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GOVERNMENT OF MAHARASHTRA

REPORT ON

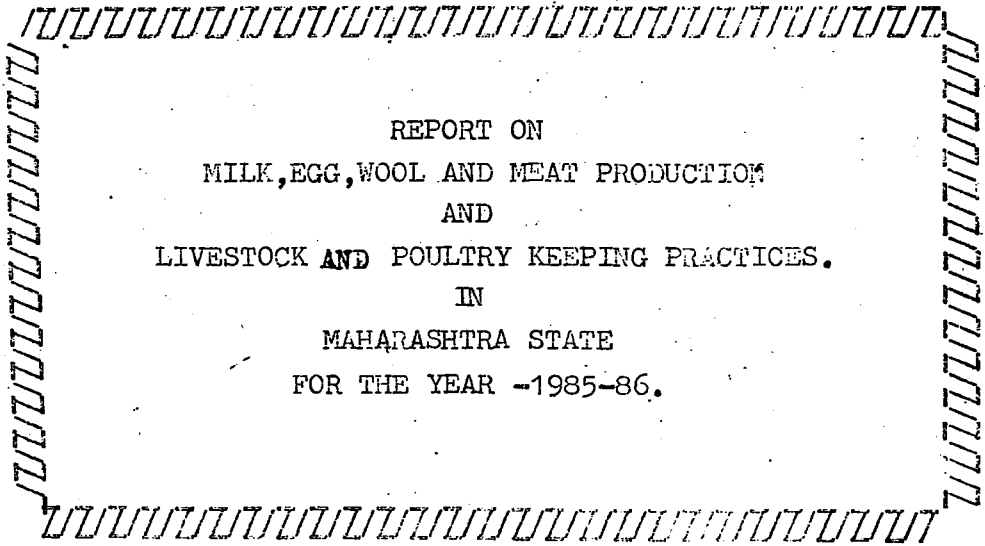
**MILK, EGG, WOOL AND
MEAT PRODUCTION**

AND

**LIVESTOCK AND POULTRY
KEEPING PRACTICES IN
MAHARASHTRA STATE**

FOR THE YEAR 1985-86

**DIRECTORATE OF ANIMAL HUSBANDRY
MAHARASHTRA STATE
PUNE-411 001**



REPORT ON
MILK, EGG, WOOL AND MEAT PRODUCTION
AND
LIVESTOCK AND POULTRY KEEPING PRACTICES.
IN
MAHARASHTRA STATE
FOR THE YEAR -1985-86.

P R E F A C E

The Department of Animal Husbandry, Maharashtra State, Pune has launched an Integrated Sample Survey Scheme since 1970-71, to study the annual status of the major livestock products and livestock and poultry keeping practices followed in the State. So far, fifteen such annual surveys have been conducted in the State, in succession. The present report is based on the findings of the sixteenth annual survey in the series.

As such, the report contains valuable information on milk, egg, wool and meat production in the State during 1985-. It also contains information about feeding and management practices followed in livestock and poultry, utilisation pattern of livestock products, mortality rates of livestock and poultry, etc.

The success of this survey goes to the field staff as well as to the office staff of the Integrated Survey Scheme of the Department. We are also indebted to the Indian Agriculture Statistics Research Institute, New Delhi, for providing the sampling technique for the survey.

It is hoped that the findings of the present survey will be useful to the planners, administrators and those interested in Animal Husbandry and Dairying. The vital results of the survey are given at the beginning of the report in form of "Results at a Glance" for the sake of convenience.

Place - Pune-411001.

Dated - 12th May, 1987.

P.D. Mokasdar,
Director of Animal Husbandry,
Maharashtra State, Pune-1.

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Some salient results at a glance from the survey on production of milk, egg, wool, and meat, and study of livestock and poultry keeping practices in Maharashtra State, during 1985-86.

S.No.	Item.	Unit	Figure.
(i)	(ii)	(iii)	(iv)
1. Size of sample observed.			
i)	Districts observed.	Number	30
ii)	Villages observed.	Number	655
2. Characteristics of villages.			
i)	Having bovine.	Percentage	100.0
ii)	Having poultry.	-do-	97.3
iii)	Having sheep.	-do-	11.3
iv)	Having goats.	-do-	96.2
v)	Average number of households per village.	Number	202
3. Households rearing.			
i)	Bovine.	Percentage	62.2
ii)	Poultry.	-do-	31.5
iii)	Sheep.	-do-	0.8
iv)	Goats.	-do-	25.5
v)	No livestock & poultry.	-do-	22.4
4. Availability of facility for veterinary aid.			
i)	Within village.	Percentage	6.1
ii)	Upto 5 kms.	-do-	42.0
iii)	At an average distance of	Kms.	7.3
II. MILK PRODUCTION AND BOVINE KEEPING PRACTICES.			
1. Size of sample observed.			
i)	Bovine keeper households.	Number	12773
ii)	Bovines observed for detailed study.		59423
iii)	In-milk bovines for milk recording	Number	11390
	(a) Cows		
	(b) Buffaloes.	-do-	5410
2. Estimated number of in-milk bovines			
i)	<u>Cows in-milk</u>		
	a) Deshi	Lakhs	20.54
	b) Crossbred	-do-	1.76
ii)	Buffaloes in-milk	-do-	13.88

(ii)

(i)	(ii)	(iii)	(iv)
3.	<u>Average daily milk yield per animal in milk.</u>		
i)	Cow.	kg(Litre)	0.963(0.942)
	a) Deshi.	-do-	5.170(5.029)
	b) Crossbred.	-do-	1.301(1.265)
	c) Overall.	-do-	2.482(2.414)
ii)	Buffalo.		
4.	<u>Estimated annual milk production.</u>		
i)	Cow milk.	lakh kg.	7257.0(7058.9)
	a) Deshi.	(lakh, litres)	
	b) Cross-bred.	-do-	3328.3(3237.4)
ii)	Buffalo milk.	-do-	12575.8(12232.5)
iii)	Total.	-do-	23161.1(22528.8)
5.	<u>Per capita per day availability of milk (cow+Buffalo milk).</u>	gm.	93
6.	<u>Feeding practices of bovines.</u>		
i)	Cattle kept on grazing alone	Percentage	11.4
ii)	Buffaloes kept on grazing alone	-do-	7.7
7.	<u>Average quantity of feed/fodder fed per day per animal (including animals kept on grazing alone, also)</u>		
(a)	Cattle :		
	(i) Green.	kg.	2.722
	(ii) Dry.	kg.	4.934
	(iii) Concentrates.	kg.	0.087
(b)	Buffaloes.		
	(i) Green.	"	3.139
	(ii) Dry.	"	5.247
	(iii) Concentrates.	"	0.445
8.	<u>Average quantity of dung collected in cattle shed per bovine per day.</u>	kg.	3.445
9.	<u>Estimated annual quantity of dung collected.</u>	'000M.T.	25930.6
10.	<u>Annual mortality in bovines.</u>		
i)	Cattle.	%	1.5
ii)	Buffalo.	%	2.8

(iii)

(1)	(ii)	(iii)	(iv)
III) EGG PRODUCTION AND POULTRY REARING PRACTICES.			
1. <u>Size of sample observed.</u>			
i)	Total poultry keeper households.	Number	27293
ii)	Total poultry birds.		
a)	Cocks.	Number	11362
b)	Hens.	-do-	66872
c)	Cockerels.	-do-	11140
d)	Pullets.	-do-	16416
e)	Chicks.	-do-	66429
f)	Total.	-do-	1,72,219
2. <u>Estimated number of layers.</u>			
a)	Deshi.	Lakh	76.23
b)	Improved.	-do-	24.50
c)	Total.	-do-	100.23
3. <u>Average number of eggs laid per layer per year.</u>			
a)	Deshi.	Number	119
b)	Improved.	-do-	251
4. <u>Estimated annual egg production.</u>			
a)	Deshi.	Lakh	9051.33
b)	Improved.	Lakh	6036.00
c)	Total.	Lakh	15087.33
5. <u>Per capita per annum availability of eggs.</u>			
		Number	22
6. <u>Average number of poultry birds per 100 poultry keeper.</u>			
a)	Cocks.	Number	42
b)	Hens.	-do-	245
c)	Cockerels.	-do-	41
d)	Pullets.	-do-	60
e)	Chicks.	-do-	243
f)	Total.	-do-	631
7. <u>Average feed supplied per poultry bird per day.</u>			
		gm.	17
8. <u>Annual mortality in poultry.</u>			
		Percentage	23.3

(i)	(ii)	(iii)	(iv)
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IV) WOOL PRODUCTION AND SHEEP REARING PRACTICES.

1. Sample size observed for detailed study.			
a) Number of flocks.	Number		97
b) Number of sheep	-do-		3195
2. Estimated number of sheep			
i) Rams/wethers.	Lakh		2.34
ii) Ewes.	Lakh		18.54
iii) Lambs.	Lakh		6.57
iv) Total.	Lakh		27.45
3. Estimated number of sheep shorn.			
i) Rams/Wethers.	Lakh		2.24
ii) Ewes.	Lakh		17.75
iii) Lambs.	Lakh		3.84
iv) Total.	Lakh		23.83
4. Estimated annual wool yield/ yr per sheep shorn.			
i) Rams/wethers	kg.		0.615
ii) Ewes.	kg.		0.593
iii) Lambs.	kg.		0.386
iv) Overall.	kg.		0.562
5. Estimated annual wool production	M.T.		1339
6. Mortality in sheep.	Percent.		6.5

V) GOAT MILK PRODUCTION AND GOAT REARING PRACTICES.

1. Sample size observed.			
i) Goat keeper households.	Number		13341
ii) Inmilk goats for milk production.	"		16458
2. Average daily milk yield per goat in-milk.	kg.		0.175
3. Goats inmilk to milch goats.	Percentage		46.48
4. Estimated No. of goats inmilk.	Lakh.		23.54
5. Estimated total goat milk production.	Lakh kg.		1502(1461)
6. Annual mortality in goats.	(lakh litres) Percentage		+2

(v)

(i) (ii) (iii) (iv)

VI) MEAT PRODUCTION.

