNEXURE 7.3 (Concl.)

Area : '000 ha
Production : '000 MT
Yield : Kg per ha

Foodgrains											
Sr. No.	Year	Total Foodgrains			Groundnut			Soyabean			
		Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	
(1)	(2)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	
1	1960-61	12,955	7,744	598	1,083	800	739	0	0	0	
2	1970-71	12,886	5,414	420	904	586	649	0	0	0	
3	1980-81	13,691	9,472	692	695	451	648	0	0	0	
4	1990-91	14,393	12,181	846	864	979	1,132	201	190	947	
5	2000-01	13,382	10,133	757	490	470	958	1,142	1,266	1,109	
6	2010-11	13,023	15,413	1,183	395	470	1,290	2,729	4,316	1,581	
7	2019-20	11,292	13,067	1,157	291	309	1,063	4,124	4,826	1,170	
8	2020-21	11,674	16,646	1,426	309	407	1,318	4,290	6,264	1,460	
9	2021-22	11,873	16,949	1,427	320	401	1,255	4,595	5,500	1,197	

Sr. No.	Year	Safflower			Other Oilseeds			All Oilseeds		
		Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
(1)	(2)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)
1	1960-61	331	0	0	454	0	0	1,868	0	0
2	1970-71	406	102	252	408	65	159	1,718	753	438
3	1980-81	480	174	363	605	103	170	1,780	728	426
4	1990-91	634	258	408	1,127	455	404	2,826	1,882	666
5	2000-01	296	122	412	631	241	382	2,559	2,099	820
6	2010-11	173	94	544	331	176	532	3,628	5,056	1,394
7	2019-20	22	15	691	90	28	312	4,526	5,178	1,144
8	2020-21	21	12	569	105	36	343	4,725	6,719	1,422
9	2021-22	28	21	749	91	32	351	5,033	5,954	1,183

Cash crops											
Sr. No.	Year	Sugarcane			Cotton (lint)			Tobacco			
		Harvested Area	Production	Yield (in MT)	Area	Production	Yield	Area	Production	Yield	
(1)	(2)	(57)	(58)	(59)	(60)	(61)	(62)	(63)	(64)	(65)	
1	1960-61	155	10,404	67	2,500	1,673	114	25	12	480	
2	1970-71	167	14,433	87	2,750	484	30	12	5	448	
3	1980-81	258	23,706	92	2,550	1,224	82	12	8	648	
4	1990-91	442	38,154	86	2,721	1,875	117	8	8	1,039	
5	2000-01	595	49,569	83	3,077	1,803	100	8	9	1,148	
6	2010-11	965	85,691	89	3,942	7,473	322	1	1	994	
7	2019-20	822	69,313	84	4,491	6,639	251	0.5	0.8	1,815	
8	2020-21	1,143	1,11,642	98	4,545	10,110	378	0.6	1.2	2,015	
9	2021-22	1,489	1,39,159	93	4,410	7,791	300	0.5	0.8	1,505	

Source - Commissionerate of Agriculture, GoM

Note – (1) Production of cotton in “000” bales of 170 kg/bale

(2) Sugarcane Productivity in MT/ha

ANNEXURE 7.4

CROPWISE INDEX NUMBERS OF AGRICULTURAL PRODUCTION IN THE STATE

(Triennial average - Base: 1979-82=100)

