COMMERCIAL GOAT FARMING (100+5)

INTRODUCTION

Goat has been considered as dairy and meat animal for long in India. It has been given the popular name of "poor man's cow" for milk production. Goats are small animals and easy to manage. They are economical to the poor farmers and demand less labour for milk, meat and fibre. Goats provide a considerable source of income and occupation to a sizeable rural population, especially the economically and socially backward classes of the society in India.

Goat is probably the only animal which is bred for multiple purposes, such as, milk, meat, skin, hide, manure and hair. Goat milk is cheap, wholesome, easily digestible and nutritious. It is mostly recommended for infants, invalids and other suffering from tuberculosis, anaemia, peptic ulcers and prolific stances etc. Goat manure is also a valuable asset and it can be easily handled, stored and applied to the trees and plants as a fertilizer. It is the principal meat producing animal in India. Its flesh is commonly preferred to other meat and fetches better prices than mutton and beef in the market. Goat skins are used for shoes, gloves, book binding, jackets and other item. Goat may be regarded as the most valuable animal that can be maintained at low cost with more returns, if properly controlled through production and management.

The importance of goat farming has increased now due to their economic return. They need minimum in put such as supplementary feeding, veterinary medicine and labour. The growing demand for meat and skins has also contributed to their farming commercially. Goats require low initial investment as compare to cattle and buffalo. Because of their smaller body size and docile nature, they pose least management problems.

Goat is the only livestock species that lives on ecology where grazing material is virtually not available. Goats survive on available hardy shrubs under diverse harsh environments is low fertility area. Goat provides more meat and milk per unit live weight per year than cattle, sheep and camel. They are more economical than cattle and sheep. They are responsible for providing employment and means of earning to the rural poor.

A specific focus on improved system of goat production and post-harvest technology can further increase the current level of employment and alleviate protein hung. Thus goat farming has great potential in India. Hence, goat rearing under stall fed conditions is one of such rural enterprise that can be done on a commercial scale with the twin objective of employment generation and income creation. The location of goat unit should be such that there is ample facility for marketing goat products at reasonable price.

Sheep and goats are generally reared by the poor households of the rural population and provide meat, wool and manure to the society. These animals have wide adoptability to suit varied agro-climatic conditions. Thus, development of small ruminants in an integrated manner holds great potential for generating employment and enhancing rural prosperity.

Benefits of commercial goat farming -

1. Goats are multi-purpose animals which can produce milk, meat, fibre, skin together.
2. Goats require less space, less additional facilities & low management skills.
3. In small scale production, they are also able to share their homes with their owners.
4. Production costs like infrastructure, feeding and treatment are less.
5. Market facility for live animals & meat.
6. Easy to maintain a goat farm compared to farms of other animals.
7. Goats can adopt themselves with almost all types of agro-climatic conditions.
8. Smaller in size but reach slaughter age faster.
9. Goat products like meat and milk has no religious taboo & widely accepted for consumption.

Goat Milk:-

Goat milk is recommended for its health benefits & therapeutic values. Compared to cow or buffalo milk, goat milk is deemed far closer to mother’s milk in its chemical structure and digestibility. It also has better composition of proteins and useful amino acids, lending it anti-inflammatory and immunity boosting traits to guard against infections. Besides, can be milked any time of the day (ATM - any time milk), thus acquiring the well-deserved epithet of “mobile milk vending machine” or “walking refrigerators”.

SUITABLE LOCATION/SITE FOR GOAT FARMING

Almost all areas are suitable for goat farming. But we can select a land for goat farming nearer to home or select a land which has all types of facilities for successful goat farming business. During selection of land for goat farming business, the following points should be considered:

- The patch of land should have source of fresh and clean water.
- Suitable for grass, crop and other green plants production as green fodder is used to reduce feed cost.
- The selected land may not be too far from the market or town.
- Ensure there is a suitable market near your selected area for purchasing necessary commodities and medicines.
- Find out if there are any other goat farms located in your selected area.
- A suitable market with good demand for goat or meat would be much better.
- Try to select the land in village area as labourers & other inputs can easily be found within the budget in village areas.
- Ensure availability of all types of veterinary service in the area. If not, stock the required vaccines and medicines in the farm.
- Good transportation system to easily sell the products and buy necessary commodities from nearest market or town.