1. Average meat production per animal.		
a) Cattle.	kg.	123.190
b) Buffalo.	kg.	144.674
c) Sheep.	kg.	11.529
d) Goat.	kg.	10.51
2. Estimated number of animals slaughtered.		
a) Cattle.	Lakh	4.14
b) Buffaloes.	Lakh	2.15
c) Sheep.	Lakh	24.42
d) Goats.	Lakh	48.61
3. Estimated annual meat production	'000 H.T.	159.00
4. Estimated number of		
a) Hides.	Lakh pieces.	9.93
b) Skins.	-do-	73.11

CHAPTER-I.

1.1 Introduction.

The present report is based on the sixteenth Annual Integrated Survey, conducted by the Department of Animal Husbandry, Maharashtra State, for estimation of annual production of major livestock products viz. milk, egg, wool and meat and to study the livestock and poultry keeping practices followed during the year 1985-86.

The scheme was partially strengthened during 1984-85 and accordingly the data on production of milk and eggs were collected for group of districts as per the revised plan, suggested by the Ministry of Agriculture, Animal Husbandry Statistics Division, Government of India, New Delhi.

1.2 Description of the survey.

The survey has been conducted all over the State, during all the three seasons of the year. The State consists of 30 districts with 303 tahsils, comprising 39,354 inhabited villages and 307 cities and towns units as per 1981 human population census.

1.3 Livestock population.

According to 1982 livestock census, the Maharashtra State had 309.19 lakh livestock. This constituted 201.34 lakh (65 percent) bovines, 77.05 lakh (25 percent) goats, 26.71 lakh (9 percent) sheep, 3.01 lakh pigs and remaining 1.08 lakhs were horses, donkeys, and mules. The total poultry was 198.44 lakh.

1.3.1 Variation in livestock population :

The following table gives the percentage variation of livestock and poultry population of 1982 census over that of 1978 census.

Table No.1.

Comparison of livestock census figures.

S. No.	Category.	Population (in'000) As per		Percentage variation of 1982 over 1978 census.
		1982 census	1978 census	
(1)	(2)	(3)	(4)	(5)
1)	Cattle.	16162	15218	6.20
2)	Buffaloes.	3972	3899	1.87
3)	Sheep.	2671	2636	1.33
4)	Goats.	7705	7563	1.88
5)	Pigs.	301	226	33.19
6)	Other.	108	100	8.00
7)	Total livestock	30919	29642	4.31
8)	Total poultry.	19844	18751	5.33

It is seen from Table No.1 that there is an increase in all types of livestock as well as poultry, over the previous census.

1.4 Period of field work.

The data for the present survey was collected during all the three seasons of the year 1985-86 as shown below :

- 1) Summer season : March 1985 to June 1985.
- 2) Rainy season. : July 1985 to October 1985.
- 3) Winter season : November 1985 to February 1986.

1.5 Sampling plan :

A stratified multistage random sampling design has been adopted for the survey. The state was divided into 12 groups each consisting of about 1 to 4 districts, which have common geographical boundaries and topographical conditions. The groups of districts are treated as strata and are as follows :

<u>Group No.</u>	<u>Districts.</u>
1)	Greater Bombay.
2)	Thane, Raigad.
3)	Ratnagiri, Sindhudurg.
4)	Nashik, Dhule, Jalgaon.
5)	Ahmednagar, Pune.
6)	Satara, Sangli, Kolhapur.
7)	Solapur, Beed, Osmanabad, Latur
8)	Aurangabad, Jalna, Buldhana.
9)	Parbhani, Nanded.
10)	Akola, Amravati, Yavatmal.
11)	Wardha, Nagpur, Bhandara.
12)	Chandrapur, Gadchiroli.

Out of the total villages/towns in the State, 15 percent villages/towns were selected randomly from the 11 groups of districts (excluding Greater Bombay) - in proportion to livestock and poultry population in these groups according to 1982 livestock census. These villages were equally divided into 3 seasons of the year. From these villages 20 villages were selected randomly from each group of districts and 5 nearby villages were allotted to each survey Assistant, for collecting data on Milk, Egg, Wool and Meat production and rearing practices of livestock and poultry. The data on number of livestock and poultry was also collected from 15 percent of the villages from the concerned Block Development Officers of Zilla Parishads.

On the basis of data collected from 20 such villages, groupwise estimates for milk and egg were worked out for a season. The State estimates for a season were obtained by pooling the groupwise estimates. By adding 3 seasonal estimates the annual estimates for the State were worked out.

1.6 Programme of field work.

For collection of data regarding production and rearing practices of livestock and poultry, one Survey Assistant was allotted 5 villages selected randomly, afresh for each season, from a group of districts. As such 4 Survey Assistants were working in each group. For Greater Bombay District, one Survey Assistant was working and he collected the data about milk production and allied information by visiting about 20 stalls in a month, selected randomly. For remaining groups of districts, each survey Assistant visited selected villages in 3 to 4 rounds and in a round he made 4 day's halt, for collection of data in each selected village. During the first round he carried out house to house complete enumeration of livestock and poultry. After completion of enumeration he collected data as per the norms given in Table No.2 below:

Table No.2.
Details of data collection.

Sr. No.	Schedule No.	Type of information collected	No. of households observed per day.
1)	B ₁	Milk production and bovine keeping practices.	2
2)	B ₂	Utilisation of milk.	1
3)	P ₁	Changes in poultry number	10
4)	P ₂	Egg production and poultry keeping practices.	5
5)	P ₃	Utilisation of eggs.	2
6)	W ₁ , W ₂ , W ₃	Sheep rearing practices and wool production.	3
7)	S ₁	Goat milk production and goat rearing practices.	3
8)	T ₁	Meat production in households having livestock or poultry.	10
9)	T ₂	Meat production in households having no livestock and poultry.	2
10)	T ₃	Meat production and other by-products obtained through slaughter at District place slaughter house.	-

1.7 Details of data collected.

In this report, tables on milk, egg, wool and meat production estimates alongwith keeping practices of livestock and poultry are presented.

Details of data collected are given as follows :

- 1) Feeding practices of bovine and poultry.
- 2) Utilisation of milk and eggs.
- 3) Utilisation of dung
- 4) Mortality in bovine, poultry, sheep & goats.

1.8 Staff.

The following staff was sanctioned under the Scheme during the year under Report.

Table No.3.

S.No.	Name of the post.	Scale	No. of posts.	No. of vacancies
(1)	(2)	(3)	(4)	(5)
1)	Assistant Director. (MAHS. Jr. Class. I.)	680-1250	1	-
2)	Research Officer (GSS. Cl. II)	600-1150	1	1
2)	Livestock Development Officer (GSS MAHS. Cl. II)	600-1150	8	-
3)	Investigators.	500-900	3	2
4)	Statistical Assistants.	335-680	6	2
5)	Survey Assistants (Jr. Clerk Cadre).	260-495	28	2
6)	Survey Assistants (Livestock supervisor).	290-560	22	2
7)	Accountant.	335-680	1	-
8)	Senior Clerks.	335-680	2	-
9)	Junior Clerks.	260-495	1	-
10)	Peons.	200-280	5	-
Total :-			76	9

The field data were collected by 45 Survey Assistants (1 Survey Asstt. for Gr. Bombay and 4 each for remaining 11 group of districts). Five Survey Asstts. were kept as leave reserve. The livestock Development Officer supervised the field work of Survey Assistants by actually visiting the selected villages. The data so collected were submitted, compiled, tabulated and analysed by Statistical Assistants and Investigators. The Asstt. Director was the overall incharge of the scheme for field work as well as administrative work.

CHAPTER - II.

2.1 Characteristics of sample villages :

During the year under report a total of 655 villages were observed for collection of data such as land possessed, breeding, feeding and management practices followed and for obtaining details regarding production and utilisation of milk, eggs, wool and meat.

The distribution of villages having various categories of livestock and poultry is presented in Table No.4.

Table No.4.

Distribution of villages having livestock/poultry.

Sr. No.	Season.	Percentage of villages having			
		Bovine	Poultry	Goats	Sheep.
(1)	(2)	(3)	(4)	(5)	(6)
1)	Summer.	100.0	94.9	96.1	10.7
2)	Rainy.	100.0	97.7	96.2	8.5
3)	Winter.	100.0	99.1	96.8	14.5
	Overall	100.0	97.3	96.2	11.3

It is seen from the Table No.4 that bovine were found in all the villages, while poultry and goats were found in 97.3 and 96.2 percent of villages respectively. Sheep were found in only 11.3 percent villages, because sheep population is mainly concentrated in Pune division of the State.

2.2. Number of households per village :

During the year, livestock and poultry were enumerated by Survey Assistants from a total of 1,32,108 households in 655 selected villages. The seasonwise distribution of these villages, according to number of households found per village is given in Table No.5.

6
Table No.5.

Distribution of villages, according to number of households.

Sr. No.	Number of households.	Percentage of villages.			
		Summer	Rainy.	Winter.	Overall.
(1)	(2)	(3)	(4)	(5)	(6)
1.	Upto 50	1.0	1.4	0.7	1.1
2.	51 to 100	11.7	8.1	9.4	9.7
3.	101 to 150	22.9	24.2	22.1	23.2
4.	151 to 200	23.4	23.2	22.8	23.2
5.	201 to 300	26.3	30.5	31.5	29.2
6.	301 to 400	13.2	9.0	12.8	11.5
7.	401 to 600	1.5	3.3	0.7	1.9
8.	Above 600	-	0.5	-	0.2
Total :		100.0 (215)	100.0 (220)	100.0 (220)	100.0 (655)
Average number of households per village.		198	205	202	202

(Note : Figures in brackets indicate number of villages observed).

It is seen from the above table, that about 11 percent villages had upto 100 households, 46 percent villages had in the range of 101 to 200 households, while 29 and 14 percent villages had from 201 to 300 and more than 300 households per village, respectively. The overall number of households per village was found to be 202.

e.r Households rearing livestock and poultry.

The total enumerated households were classified according to particular kind of livestock and poultry possessed and the same is given in Table No.6.

Table No.6
Distribution of households according to type of livestock and poultry reared.