Groups/Crops (1)	Weight (2)	1982-83 (3)	1990-91 (4)	2000-01 (5)	2010-11 (6)	2018-19 (7)	2019-20 (8)	2020-21 (9)	2021-22 (10)
1. Foodgrains -									
(a) Cereals -									
(i) Rice	9.49	87.4	106.1	87.4	122.1	148.3	131.2	149.0	155.6
(ii) Wheat	5.92	80.6	93.9	97.9	237.7	129.0	185.3	214.0	221.5
(iii) Jowar	22.16	95.5	121.1	81.4	70.5	24.4	38.1	44.6	43.7
(iv) Bajra	3.08	64.2	154.3	150.5	155.5	46.0	70.9	125.4	85.6
(v) Barley	0.02	37.7	17.0	13.2	188.7	NA	NA	NA	NA
(vi) Maize	0.46	36.9	105.2	253.8	2,180.5	1,479.5	1,642.5	3,006.7	3,004.2
(vii) Ragi	0.85	92.0	98.4	60.8	55.5	44.2	41.3	44.4	48.5
(viii) Kodra	0.05	73.7	66.6	43.6	23.6	NA	NA	NA	NA
(ix) Other cereals	0.19	76.7	150.8	162.5	26.1	51.9	160.2	100.7	54.9
Total - Cereals	42.22	88.5	115.7	91.9	134.2	84.9	100.1	130.2	129.2
(b) Pulses -									
(i) Gram	1.47	78.4	215.8	213.3	790.7	849.6	1,362.3	1,458.0	1651.2
(ii) Tur	5.45	96.1	105.2	166.0	245.3	209.7	300.8	364.5	414.6
(iii) Other pulses	3.52	112.5	160.0	150.0	196.5	108.1	98.8	143.1	125.2
Total - Pulses	10.44	99.2	139.2	167.3	305.6	265.6	382.2	444.0	491.1
Total - Foodgrains	52.66	90.6	120.4	106.8	168.2	120.7	156.0	192.4	200.9
2. Non-Foodgrains									
(a) Oil Seeds -									
(i) Groundnut	7.23	71.4	158.9	76.2	74.3	38.7	50.2	66.1	65.1
(ii) Sesamum	0.57	94.2	223.7	88.9	58.9	19.3	15.3	19.2	17.1
(iii) Rape, mustard and linseed	0.78	73.4	86.5	30.8	5.1	8.0	8.7	11.1	20.0
(iv) Castor seed	0.01	25.0	166.7	358.3	333.3	303.9	270.7	359.0	73.0
(v) Sunflower	0.57	76.8	609.8	352.3	267.3	14.5	24.4	24.5	22.7
Total - Oil seeds	9.16	73.3	184.8	90.6	79.8	33.7	43.1	56.2	55.7
(b) Fibres -									
(i) Cotton	9.89	110.4	128.6	123.6	512.3	452.0	455.2	693.1	534.1
(ii) Mesta	0.04	44.5	38.0	36.5	26.4	NA	NA	NA	NA
Total - Fibres	9.93	110.1	128.2	123.2	510.4	450.2	453.3	690.4	532.0
(c) Miscellaneous -									
(i) Sugarcane	25.97	114.3	158.2	186.9	297.2	338.4	261.3	421.0	524.6
(ii) Tobacco	0.14	68.3	117.3	138.1	32.7	11.9	12.3	17.7	11.8
(iii) Potato	0.22	84.2	120.9	121.9	NA	NA	NA	NA	685.2
(iv) Chilly	1.92	107.1	102.2	82.0	NA	NA	NA	NA	478.6
Total- Miscellaneous	28.25	113.3	153.9	179.0	273.4	311.2	240.3	387.0	520.2
Total - Non - Foodgrains	47.34	104.9	154.5	150.2	285.6	286.7	246.8	386.6	432.8
All Crops	100.00	97.4	136.5	127.4	223.8	199.3	199.0	284.3	310.7

Source - Commissionerate of Agriculture, GoM

N.A. Not Available

Note - Index numbers for 2018-19 to 2021-22 are provisional.

ANNEXURE 7.5

AREA UNDER IRRIGATION IN THE STATE

Sr. No.	Year	Area irrigated				Intensity of irrigated cropping	No. of irrigation Wells ('000)	Net area irrigated per well (ha)	Gross cropped area	Percentage of gross irrigated area to gross cropped area
		Wells	Other sources	Net	Gross					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	1960-61	595	477	1,072	1,220	114	542	1.10	18,823	6.5
2	1970-71	768	579	1,347	1,570	117	694	1.11	18,737	8.4
3	1980-81	1,055	780	1,835	2,415	132	826	1.28	19,642	12.3
4	1990-91	1,672	999	2,671	3,319	124	1,017	1.64	21,859	15.2
5	2000-01	2,262	987	3,249	3,852	119	1,318	1.72	21,619	17.8
6	2001-02	2,146	990	3,136	3,727	119	1,322	1.52	20,991	17.8
7	2002-03	2,145	1,071	3,216	3,806	118	1,331	1.61	20,915	18.2
8	2003-04	1,914	1,030	2,944	3,636	123	NA	NA	22,190	16.4
9	2004-05	1,942	1,001	2,993	3,665	125	NA	NA	22,376	16.4
10	2005-06	2,077	1,070	3,147	3,810	118	NA	NA	22,556	16.9
11	2006-07	2,109	1,137	3,246	3,958	122	NA	NA	22,557	17.6
12	2007-08	2,151	1,160	3,311	4,037	122	NA	NA	22,655	17.8
13	2008-09	2,115	1,140	3,255	3,970	122	NA	NA	22,454	17.7
14	2009-10	2,159	1,162	3,321	4,050	122	NA	NA	22,612	17.9
15	2010-11	NA	NA	NA	NA	NA	NA	NA	23,175	NA
16	2011-12	NA	NA	NA	NA	NA	NA	NA	23,106	NA
17	2012-13	NA	NA	NA	NA	NA	NA	NA	23,115	NA
18	2013-14	NA	NA	NA	NA	NA	NA	NA	23,380	NA
19	2014-15	NA	NA	NA	NA	NA	NA	NA	23,273	NA
20	2015-16	NA	NA	NA	NA	NA	NA	NA	22,863	NA
21	2016-17	NA	NA	NA	NA	NA	NA	NA	23,224	NA
22	2017-18	NA	NA	NA	NA	NA	NA	NA	23,268	NA
23	2018-19	NA	NA	NA	NA	NA	NA	NA	23,212	NA
24	2019-20	NA	NA	NA	NA	NA	NA	NA	23,570	NA
25	2020-21	NA	NA	NA	NA	NA	NA	NA	23,898	NA
26	2021-22	NA	NA	NA	NA	NA	NA	NA	24,149	NA

Source - Commissionerate of Agriculture, GoM

NA Not Available

Note - (1) Details may not add up to the totals due to rounding.