S. No.	Particulars.	Percentage of households rearing					Livestock or poultry in combination	No. live stock
		Bovine	Poultry	Goats	Sheep	Livestock		
1	2	3	4	5	6	7	8	
1)	Households rearing only one type of livestock or poultry	26.8	6.7	4.7	0.1	-	-	
2)	Total households rearing livestock or poultry in combination	62.2	31.5	23.5	0.3	39.3	22.4	

From the total households observed, it was found that 62.2 percent households reared bovine, 31.5 p.c. reared poultry and 23.5 p.c. households reared goats either alone or in combination with other type of livestock or poultry.

2.4 General facilities for the villages.

Information regarding facilities for veterinary aid, distance from market for cattle feed, milk, etc. was collected for the selected villages and is given in Table 7.

Table No.7.

Distribution of villages according to availability of various facilities and their distances.

S. No.	Facility.	Percentage of villages for which it is available at a distance of (kms.)					Average distance (km.)
		0	1 to 3.	4 to 5	6 to 10	Above 10.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1)	Veterinary aid	6.1	25.2	16.8	38.9	15.0	7.3
2)	Artificial insemination.	4.1	19.7	19.0	35.4	21.8	9.1
3)	Veterinary dispensary.	0.8	7.8	11.2	30.5	49.7	28.4
4)	Market for cattle feed.	1.7	7.3	10.7	32.3	48.0	29.8
5)	Market for milk & milk products	8.8	13.4	13.4	30.6	35.8	12.1
6)	Market for cattle.	0.6	2.9	8.6	24.5	63.4	18.0
7)	Market for eggs	1.0	2.5	4.1	15.6	76.3	31.7
8)	Market for wool	0.0	1.8	8.9	23.2	66.1	27.5
9)	Market for meat	0.3	10.7	16.6	34.3	38.1	10.1

(Number of villages observed were 655).

In 6.1 percent of the total villages observed veterinary aid was available in the village itself and the average distance of aid centre from the village was 7.3 kms.

Market facility for cattle feed was available in 1.7 percent villages, while the same for milk and milk products was in 8.8 percent of the villages, in the village itself.

2.5 Average number of livestock and poultry reared per 100 households.

The details about the number of bovines, poultry, cats and sheep reared per 100 households is presented in Table No.8.

Table No.8.

Average number of livestock/poultry per 100 households.

S. No.	Category	Inmilk	Dry and not calved even once.	Adult males.	Young stock.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1)	Cattle.	25	48	91	54	218
2)	Buffalo.	20	16	4	16	56
3)	Poultry.	---	---	---	---	199
4)	Sheep.	---	---	---	---	23
5)	Goats.	---	---	---	---	92

It is seen from the above table that average number of livestock reared per 100 households was observed to 389 while the number of total poultry was 199.

CHAPTER - III.

3.1 Milk Production and Bovine keeping practices :

The estimates of milk production for 12 groups of districts during each season was obtained for indigenous cows and buffaloes separately. It was based on (i) estimate of average daily milk yield per animal in-milk (ii) estimated number of animals in-milk and (iii) number of days in the season. The results are based on 11590 cows and 5410 buffaloes observed for milk recording during the year.

Attempts were also been made from this year to obtain the separate estimates of milk production in respect of crossbred cows. However it was not possible at this stage to obtain their estimates for each group of districts as was possible in respect of indigenous cows. This is due to the fact that the number of crossbred cows observed is not sizable. Hence only State estimates are possible in case of crossbred cows.

3.2 Estimated number of in-milk and milch animals :

The 'Ratio method of estimation' was adopted to work out the estimated number of in-milk cows as well as buffaloes. The ratio was worked out between the total number of in-milk animals enumerated and the corresponding number as in the 1952 census in all the selected villages in each group of districts.

The estimates so obtained for different groups of districts, were pooled together to obtain the estimated number for a season. A similar procedure was adopted to obtain the estimated number of milch animals.

The estimated number of in-milk and milch animals so worked out for different seasons and for group of districts are presented in Table No. 9, 10, 11 and 12 respectively.

Table No.9.

Estimated number of in-milk and milch animals for Summer Season.

Sr. No.	Group of districts.	Estimated number of animals (in lakhs)			
		In-milk animals		Milch	
		Indigenous cows.	Buffaloes	Indigenous cows.	Buffaloes
(1)	(2)	(3)	(4)	(5)	(6)
1)	Gangetic Doab.	0.62	0.45	0.05	0.49
2)	Thane, Khasad.	1.24	0.84	2.60	1.35
3)	Rohmagiri, Sindhudurg.	0.79	0.36	1.85	0.61
4)	Kashik, Deale, Solapur.	1.78	1.45	3.35	2.00
5)	Deccan Plateau, etc.	2.00	1.10	1.9	1.85

Table No. 9 continued.

	(2)	(3)	(4)	(5)	(6)
1) Satara, Sangli, Kolhapur.	1.23	3.93	2.51		5.48
2) Solapur, Latur, Osmanabad, Beed.	2.53	1.72	3.11		2.75
3) Aurangabad, Jalna, Buldhana.	1.39	0.69	4.35		1.17
4) Parbhani, Nanded.	1.95	0.94	4.20		1.54
5) Akola, Amravati, Yavatmal.	2.49	1.03	6.63		1.91
6) Wardha, Nagpur, Bhandara.	1.97	0.68	5.14		1.19
7) Gadchiroli, Chandrapur.	1.36	0.28	3.39		0.48
State total.	20.30 (5.61)	13.76 (5.80)	47.21		21.80
Crossbred cows for the State.	1.79	-	2.2		

Note: Figures in brackets indicate F.S.Es.

Table No. 10.

Estimated number of in-milk and milch animals for Rainy season.

S. No.	Group of Districts.	Estimated number of animals (in lakhs)			
		In-milk	Milch	In-milk	Milch
		Indige- nous cows	Buffaloes	Indige- nous cows	Buffa- loes.
(1)	(2)	(3)	(4)	(5)	(6)
1)	Greater Bombay.	0.02	0.46	0.53	0.49
2)	Thane, Raigad.	1.28	0.92	2.70	1.31
3)	Ratnagiri, Sindhudurg	0.79	0.36	1.32	0.64
4)	Nashik, Dhule, Jalgaon	2.75	1.70	3.75	3.01
5)	Ahmednagar, Pune.	2.02	1.11	2.95	1.82
6)	Satara, Sangli, Kolhapur.	1.28	3.96	2.53	5.98
7)	Solapur, Latur, Osmanabad, Beed.	2.52	1.74	5.11	2.86
8)	Aurangabad, Jalna, Buldhana.	1.89	0.72	4.04	1.22
9)	Parbhani, Nanded.	1.96	0.94	4.17	1.62
10)	Akola, Amravati, Yavatmal.	2.58	1.05	6.42	1.82
11)	Wardha, Nagpur, Bhandara.	1.95	0.66	5.37	1.19
12)	Gadchiroli, Chandrapur.	1.40	0.26	3.51	0.52
	State Total.	20.54 (5.02)	13.90 (4.83)	47.96	22.48
	Cross-bred cows for the State.	1.79	-	2.2	

Table No. 11

Estimated number of in-milk and milch animals for Winter Season.

Sr. No.	Group of districts.	Estimated number of animals (in lakhs)			
		In-milk.		Milch	
		Indige- nous cows.	Buffa- loes.	Indige- nous cows	Buffaloes
(1)	(2)	(3)	(4)	(5)	(6)
1)	Greater Bombay	0.02	0.46	0.03	0.49
2)	Thane, Raigad.	1.22	0.90	2.78	1.32
3)	Ratnagiri, Sindhudurg.	0.79	0.37	1.31	2.93
4)	Nashik, Dhule, Jalgaon.	2.77	4.75	6.40	0.63
5)	Ahmednagar, Pune	2.04	1.27	1.9	1.23
6)	Satara, Sangli, Kolhapur.	1.26	5.89	2.8	5.79
7)	Solapur, Latur, Osmanabad, Beed.	2.72	1.74	5.05	2.81
8)	Aurangabad, Jalna, Buldhana.	1.94	0.71	4.04	1.25
9)	Parbhani, Nanded.	1.92	0.92	4.7	1.66
10)	Akola, Amravati, Yavatmal.	2.63	1.03	6.43	1.84
11)	Wardha, Nagpur, Bhandara.	2.02	0.67	5.59	1.20
12)	Gadchiroli, Chandrapur.	1.43	0.28	3.33	0.53
	State Total.	20.76 (5.16)	13.99 (5.99)	40.02	22.28
	Cross-bred cows for the state.	1.75			

(Note : Figures in brackets indicate F.S. Es.)

Table No.12.

Estimated number of in-milk and milch animals for the year (overall).

Sr. No.	Group of districts.	Estimated number of animals (in lakhs)			
		In-milk.		Milch	
		Indige- nous cows	Buffa- loes.	Indige- nous cows	Buffa- loes.
(1)	(2)	(3)	(4)	(5)	(6)
1)	Greater Bombay.	0.02	0.46	0.02	0.49
2)	Thane, Raigad.	1.24	0.89	1.70	1.33
3)	Ratnagiri, Sindhudurg.	0.79	0.37	4.32	0.63
4)	Nashik, Dhule, Jalgaon	2.75	1.69	6.50	2.98
5)	Ahmednagar, Pune.	2.02	1.19	4.90	1.83
6)	Satara, Sangli, Kolhapur	1.26	3.92	2.60	5.75
7)	Solapur, Latur, Osmanabad, Beed.	2.66	1.74	5.10	2.81
8)	Aurangabad, Jalna, Buldhana.	1.91	0.71	4.16	1.21
9)	Parbhani, Nanded.	1.94	0.93	4.35	1.64
10)	Akola, Amravati, Yavatmal.	2.57	1.03	5.51	1.85
11)	Wardha, Nagpur, Rhandara.	1.98	0.67	5.57	1.19
12)	Gadchiroli, Chandrapur	1.40	0.28	5.30	0.51
	State total.	23.54 (3.04)	13.38 (3.21)	67.00	22.19
	Cross-bred and exotic cows.	1.76	-	2.80	-

(Note : figures in brackets indicate P.S.E.)

---x--- x ---x---

13. Average daily milk yield per animal in milk and per milch animal.

The estimated average milk yield per day per animal in-milk and per milch animal in respect of cows and buffaloes for the Summer, Rainy and Winter seasons presented in Table No.13, 14 and 15 respectively.

Table No. 13.

Average daily milk yield per animal in-milk and per
milk animal for Summer season.

Group No.	Name of the districts.	Per day average milk yield (kg).			
		Indigenous cow		Buffalo.	
(1)	(2)	In-milk	Milch.	In-milk	Milch.
(1)	(2)	(3)	(4)	(5)	(6)
1)	Greater Bombay	4.543	3.089	5.763	5.427
2)	Thane, Raigad.	0.524	0.249	2.743	1.701
3)	Ratnagiri, Sindhudurg.	0.543	0.233	0.335	0.529
4)	Nashik, Dhule, Jalgaon.	1.086	0.466	1.982	1.083
5)	Ahmednagar, Pune	1.036	0.415	2.015	1.319
6)	Satara, Sangli, Kolhapur.	1.160	0.573	2.386	1.700
7)	Solapur, Latur, Osmanabad, Beed.	1.162	0.594	2.293	1.441
8)	Aurangabad, Jalna Buldhana.	1.026	0.442	2.120	1.250
9)	Parbhani, Nanded.	1.047	0.487	1.600	0.978
10)	Akola, Amravati, Yavatmal.	0.774	0.291	2.011	1.035
11)	Wardha, Nagpur, Bhandara.	0.796	0.283	2.716	1.544
12)	Gadchiroli, Chandrapur.	0.401	0.166	1.465	0.856
	State as a whole	0.922 (1.94)	0.394	2.295 (3.02)	1.448
	For cross-bred and exotic cow.	4.968	3.156		

(Note : Figures in brackets indicate P.S.Es.)

Table No. 14.

Average daily milk yield per animal in districts and per milch animal for Rainy season

Cr. No.	Name of the districts.	Per day average milk yield (kg).			
		Indigenous cow		Buffalo.	
		In-milk	Milch	In-milk	Milch
(1)	(2)	(3)	(4)	(5)	(6)
1)	Greater Bombay.	4.700	3.196	6.380	6.008
2)	Thane, Raigad.	0.952	0.450	2.915	2.051
3)	Ratnagiri, Sindhudurg.	0.794	0.345	1.268	0.719
4)	Nashik, Dhule, Jalgaon	1.167	0.475	2.542	1.436
5)	Ahmednagar, Pune.	0.923	0.382	1.999	1.161
6)	Satara, Sangli, Kolhapur	1.247	0.603	2.385	1.647
7)	Solapur, Latur, Osmanabad, Beed.	1.121	0.569	2.521	1.537
8)	Aurangabad, Jalna, Buldhana.	1.157	0.541	2.783	1.648
9)	Parbhani, Nanded.	1.022	0.451	2.057	0.958
10)	Akola, Amravati, Yavatmal.	0.764	0.307	2.391	1.373
11)	Wardha, Nagpur, Bhandara.	0.717	0.251	2.378	1.591
12)	Gadchiroli, Chandrapur	0.463	0.184	1.356	0.996
State as a whole.		0.962 (8.08)	0.412	2.535 (2.06)	1.568
For cross-bred and exotic cow.		5.534	3.378	-	-

(Note :- Figures in bracket indicate Percentage Standard Errors)

Table No.15.

Average daily milk yield per animal in milk and per milch animal for Winter season.

Gr. No.	Name of the Dist.	Per day average milk yield (kg)			
		Indigenous cow.		Buffaloes.	
		In-milk	Milch	In-milk	Milch.
(1)	(2)	(3)	(4)	(5)	(6)
1)	Greater Bombay.	4.582	3.116	6.407	6.034
2)	Thane, Raigad.	0.966	0.423	2.902	1.970
3)	Ratnagiri, Sindhudurg.	0.548	0.240	1.329	0.779
4)	Nashik, Dhule, Jalgaon.	1.248	0.540	2.477	1.476
5)	Ahmednagar, Pune	1.117	0.458	2.005	1.390
6)	Satara, Sangli, Kolhapur.	1.257	0.601	2.582	1.734
7)	Solapur, Latur, Beed, Osmanabad.	1.579	0.851	2.638	1.644
8)	Aurangabad, Jalna, Buldhana.	0.926	0.445	2.728	1.555
9)	Parbhani, Nanded	1.023	0.442	1.868	1.038
10)	Akola, Amravati, Yavatmal.	0.812	0.329	2.796	1.570
11)	Warananasi, Nagpur, Bhandara.	0.502	0.181	2.825	1.576
12)	Gadchiroli, Chandrapur.	0.686	0.295	1.333	1.007
State as a whole		1.021 (1.99)	0.446	2.614 (1.96)	1.642
Cross-bred and exotic cow.		5.007	3.034	-	-

(Note : Figures in brackets indicate F.S.S.)

The overall average milk yield per animal for the year is worked out and is presented in Table No. 16 below :

-Table No. 16.

Average daily milk yield per animal in milk and per milch animal (overall).

Group No.	Name of the districts.	Per day average milk yield (kg)			
		Indigenous cow		Buffalo.	
(1)	(2)	Inmilk (3)	Milch (4)	Inmilk (5)	Milch (6)
1)	Greater Bombay.	4.609	3.133	4.135	5.823
2)	Thane, Raigad.	0.815	0.376	2.956	1.905
3)	Ratnagiri, Sindhudurg	0.629	0.273	1.451	0.677
4)	Nashik, Dhule, Jalgaon.	1.167	0.493	2.356	1.330
5)	Ahmednagar, Pune.	1.025	0.418	1.981	1.289
6)	Satara, Sangli, Kolhapur.	1.222	0.593	2.484	1.696
7)	Solapur, Latur, Osmanabad, Beed.	1.289	0.669	2.492	1.541
8)	Aurangabad, Jalna, Buldhana.	1.036	0.476	2.564	1.488
9)	Parbhani, Nanded.	1.031	0.460	1.736	0.991
10)	Akola, Amravati, Yavatmal.	0.783	0.309	2.598	1.338
11)	Wardha, Nagpur, Bhandara.	0.671	0.239	2.506	1.570
12)	Gadchiroli, Chandrapur.	0.518	0.214	1.735	0.956
State as a whole		0.968 (1.58)	0.417	2.482 (1.78)	1.553
Cross-bred and exotic cows.		5.170	3.191	-	-

(Note : Figures in brackets indicate P.S.Es.)

It is seen from the table No. 16, that the overall average milk yield per day per indigenous cow in milk was 0.968 kg and that for exotic/crossbred cow in milk was 5.170kg in case of buffalo the same was 2.482 kg.

5.4 Milk production :- The estimates of milk production for each group of districts for the three seasons and also for the entire year, have been worked out for cows and buffaloes separately and are shown in Table No. 17, 18, 19 and 20.

Table No.17.

Estimated milk production for Summer Season.

Sr. No.	Name of districts.	Milk production (in '000 M.T.)	
		Indigenous cow milk.	Buffalo milk.
(1)	(2)	(3)	(4)
1)	Greater Bombay:	1.025	32.655
2)	Thane, Raigad.	7.903	28.067
3)	Ratnagiri, Sindhudurg	5.231	3.973
4)	Nashik, Dhule, Jalgaon.	36.142	39.623
5)	Ahmednagar, Pune.	25.222	29.505
6)	Satara, Sangli, Kolhapur.	17.600	114.293
7)	Solapur, Latur, Osmanabad, Beed.	37.275	48.317
8)	Aurangabad, Jalna, Buldhana.	23.659	17.735
9)	Parbhani, Nanded.	24.956	18.332
10)	Akola, Amravati, Yavatmal.	23.516	25.242
11)	Wardha, Nagpur, Bhandara.	19.118	22.373
12)	Gadchiroli, Chandrapur.	6.658	5.046
State total.		228.305 (6.37)	385.192 (7.13)
For exotic and crossbred cows		108.636	-

(Note : Figures in brackets indicate percentage standard errors.)

Table No.18.

Estimated milk production for Rainy season.

Group No.	Name of the districts.	Milk production (in '000 M.T.)	
		Indigenous cow.	Buffalo.
(1)	(2)	(3)	(4)
1)	Greater Bombay.	1,069	35,448
2)	Thane, Raigad.	14,947	32,992
3)	Ratnagiri, Sindhudurg.	7,720	5,574
4)	Nashik, Dhule, Jalgaon	39,531	53,037
5)	Ahmednagar, Pune.	22,930	26,010
6)	Satara, Sangli, Kolhapur	19,655	121,009
7)	Solapur, Latur, Osmanabad, Beed.	36,198	54,051
8)	Aurangabad, Jalna, Buldhana.	26,954	34,656
9)	Parbhani, Nanded.	24,593	19,132
10)	Akola, Amravati, Yavatmal.	24,269	30,662
11)	Wardha, Nagpur, Bhandara.	17,253	23,358
12)	Gadchiroli, Chandrapur	7,946	6,491
State Total.		243,015	433,520
		(7.37)	(5.76)
Cross-bred cows.		119,138	

(Note : Figures in brackets indicate percentage Standard errors.)

Table No. 19.

Estimated milk production for Winter Season.

Group No.	Name of districts.	Milk production (in '000 M.T.)	
		Indigenous cow.	Buffalo.
(1)	(2)	(3)	(4)
1)	Greater Bombay.	1.016	35,710
2)	Thane, Raigad.	14.136	31,274
3)	Ratnagiri, Sindhudurg.	5.221	5,905
4)	Nashik, Dhule, Jalgaon.	41.457	51,925
5)	Ahmednagar, Pune.	27.295	30,504
6)	Satara, Sangli, Kolhapur.	19.041	120,559
7)	Solapur, Latur, Beed, Osmanabad.	51.618	55,513
8)	Aurangabad, Jalna, Buldhana.	21.527	21,230
9)	Parbhani, Nanded.	25.515	20,615
10)	Akola, Amravati, Yavatmal.	25.585	34,567
11)	Wardha, Nagpur, Bhandara.	12.485	22,553
12)	Gadchiroli, Chandrapur.	11.785	6,411
State Total :-		274.332 (6.55)	438,872 (6.35)
Cross-bred cows.		105,050	

(Note : Figures in brackets indicate percentage standard errors.)