(2) Intensity under Col. No. 7 is worked out by using the formula (Col. No. 6 ÷ Col. No. 5) x 100.

(3) Figures for the years 2003-04 to 2021-22 are provisional.

(4) Vide Water Resources Department, GoM, GR dated 26th August 2016, and instructions regarding procedure for collecting data are issued.

ANNEXURE 7.6

IRRIGATION & NON-IRRIGATION WATER CHARGES

(₹ Crore)

Year	Water charges levied			Recovery			Outstanding at the end of year		
	Irrigation	Non-Irrigation	Total	Irrigation	Non-Irrigation	Total	Irrigation	Non-Irrigation	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2000-01	74.48	362.60	437.08	41.23	153.99	195.22	223.39	571.30	794.69
2001-02	84.72	368.83	453.55	43.57	208.12	251.69	264.54	732.01	996.55
2002-03	83.17	360.68	443.85	42.02	335.50	377.52	303.79	751.99	1,055.78
2003-04	93.03	360.26	453.29	42.89	335.20	378.09	376.63	353.06	729.69
2004-05	78.69	418.44	497.13	45.78	402.57	448.35	415.59	378.59	794.18
2005-06	68.25	350.28	418.53	64.03	349.45	413.48	410.18	282.09	692.27
2006-07	90.70	408.75	499.45	74.72	420.26	494.98	427.01	245.82	672.82
2007-08	110.35	563.89	674.24	70.47	556.54	627.01	473.70	275.20	748.90
2008-09	112.95	695.37	808.32	71.05	602.11	673.16	531.10	466.38	1,004.61
2009-10	95.00	715.11	810.11	69.94	732.69	802.63	561.77	466.38	1,028.15
2010-11	96.24	670.46	766.70	79.03	666.87	745.90	745.90	468.62	1,047.90
2011-12	109.73	541.06	650.79	79.13	541.13	620.26	608.87	461.74	1,070.61
2012-13	82.98	670.12	753.10	63.10	443.05	506.15	618.78	656.52	1,275.30
2013-14	70.37	536.67	607.04	57.57	457.20	514.77	631.49	728.24	1,359.73
2014-15	78.15	593.59	671.74	61.97	574.53	636.50	648.29	695.80	1,344.09
2015-16	80.04	660.13	740.16	49.16	523.42	572.59	679.02	835.13	1,514.15
2016-17	73.05	690.47	763.52	59.48	513.43	572.89	693.99	1,010.29	1,704.28
2017-18	93.72	735.06	828.78	74.30	613.84	688.14	714.00	1,135.19	1,849.19
2018-19	105.79	1,030.95	1,136.74	78.27	965.87	1,044.14	749.07	1,198.52	1,947.59
2019-20	114.03	1,195.69	1,309.72	59.97	908.34	968.31	809.40	1,593.71	2,403.11
2020-21	130.57	1,004.03	1,134.60	93.71	901.44	995.15	846.62	1,697.89	2,544.51
2021-22*	180.88	1,417.29	1,598.17	101.76	1,058.36	1,160.12	923.76	2,059.84	2,983.60

Source – Chief Auditor, Water and Irrigation, Aurangabad under Water Resources Department * Provisional

ANNEXURE 7.7
LIVESTOCK AND POULTRY IN THE STATE

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Livestock Census Year	Cattle	Buffaloes	Sheep and goats	Other live stock ⁺	Total live stock	Sheep and goats per hundred hectares of grazing and pasture land (no.)	Livestock per hundred hectares of net area cropped (no.)	Livestock per lakh of population	Total poultry ^{\$}
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1961	15,328	3,087	7,273	360	26,048	512	144	66	10,578
1966	14,729	3,042	7,326	352	25,449	522	140	57	9,902
1972	14,705	3,301	8,038	317	26,361	491	164	52	12,217
1978	15,218	3,899	10,199	326	29,642	650	162	51	18,751
1982	16,162	3,972	10,376	409	30,919	673	175	48	19,845
1987	16,983	4,755	12,068	449	34,255	950	189	48	24,830
1992	17,441	5,447	13,016	489	36,393	940	202	46	32,187
1997	18,071	6,073	14,802	692	39,638	1,104	223	50	35,392
2003	16,738	6,084	13,624	612	37,058	1,016	213	36	34,596
2007	16,184	6,073	13,301	397	35,955	1,064	206	37	64,756 [@]
2012	15,484	5,595	11,016	394	32,489	885	187	29	77,795 [@]
2019	13,993	5,604	13,285	198	33,080	973	199	26	74,298 [@]

Source - Livestock Census

Note - Details may not add up to totals due to rounding.

+ 'Other livestock' includes pigs, horses & ponies, mules, camels and donkeys.

\$ Total poultry includes Turkey, Quail & other birds.

@ Total poultry includes birds in poultry farm.