Table No. 20.

Estimated milk production for the year (overall).

Gr. No.	Name of districts.	Milk production (in 1000 MT)		
		Indigenous cow.	Buffalo	Total.
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	3.110	104.813	107.923
2)	Thane, Raigad.	36.986	92.333	129.319
3)	Ratnagiri, Sindhudurg.	18.173	15.513	33.686
4)	Nashik, Dhule, Jalgaon.	117.130	144.586	261.716
5)	Ahmednagar, Pune.	75.447	86.020	161.467
6)	Satara, Sangli, Kolhapur.	56.296	355.861	412.157
7)	Solapur, Latur, Beed, Osmanabad.	125.091	157.886	282.977
8)	Aurangabad, Jalna, Buldhana.	72.139	65.671	137.810
9)	Parbhani, Nanded.	73.063	58.129	131.192
10)	Akola, Amravati, Yavatmal.	73.371	90.571	163.942
11)	Wardha, Nagpur, Bhandara.	48.507	68.283	116.790
12)	Gadchiroli, Chandrapur.	26.389	17.917	44.305
State Total :-		725.702 (3.92)	1257.583 (3.55)	1983.285
Cross-bred cow		332.824		
Overall for Deshi + C.B.Cows.		1058.526		
Overall for Cow+Buffaloes		1058.526	1257.583	2316.109

(Note : Figures in brackets indicate percentage standard errors.)

It is seen from the Table No.20 that the total milk production from bovines for the State, during the year was estimated as 2316.109 thousand tonnes. Of this, the contribution from cows was about 46 per cent and remaining 54 percent was from buffalo class.

3.5 Availability of milk in bovine keeper households.

The information regarding availability of milk was collected for the previous day of visit from 12,773 bovine keeper households. The details about production and purchase of milk are given in Table No.21, for cow milk and buffalo milk separately.

Table No.21.
Availability of milk in bovine keeper households.

Category.	Producing milk.		Purchasing milk		Total milk	
	% of house holds.	Average quantity of milk per household (kg.)	% of house holds.	Av. qty. of milk per household(kg)	Produced+Purchased	Average quantity of milk per household (kg.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
a) Only cow milk.	64.1	1.228	50.9	0.257	59.8	0.985
b) Only buff. milk.	28.3	2.784	49.1	0.242	55.5	1.631
c) Both cow & Buffalo milk.	7.1	1.949 2.622)	-	-	4.7	1.949 2.622)
Cow milk		1.299		0.257		1.556
Total:	100.0		100.0		100.0	
Buff.Milk.		2.752		0.242		1.450
Overall availability per day.						
Cow milk.	-	0.616	-	0.042	-	0.658
Buffalo milk.	-	0.658	-	0.039	-	0.697
Total :-		1.274		0.081		1.355

It was observed that on an average each household produced 616 gm of cow milk and 658 gm of buffalo milk, whereas the quantity purchased was 42 gm of cow milk and 39 gm of buffalo milk. The producer households are classified as 64 percent households producing cow milk, about 29 percent producing buffalo milk while 7 percent households producing cow milk as well as buffalo milk.

3.6 Utilisation of milk.

The information about utilisation of milk for the previous day of the visit in the bovine keeper households is presented in Table No.22.

Table No.22.

Utilisation of milk in bovine keeper households.

Category.	Percent of milk.			
	Consumed as fluid milk.	Sold as fluid milk.	Converted to milk products.	Balance.
(1)	(2)	(3)	(4)	(5)
Only cow milk.	49	46	4	1
Only buffalo milk.	31	66	2	1
Both { (Cow milk	40	56	3	1
(Buffalo milk.	29	68	3	-
Overall Cow milk.	48	47	4	1
Buff.Milk.	31	66	2	1

The households producing only cow milk, consumed 49 percent milk and sold 46 percent milk, whereas those producing only buffalo milk consumed 31 percent and sold 66 percent of the milk. On an average 48 percent of cow milk was utilised at home and 47 percent was sold out. The same was 31 percent and 66 per cent in respect of buffalo milk.

3.7 Distribution of inmilk animals according to daily milk yield in different ranges.

The animals observed for milk production were classified according to different ranges and are presented in Table No.23.

Table No.23.

Percentage distribution of inmilk animals according to daily yield.

S. No. Category	Daily milk yield (gm).							Total
	0	Upto 500	501 to 1000	1001 to 2000	2001 to 3000	3001 to 5000	Above 5000	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1) Cow.	4.7	29.2	32.1	21.8	6.2			
2) Buffaloes	1.3	3.3	8.5	22.5	26.7	32.2	4.4	

About 61 percent cows were found to have yield up to 1000 gms, while about 87 per cent buffaloes were producing milk above 1000 gms.

3.8 Utilisation of milk in non-bovine keeper households

Data regarding utilisation of milk were collected from 6116 non-bovine keeper households. Of these households 22.3 percent households were found to be producing milk at all.

It was observed that on an average, the non-bovine keeper householder purchased 257 gm of cow milk and 242 gm of buffalo milk.

3.9 Feeding practices.

Data on feed and fodder fed to the animals were collected from the selected households having bovines. The data were collected for the following types of animals (bovines) (i) in-milk (ii) dry and not calved even once, (iii) Adult males (iv) Young stock upto 3 years. The types of feed and fodder fed were green fodder, dry fodder and concentrates.

During the year under report, data were collected from 12773 households having 46897 cattle and 12526 buffaloes. While collecting the data on feeding, information on whether the animals were only grazed, only stalled or both, was also collected. The seasonwise details about the number of animals observed for feeding practices are given in Table No.24.

Table No.24.

Number of animals observed for feeding practices.

Category of animal.	Cattle.				Buffaloes.			
	Summer	Rainy	Winter	Total	Summer	Rainy	Winter	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Inmilk.	3395	4785	3210	11390	1627	1916	1867	5410
Dry+not calved even once	3321	3243	3159	9723	1029	1152	988	3169
Adult males	4187	4549	4017	12753	242	267	239	748
Young stock upto 3 yrs.	4323	4467	4241	13031	1011	1201	987	3199
Total :	15226	17044	14627	46897	3909	4556	4081	12526

3.10 Distribution of animals according to those only grazed, only stalled and both.

The details about the feeding practices of the bovine are given in Table No.25.

It was observed that about 11 percent were only grazed while 7 percent were only

In respect of buffaloes about 8 percent were only grazed and 7 percent were stalled only. The percentage of only grazed animals was more in young stock category.

/and
7%

Table No.25.

Percentage distribution of animals according to general feeding practices followed as only grazed (G), only stall-fed (S) or both (G + S).

Category of animal. S.No.	Summer			Rainy			Winter			Overall.		
	G	S	G+S	G	S	G+S	G	S	G+S	G	S	G+S
(1)(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<u>Cattle.</u>												
1) Inmilk.	3.0	0.8	96.2	12.0	3.8	84.2	4.8	2.8	92.4	5.2	2.5	92.3
2) Dry+N.C.	12.5	0.4	87.1	14.3	2.5	83.2	15.2	1.4	83.4	13.6	1.8	84.6
3) Adult males	2.2	5.6	92.2	13.5	1.5	85.0	8.2	5.5	86.3	7.3	4.1	88.6
4) Young stock upto 3 years.	7.3	21.8	70.9	15.9	20.3	63.8	14.5	17.8	67.7	12.7	19.9	67.4
Overall.	5.3	7.5	87.2	14.2	6.6	79.2	11.9	7.0	81.1	11.4	6.8	81.8
<u>Buffaloes.</u>												
1) Inmilk.	2.9	4.3	92.8	5.7	7.1	87.2	3.1	2.5	94.6	3.5	4.2	92.3
2) Dry+N.C.	6.5	2.5	91.1	9.6	1.7	88.7	8.2	9.7	87.8	8.4	2.4	89.5
3) Adult males			100.0	8.3	2.5	89.2	1.0	0.5	98.5	4.5	1.4	94.1
4) Young stock upto 3 years.		6.8	82.1	9.6	17.6	72.8	10.6	18.0	71.4	8.2	17.4	74.4
Overall.		6.9	89.0	7.9	8.3	83.8	8.2	6.0	85.8	7.7	6.9	85.4

3.11. Average quantity of feed/fodder fed per day per animal.

The data was collected about the feed/fodder supplied to various categories of bovine in the selected bovine keeper households. The seasonwise details of average quantity of feed/fodder fed per animal per day are presented in Table No.26. These averages are based on all the animals observed, including those kept on grazing alone also.

Table No.26
Seasonwise average quantity of feed/fodder fed per bovine per day (kg).

Season	Type of feed.	Average feed fed per day per animal (kg).							
		Cattle				Buffalo			
		In-milk	Dry+ N.C.	Adult males	Young stock	In-milk	Dry+ N.C.	Adult males	Young stock
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Summer.</u>									
	Green.	0.484	0.113	0.100	0.170	0.654	0.416	0.314	0.251
	Dry.	7.848	5.869	9.212	3.950	9.067	7.491	8.111	3.447
	Concentrates	0.191	0.010	0.154	0.002	0.865	0.018	0.181	—
<u>Rainy.</u>									
	Green.	6.724	4.975	7.036	3.198	7.616	6.750	5.643	3.273
	Dry.	2.481	2.144	2.512	0.742	4.769	1.968	3.571	0.620
	Concentrates.	0.187	0.013	0.072	0.002	0.878	0.014	0.028	0.004
<u>Winter.</u>									
	Green.	2.377	1.055	2.244	0.974	2.786	1.902	0.829	1.214
	Dry.	7.304	5.077	7.440	2.507	7.907	6.250	5.934	2.747
	Concentrates.	0.272	0.032	0.067	0.002	1.066	0.064	0.112	0.005
<u>Overall.</u>									
	Green.	3.104	2.057	3.439	1.587	3.959	3.602	1.651	1.561
	Dry.	5.942	4.354	6.091	2.353	7.085	4.729	5.908	2.292
	Concentrates.	0.216	0.019	0.093	0.002	0.944	0.030	0.110	0.003

It is seen from the table that quantity of dry fodder is fed to adult class, whereas more quantity of concentrates is fed to milk cows. In buffalo class, the highest quantity of fodder is fed to the in-milk buffaloes as compared to any other category.

3.12 Distribution of bovines fed with different types of feed and fodder, either alone or in combination.

The different categories of bovines are classified according to type of fodder fed and average quantity fed per day per animal, as presented in Table No.27. Here, those animals which received some feeding at home are only considered and the averages are based on all the three seasons together of the year.

Table No.27.

Distribution of bovines fed with different types of feed and fodder either alone or in combination and average quantity fed per animal per day.

Type of fodder fed.	Average quantity fed per animal per day(kg)				
	Inmilk	Dry+ N.C.	Adult males.	Young stock.	Overall
(1)	(2)	(3)	(4)	(5)	(6)
A) Cattle.					
i) Green.	8.7 (37.8)	7.7 (31.7)	9.9 (37.4)	4.6 (37.1)	8.2 (36.5)
ii) Dry.	8.3 (75.2)	6.6 (78.4)	8.9 (73.3)	3.8 (71.7)	7.4 (74.1)
iii) Concen- trates.	1.5 (15.6)	1.0 (2.2)	1.1 (8.7)	0.7 (0.3)	1.3 (7.5)
B) Buffaloes.					
i) Green.	10.5 (38.3)	9.0 (38.5)	8.6 (20.0)	4.9 (34.7)	8.8 (36.5)
ii) Dry.	9.1 (75.4)	6.9 (70.4)	6.7 (92.3)	3.5 (72.0)	7.1 (74.3)
iii) Concen- trates.	1.9 (48.9)	1.0 (2.8)	1.0 (1.7)	0.5 (0.6)	1.8 (24.4)

(Note : Figures in brackets indicate percentage of animals receiving some kind of feeding at home).

3.13 Production and utilisation of dung.

The data about production and utilisation on the previous day of the visit was collected. The results are presented in Table No.28. Here, only the dung collected in the stalls is only considered.

Table No. 28.

Utilisation of dung collected from bovines at stalls.

S. No.	Season	Average qty. of dung collected per day /bovine (kg).	Estimated annual qty. of dung collected. ('000 MT)	Utilisation of dung (%)			
				For manure	For dung cakes.	Other purposes.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1)	Summer	3.433 (15578)	-	71.2	22.8	6.0	100.0
2)	Rainy.	3.341 (15772)	-	80.7	7.5	11.8	100.0
3)	Winter.	3.565 (15181)	-	67.7	26.1	6.2	100.0
Overall.		3.445 (46531)	25930.618	73.2	18.8	8.0	100.0

(Note : Figures in brackets indicate number of animals observed).

The average quantity of dung collected in stalls was about 3.4 kg per animal per day. The average quantity collected was maximum in winter season. It is observed that, the dung produced is mainly used as manure, in rural areas. The quantity of dung collected in the year for the State was estimated as 25930.6 thousand metric tonnes.

3.14 Mortality in bovines.

The mortality observed during the year in various categories of cattle and buffaloes is presented in Table No.29.

Table No.29.

Percentage of mortality in bovines.

Sr. No.	Category.	Annual mortality rate in	
		Cattle,	Buffaloes.
(1)	(2)	(3)	(4)
1)	Inmilk.	1.4	0.7
2)	Dry & not calved even once.	1.8	2.1
3)	Adult males.	1.2	2.5
4)	Young stock.	1.9	7.0
Overall		1.5	2.8

It is seen from the table that the annual mortality observed in cattle class was 1.5 percent as against 2.8 percent in buffaloes. The maximum mortality percentage was observed in young stock of both the categories, especially in buffaloes.

CHAPTER -- IV.

Egg Production and Poultry Rearing Practices :

4.1 Sample size observed : For collection of data about egg production and poultry rearing practices a cluster of 5 households was observed daily from the 637 villages having poultry out of the ~~total~~ total of 655 selected villages.

The details about the number of poultry keeper households and total birds observed are given in Table No.30.

Table No.30.

Number of villages and poultry birds observed.

S. No.	Season.	No. of villages observed.	No. of households observed.	Number of poultry birds observed					Total
				Cocks	Hens	Cocks -rels.	Pulle-ts.	Chicks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1)	Summer	204	8568	3814	24331	3247	5241	14595	51228
2)	Rainy.	215	9753	3999	23258	3901	5852	23475	60485
3)	Winter.	218	8872	3549	19283	3992	5323	28359	60506
Total:		637	27293	11362	66872	11140	16416	66429	172219

During the year, data about egg production were collected for 66872 layers and data on rearing practices followed were collected for 1,72,219 poultry birds from 27293 poultry keeper households.

4.2. Average number of poultry birds per 100 poultry keeper households.

The average number of poultry birds reared per 100 poultry keeper households, on the day of visit is presented in Table No.31.

Table No.31.

Average number of poultry birds reared per 100 poultry keeper households.

S. No.	Season.	No. of birds per 100 poultry keeper households.					Total
		Cocks	Hens	Cockerels	Pullets	Chicks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1)	Summer	44 (7)	281 (46)	37 (6)	60 (10)	189 (29)	591 (100)
2)	Rainy.	41 (7)	238 (38)	40 (6)	60 (10)	241 (39)	620 (100)
3)	Winter.	40 (6)	217 (32)	45 (6)	60 (9)	320 (47)	682 (100)
	Overall.	42 (7)	245 (39)	41 (6)	60 (10)	243 (32)	531 (100)

(Note: Figures in brackets indicate percentage to total poultry).

The average number of poultry birds reared per 100 poultry keeper households was maximum (682) during winter season, while it was minimum in summer season (i.e. 591). On an average there were 531 birds per 100 poultry keeper households consisting of 42 cocks, 245 hens, 41 cockerels, 60 pullets and 243 chicks. The overall composition of poultry stock reared per 100 poultry keeper households was observed to be 7 percent cocks, 39 percent hens, 6 percent cockerels, 10 percent pullets and 33 percent chicks.

4.3 Estimated number of layers, laying percentage and eggs production.

The total egg production from Deshi birds, for each group of districts, for the three seasons of the year was estimated on the basis of the data collected in the survey. The egg production from improved layers was estimated from the data collected from commercial poultry farms. This improved egg production was estimated for the State as a whole and on yearly basis. The details are given in Tables No.32, 33, 34 and 35.

Table No. 32.

Estimated egg production from Deshi layers during Summer Season.

Sr. No.	Group of districts.	Estimated No. of layers. (in lakhs)	Laying percentage.	Total egg production (lakhs)
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	0.74	30.82	27.95
2)	Thane, Raigad.	6.69	29.63	241.93
3)	Ratnagiri, Sindhudurg.	6.58	32.13	257.86
4)	Nashik, Dhule, Jalgaon.	6.32	33.61	258.98
5)	Ahmednagar, Pune.	14.59	30.94	550.90
6)	Satara, Sangli, Kolhapur.	15.88	30.72	595.09
7)	Solapur, Latur, Osmanabad, Beed.	8.65	30.06	317.23
8)	Aurangabad, Jalna, Bulchana.	2.65	30.92	100.10
9)	Parbhani, Nanded.	1.97	29.19	70.00
10)	Akola, Amravati, Yavatmal.	4.40	30.72	164.80
11)	Wardha, Nagpur, Bhandara.	3.71	30.10	136.11
12)	Gadchiroli, Chandrapur.	3.37	29.17	120.08
	State as a whole.	75.55	30.82	2841.03
		(5.97)	(4.96)	(7.00)

Note : Figures in brackets indicate percentage standard errors.

Table No. 33.

Estimated egg production from Deshi layers during
Rainy season.

Gr. No.	Group of districts.	Estimated No. of layers. (lakhs)	Laying per cent- tage.	Total egg production (lakhs).
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	0.74	32.36	29.58
2)	Thane, Raigad.	6.63	29.20	238.06
3)	Ratnagiri, Sindhudurg.	6.45	28.77	212.36
4)	Nashik, Dhule, Jalgaon.	6.59	34.36	278.57
5)	Ahmednagar, Pune.	14.66	33.84	610.20
6)	Satara, Sangli, Kolhapur.	16.28	34.95	700.01
7)	Solapur, Latur, Osmanabad, Beed.	8.70	32.10	343.11
8)	Aurangabad, Jalna, Buldhana.	2.64	32.28	104.88
9)	Parbhani, Nanded.	2.05	29.95	75.54
10)	Akola, Amravati, Yavatmal.	4.28	29.72	156.55
11)	Wardha, Nagpur, Bhandara.	3.73	32.08	147.16
12)	Gadchiroli, Chandrapur.	3.29	32.18	130.39
	State as a whole.	76.04	32.36	3026.41
		(5.22)	(2.71)	(5.61)

(Note : Figures in brackets indicate percentage standard errors).

Table No.34.

Estimated egg production from Deshi layers during Winter Season.

Sr. No.	Group of districts.	Estimated No. of layers. (Lakh).	Laying percentage.	Total egg production (lakh).
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	0.74	34.42	30.70
2)	Thane, Raigad.	7.08	30.05	255.49
3)	Ratnagiri, Sindhudurg.	6.55	30.85	242.46
4)	Nashik, Dhule, Jalgaon.	6.52	36.98	289.40
5)	Ahmednagar, Pune.	15.19	36.24	660.42
6)	Satara, Sangli, Kolhapur.	16.01	36.38	698.77
7)	Solapur, Latur, Osmanabad, Beed.	8.68	32.55	339.17
8)	Aurangabad, Jalna, Buldhana.	2.53	36.07	109.58
9)	Parbhani, Nanded.	2.05	34.34	84.53
10)	Akola, Amravati, Yavatmal.	4.65	34.51	192.44
11)	Wardha, Nagpur, Bhandara.	3.73	31.04	138.77
12)	Gadchiroli, Chandrapur.	3.36	35.28	142.16
State as a whole.		77.09	34.42	3183.39
		(10.35)	(5.03)	(10.96)

(Note : Figures in brackets indicate percentage standard errors)

Table No. 35.

Estimated total egg production during the year (Overall).

Gr. No.	Group of districts.	Estimated No. of layers. (lakhs).	Laying percentage.	Total egg production (lakhs).
(1)	(2)	(3)	(4)	(5)
1)	FOR DESHI LAYERS.			
1)	Greater Bombay.	0.74	32.52	88.23
2)	Thane, Raigad.	6.80	29.62	735.48
3)	Ratnagiri, Sindhudurg.	6.53	29.92	712.69
4)	Nashik, Dhule, Jalgaon.	6.48	34.98	826.94
5)	Ahmednagar, Pune.	14.82	33.69	1821.52
6)	Satara, Sangli, Kolhapur.	16.05	34.03	1993.87
7)	Solapur, Latur, Osmanabad, Beed.	8.67	31.57	999.51
8)	Aurangabad, Jalna, Buldhana.	2.61	33.03	314.55
9)	Parbhani, Nanded.	2.03	31.17	230.08
10)	Akola, Amravati, Yavatmal.	4.44	31.69	513.79
11)	Wardha, Nagpur, Bhandara.	3.72	31.08	422.04
12)	Gadchiroli, Chandrapur.	3.34	32.19	392.63
	Overall for Deshi layers.	76.23 (4.37)	32.53 (2.47)	9051.35 (4.85)
	Improved Layers.	24.00	68.90	6036.00
	Overall for Deshi+ Improved layers.	100.23	41.24	15087.33

(Note: Figures in brackets indicate percentage standard errors).

The total egg production for the State, during the year was estimated as 15087.33 lakhs. Out of this, the contribution from Deshi layers was 60 percent, and from that improved layers was 40 percent.

The overall eggs obtained per deshi layers per year were 119 and that from improved layers were 251. Per capita per annum availability of eggs was 22 during the year under report.

4.4 Utilisation of eggs in poultry keeper households :

From the poultry keeper households, data regarding production and disposal of eggs on the previous day of the visit, were also collected.

It is found from the data that out of the total eggs produced 56 percent were disposed off at home for table purpose; while 9 percent were kept for hatching. About 29 per cent eggs were sold out for table purpose and 1 percent for hatching purpose. It is noticed that there was 4.5 p.c. breakage and spoilage in the total number of eggs produced during 1985-86.

4.5 Mortality in poultry.

Details regarding deaths of poultry birds occurred due to various causes during the last four months prior to the visit in the poultry keeper household were collected and the same is presented in Table No.36.

Table No.36.

Percentage distribution of deaths in Deshi poultry birds according to various causes of deaths.

Sr. No.	Category of bird.	Percentage of deaths due to					Annual mortality.
		Diseases.	Physical /mechanical forces.	Attack of animals.	Attack of birds.	Other reasons.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1)	Cocks.	7.1	0.8	1.6	1.5	0.5	11.5
2)	Hens.	5.1	0.1	0.9	0.1	0.5	6.7
3)	Cockerels	6.3	1.4	2.0	3.0	0.3	13.0
4)	Pullets.	6.0	0.5	2.1	3.0	0.1	11.7
5)	Chicks.	8.3	2.1	17.3	10.9	1.2	39.8
	Overall.	32.3	5.5	35.1	23.7	3.4	23.3

It is observed that maximum deaths occurred due to attack of animals (35.1) percent, followed by diseases (32.3 percent). The deaths due to physical or mechanical forces such as excess of heat or cold, etc. and due to attack of birds were 5.5 percent and 23.7 percent respectively.

The annual mortality in poultry birds was observed to be 23 percent, being maximum in chicks (about 40 percent) and minimum in hens (about 7 percent)

The disease-wise mortality, classification in poultry is presented in Table No. 37.

Table No. 37.

Percentage distribution of Deshi poultry birds died due to various diseases.

Sr. No.	Category of birds.	Percentage of deaths due to				Total
		Ranikhet.	Diarrhoea	Fowl-pox.	Undiagnosed diseases	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1)	Cocks.	5.6	2.2	0.7	0.9	9.4
2)	Hens.	11.7	6.6	0.7	2.6	21.6
3)	Cockerels	4.3	3.5	0.5	1.7	10.0
4)	Pullets.	5.7	5.4	0.6	1.5	13.2
5)	Chicks.	17.7	23.5	0.5	4.1	45.8
Total:-		45.0	41.2	3.0	10.8	100.0

Amongst the birds which died due to diseases, 45 percent died due to Ranikhet, 41 percent died due to diarrhoea and 3 percent died due to fowl-pox. Remaining 11 percent birds died due to other undiagnosed diseases.

4.6 Procurement and disposal of eggs in non-poultry keeper households.

The data regarding procurement and disposal of eggs were collected from the non-poultry keeper households also. From the data, it is observed that 18, 21 and 25 percent households were purchasing eggs during the summer, rainy and winter season respectively. The overall percentage of such households was 22.

Table No. 38.

Average number of eggs utilised per 100 non-poultry keeper households.

S.No.	Season.	Number of eggs per 100 non-poultry keepers		
		Consumed at home.	Balance.	Total.
(1)	(2)	(3)	(4)	(5)
1)	Summer.	48 (98)	1(2)	49(100)
2)	Rainy.	66 (97)	2(3)	68(100)
3)	Winter.	75 (92)	7(8)	82(100)
Overall.		62 (95)	3(5)	65(100)

(Note : Figures in brackets indicate percentages of eggs.)

It is seen that maximum number of non-poultry keeper households purchased eggs in winter season. The overall average number of eggs consumed at home per 100 non-poultry keeper households was 62 as against 65 eggs procured.

4.7 Feeding practices of poultry birds.

It is a common practice in villages to feed the birds with grains and cereals, twice in a day, once in the morning and then in the evening. The data on feeding were mainly collected for deshi birds only. Very few households in the villages used readymade poultry feed. Table No.39 gives the information about grains fed either alone or in combination to the poultry birds, in addition to what the birds may have consumed from the surrounding areas.

Table No.39.

Households feeding different types of feed and average quantity fed per day/bird.

Sr. No.	Name of feed.	Percentage of households feeding the feed.	Percentage of birds fed with.	Average quantity of feed fed per bird per day (gm.)
(1)	(2)	(3)	(4)	(5)
1)	Jowar.	56.4	59.3	15
2)	Rice.	19.2	16.3	19
3)	Bajra.	6.7	7.0	16
4)	Nachani.	1.5	1.4	24
5)	Masr.	0.7	1.5	121
6)	Mixed cereals	14.4	13.4	9
7)	Others.	1.1	1.1	27
	Overall.	100.0	100.0	17

It was observed that the major constituents of the feed fed to poultry birds, were Jowar either alone or in combination followed by Rice. The overall average quantity of feed fed per bird per day was 17 gms.

CHAPTER - V.

WOOL PRODUCTION, GOAT MILK PRODUCTION AND HEST PRODUCTION.

5.1 Wool production :

From the data collected in the survey, it was observed that sheep were reared in 0.8 percent households and there were 11.3 percent villages having sheep.

Distribution of villages according to sheep population.

Villages having sheep were classified according to total number of sheep in the villages.

Table No.40.

Distribution of villages according to sheep population.

Sr.No.	Number of sheep	Percentage of villages.
1)	Upto 10	5.3
2)	11 to 20	2.7
3)	21 to 50	9.5
4)	51 to 100	21.6
5)	101 to 200	18.9
6)	201 to 400	21.6
7)	401 to 600	6.8
8)	601 to 800	6.8
9)	801 to 1000	2.7
10)	Above 1000	4.1
Total :-		100.0 (74)

(note-figure in bracket indicates number of villages)

It was observed that 8 percent of the villages were having sheep upto 20, while about 31 percent were having 21 to 100 sheep per village.

5.2 Number of sheep observed.:

A total of 3195 sheep from 97 flocks were observed for sheep rearing practices. The details are given in Table No.41.

Table No.41.

Number of sheep observed.

Sr. No.	Type of flock.	Number of flocks.	Number of sheep.				Total.
			Rams.	Ewes.	Lambs Male	Lambs Female	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1)	Stationary.	83	98	1564	450	526	2638 (82.6)
2)	Migratory.	14	24	357	73	103	557 (17.4)
Total.		97	122	1921	523	629	3195 (100.0)

(Note : Figures in brackets indicate percentages to total sheep)

It is observed from the Table No.41 that about 83 percent sheep were from stationary flocks and remaining 17 percent sheep were from migratory flocks.

5.3. Estimated wool production.

The estimates of wool production in the State, worked out for 2 shearing seasons, are presented in Table No.42.

Table No.42.

Estimated Wool Production

S.No.	Season.	Estimated No.of sheep (Lakh)	Est.No.of sheep shorn(Lakh)	Av.wool yield per sheep shorn(kg)	Total wool production(M.T)
(1)	(2)	(3)	(4)	(5)	(6)
1)	<u>Rainy.</u>				
	Rams+Wethers	2.34	2.26	0.286	64.584
	Ewes.	18.42	17.85	0.279	497.986
	Lambs.	6.34	3.98	0.195	77.640
	Total:	27.10	24.09	0.266	640.210
2)	<u>Winter.</u>				
	Rams+Wether	2.34	2.22	0.329	73.010
	Ewes.	13.66	17.66	0.314	554.603
	Lambs	6.30	3.69	0.192	70.854
	Total:	27.80	23.57	0.296	698.467
3)	<u>Overall.</u>				
	Rams+Wethers	2.34	2.24	0.615	137.594
	Ewes.	18.54	17.75	0.593	1052.589
	Lambs	6.57	3.84	0.386	148.494
	Total.	27.45	23.83	0.562	1338.677

The overall average estimated wool yield per sheep shorn worked out to be 562 gm. it being 593 gm per ewes and 615 gm per adult male. The estimated wool production for the State during the year was about 1339 metric tons.

5.4 Mortality in sheep: The data regarding deaths due to various reasons was collected from the sheep keeper households at the time of enumeration. It was observed that the annual mortality in sheep was found to be 6.5 percent.

Estimated Goat milk production and goat rearing practices.

5.5 Sample size observed :

Of the total villages selected in 96.2 percent villages goats were observed. A total number of 13341 of goat keeper households and from these 16458 goats in milk were observed for goat milk production. It was observed that the percentage of in milk goats to milk goats was about 46 percent during the year under report.

5.6 Estimated goat milk production.

The details about estimates of goat milk production for groups of districts in the State during 3 seasons and for the entire year are given in Table No.43,44, 45,46, respectively.

Table No.43.

Estimated goat milk production for Summer Season.

Gr. No.	Group of districts.	Estimated No. of in milk goats (Lakhs).	Av. daily milk yield /goat in milk (kg)	Total milk production ('000 M.T.)
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	0.04	0.078	0.041
2)	Thane, Raigad.	0.79	0.078	0.751
3)	Ratnagiri, Sindhudurg	0.26	0.078	0.247
4)	Nashik, Dhule, Jalgaon	3.24	0.174	6.873
5)	Ahmednagar, Pune.	3.50	0.135	5.773
6)	Satara, Sangli, Kolhapur.	2.35	0.196	5.609
7)	Solapur, Latur, Osmanabad, Beed.	3.86	0.220	10.349
8)	Aurangabad, Jalna, Buldhana.	2.48	0.173	5.241
9)	Parbhani, Nanded.	1.62	0.157	3.095
10)	Akola, Amravati, Yavatmal.	2.80	0.104	3.557
11)	Wardha, Nagpur, Bhandara.	2.00	0.121	2.951
12)	Gadchiroli, Chanda.	0.94	0.104	1.192
	State total.	23.88	0.157	45.679

Table No.44.

Estimated goat milk production for Rainy Season.

Gr. No.	Group of districts.	Estimated number of inmilk goat (lakh).	Average daily milk yield per goat inmilk. (kg.)	Total milk production (000 M.T.)
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	0.04	0.125	0.067
2)	Thane, Raigad.	0.60	0.125	0.926
3)	Ratnagiri, Sindhudurg.	0.29	0.125	0.443
4)	Nashik, Dhule, Jalgaon.	3.30	0.177	7.196
5)	Ahmednagar, Pune.	3.51	0.185	7.984
6)	Satara, Sangli, Kolhapur.	2.45	0.233	7.022
7)	Solapur, Latur, Osmanabad, Beed.	3.17	0.279	10.884
8)	Aurangabad, Jalna, Buldhana.	2.04	0.214	5.369
9)	Parbhani, Nanded.	1.96	0.185	4.457
10)	Akola, Amravati, Yavatmal.	2.92	0.109	3.909
11)	Wardha, Nagpur, Bhandara.	1.81	0.124	2.757
12)	Gadchiroli, Chandrapur.	1.11	0.109	1.487
	State total.	23.20	0.184	2.501

Table No.45.

Estimated goat milk production for Winter Season.

Gr. No.	Group of districts.	Estimated number of goats in milk (lakhs).	Average daily milk yield per goat in milk (kg)	Total milk production ('000 M.T.)
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	0.04	0.129	0.067
2)	Thane, Raigad.	0.72	0.129	1.113
3)	Ratnagiri, Sindhudurg.	0.29	0.129	0.455
4)	Nashik, Dhule, Jalgaon.	3.11	0.235	8.758
5)	Ahmednagar, Pune.	3.74	0.149	6.697
6)	Satara, Sangli, Kolhapur.	2.51	0.205	6.178
7)	Solapur, Latur, Osmanabad, Beed.	3.76	0.268	12.094
8)	Aurangabad, Jalna, Buldhana.	2.10	0.214	5.585
9)	Parbhani, Nanded.	1.49	0.195	3.500
10)	Akola, Amravati, Yavatmal.	2.86	0.105	3.599
11)	Wardha, Nagpur, Bhandara.	1.80	0.125	2.698
12)	Gadchiroli, Chandrapur.	1.11	0.112	1.488
	State total.	23.53	0.184	52.032

Table No.46.

Estimated goat milk production for the year (overall).

Gr. No.	Group of districts.	Estimated number of inmilk goats (lakhs).	Average daily milk yield per inmilk goat (kg.)	Total goat milk production. ('000 M.T.)
(1)	(2)	(3)	(4)	(5)
1)	Greater Bombay.	0.04	0.119	0.175
2)	Thane, Raigad.	0.70	0.109	2.790
3)	Ratnagiri, Sindhudurg.	0.28	0.112	1.145
4)	Nashik, Dhule, Jalgaon.	3.22	0.194	22.826
5)	Ahmednagar, Pune.	3.58	0.157	20.455
6)	Satara, Sangli, Kolhapur.	2.44	0.211	18.809
7)	Solapur, Latur, Osmanabad, Beed.	3.60	0.254	33.326
8)	Aurangabad, Jalna, Buldhana.	2.21	0.198	15.995
9)	Parbhani, Nanded.	1.69	0.179	11.052
10)	Akola, Amravati, Yavatmal.	2.86	0.106	11.065
11)	Wardha, Nagpur, Bhandara.	1.87	0.123	8.406
12)	Gadhchiroli, Chandrapur.	1.05	0.109	4.167
	State total.	23.54	0.175	150.211

It is observed from Table No.46 that total goat milk production for the State was estimated as 150.211 thousand metric tonnes during the year. The average milk yield per goat inmilk per day was 175 gm.

5.7 Mortality in goats :

The data regarding deaths due to various reasons was collected from the goat keeper households at the time of enumeration. It was observed that the annual mortality in goats was found to be 4.2 percent.

5.8. Estimated meat production:

The meat production from different species of livestock was estimated for the State and on the yearly basis. The details are given in Table No.47.

Table No.47.

Estimated meat production.

Sr. No.	Species.	Average meat production per animal (kg).	Estimated no. of animals slaughtered (lakh)	Total meat production (1000 M.T.)
(1)	(2)	(3)	(4)	(5)
1)	Cattle.	123.190	4.14	51.002
2)	Buffalo.	144.674	2.15	31.055
3)	Sheep.	11.529	24.42	27.921
4)	Goat.	10,151	48,61	49.342
Total:-				159.320

From the above table, it is seen that the average meat produced per sheep is higher than that of goat. Out of the total meat production, 52 percent accounted from cattle, 19 percent from buffaloes, 18 percent from sheep and remaining 31 percent from goats.

5.9 Hides and skins production.

The number of hides and skins obtained during the year, were worked out for the State as a whole. The details are given in Table No.48. below :

Table No.48.

Estimated number of hides & skins.

Sr. No.	Production of	Category.	Estimated number of hides / skins (in lakhs)
(1)	(2)	(3)	(4)
1)	Hides.	a) Cattle.	6.61
		b) Buffaloes.	3.32
		Total hides.	9.93
2)	Skins.	a) Goat.	52.10
		b) Sheep.	26.01
		Total skins.	78.11

CHAPTER - VI.

SUMMARY.

The Integrated Survey Scheme has been implemented by the Department for estimation of annual production of four important livestock products viz. milk, egg, wool, and meat and to study the livestock keeping practices followed in the State. The present report deals with the results obtained from the data collected, during 1935-36.

6.1 Sampling design : The sampling design adopted for the survey was a multi-stage stratified random sampling. Thirty districts of the State were divided into 12 groups, each consisting of about 1 to 4 districts. Greater Bombay district was treated as one separate group. From remaining 11 groups of districts, 20 villages were selected randomly from each group for every season and one survey assistant was allotted the work of 5 villages for collection of data.

6.2 Results :-

(1) A total of 655 villages were visited by the survey Assistants for collection of data. The average number of households per village were 202.

(2) About 22 percent households had no livestock or poultry. Sixty-two percent of households had bovines, about 32 percent households had poultry, while 24 percent had goats and only 1 percent households reared sheep.

(3) The data regarding bovines were collected for 59423 bovines from 12773 bovine keeper households and a total of 16,800 animals were observed for milk production.

(4) The estimated number of in-milk cows was 22.30 lakh and that of in-milk buffaloes was 13.88 lakh.

(5) The average daily milk yield per in-milk cow was estimated as 1.301 kg and for in-milk buffalo ~~xx~~ as 2.482 kg.

(6) The annual milk production in the State was estimated as 2316 thousand tonnes (from bovines).

(7) Per capita per day availability of milk was found to be 93 gm (cow milk + buffalo milk).

(8) About 11 percent cattle and 8 percent buffaloes were kept on grazing alone.

(9) The average quantity of the dung dropped in the shed was 3.4 kg per day per animal. The quantity of dung collected during the year for the State was estimated as 25930.6 thousand M.Tonnes.

(10) The annual mortality observed in cattle class was 1.5 percent and that in buffaloes was 2.8 percent.

(11) A total of 27285 households were observed for egg production and poultry rearing practices. From these, about 67 thousand layers were observed for egg production.

(12) The estimated number of deshi layers for the State during the year was 76.23 lakhs and that of improved layers was 24 lakhs. The laying percentage observed was 32.53 & 68.90 in deshi layers and improved layers, respectively.

(13) The estimated egg production was worked out as 150.87 crores. Out of this, the contribution from Deshi layers was 90.51 crores and remaining 60.36 crores from improved layers.

(14) Per capita per annum availability of eggs was 22 eggs.

(15) The daily average quantity of grains fed per poultry bird was 17 gms.

(16) The annual mortality in poultry was about 23 percent, it being maximum in chicks (about 40 %).

(17) The average wool yield per sheep shorn during the year was 562 gm. The estimated annual wool production for the State was 1339 tonnes.

(18) The annual mortality in sheep was 6.5 percent.

(19) The average daily milk yield per goat in milk was 175 gms. The estimated annual goat milk production was 150 thousand tonnes.

(20) The annual mortality percentage in goats was 4.2.

(21) The average meat production per animal was 123.2 kg for cattle, 144.7 kg for buffalo, 11.5 kg for sheep and 10.2 kg for goat. The total annual meat production was estimated as 159 thousand tonnes.

(22) The number of pieces of hides obtained during the year was estimated as 9.93 lakhs and that of skins was 78.11 lakhs.