HOUSING OF GOATS

The houses should be semi-closed type & orientation should be East- West direction. Sloppy roof is best for the comfort of the goats. Maximum length of shed = 100 ft. Width of the shed = 15-20 ft. Central height=3 mtrs., Side height= 2 mtrs. Height of North & South side walls=1 mtr.(50% of side height)

There should be separate houses for keeping different category of goats such as - (dry, pregnant, lactating, sick bucks & kids).

Shed premises should have sufficient plantation which protects the animals from direct wind & scorching sun during summer. At least 2 trees in each paddock should be planted.

Shed Area:-

Type of goat	**Floor space (Sq. metres)**	**No.of goats/ shed**
Dry goat	1.0-1.2	60-80
Buck	1.5-2.0	Individual pen
Milch goat(stall size)	1.4x1.2	50-60
Kids (3-6 m.)	0.5-0.6	75-100*
Kids (6-12m)	0.8-1.0	60-80*
Open yard/paddock	1.5-2.0 times of floor space in shed.	

* With 3-4 partition & 20-25 kids in each portion.

Feeding Mangers:

Concrete/brick partition with GI pipe at a distance of 30 cm would be economical with long shelf life.

OD: 8.2x0.8x0.3 m ID: 8.0x0.6x0.2m. A manger of same dimensions is also required in each paddock.

Watering:

For adult: - made of concrete/bricks. Size: ID: 4.80x0.90x0.37m.

For young animals (3-6 Months) : 3.60x0.75x0.30 m.

For kids (0-3 months) : Plastic tubs of 8-10 litre capacity may be used

FEED AND FODDER

Goat is fastidious eater & likes browsing. Common feeds & fodders of goat are :-

a) Roughage

Tree/Bushes/Shrubs leaves, Neem, Peepal, Bargad, Golar, Jamun, Angir, Babul, Jharberi, Bhimal, Ber, Mulberry, anjan, Bamboo, Subabul, Karonda, Gokhuru etc.

Hays - Cowpea, Berseem, Oats.

Straws - Arhar, Gram, Wheat and Paddy.

Grasses - Dub, Anjana, Sawain, Zarga, Kankunwa etc.

Cultivated fodders & their hay/bhusa- Lobia, bereseem, Lucerne, oats,maize, bajra, para grass.

b) Concentrate

Cheap & easily available feed ingredients shall be used for computing concentrate feed for goats. Babul Pods, Gram, Wheat Bran, GNC, Sesame Cake, Arhar Grain, Maize, owar, Bajra, Barley and Guar, Jungle Bean Pods. Mineral mixture 2% & Iodized common salt 1% shall be mixed.

BREEDING SEASON

Sr.No	Season	Season in Heat	Kidding Season	Remark
a	Summer	March - April	Aug - Sept	
b	Rainy	June - July	Nov - Dec	Best
c	Winter	Oct - Nov	Jan - Feb	

a. Kidding=80-90%, b. Twinning=40%, c. Triplicate=10%, d. Single=50%

TERMINOLOGY:

- Buck - an adult, male goat
- Doe - an adult, female goat
- Kid - a young goat
- Kidding – a process of giving birth in goat
- Lactation – milk yielding period
- Market animal - livestock bred and produced for food consumption

PROJECT REPORT

Pre-requisites

1. The promoter should be well acquainted with goat farming

2. Hands on experience about goat farming operations is a must before taking up the enterprise.

3. Source of good quality genetic stock.

4. Availability of required inputs like feed, fodder, medicine, vaccine, veterinary aid etc.

2. Local marketing facility for live goat & goat meat.

This project report is based on the following techno-economic parameters:-

TECHNO ECONOMIC PARAMETERS				
Sl No	**PARTICULARS**	**ITEMS**	**UoM**	**SPECIFICATION**
A	**GENERAL SPECIFICATIONS**			
1	Breed			Black Bengal
2	Age		Year	About 2 years
3	Health condition			Apparently healthy
4	Rearing system			Semi intensive
5	Age at maturity		Month	12
6	Kidding interval		Month	8
7	No.of kiddings		Year	1.5
8	Kidding		%	90
9	Kid mortality		%	15
10	Adult mortality		%	5
11	Average litter size (average of single, twinning, triplet, quadruplet)		No	2
12	Cost of	Adult Doe	Rs.	5000
13	Cost of	Adult Buck	Rs.	8000
14	Adult Does		No	100
15	Adult Bucks		No	5
16	Total of adult animals		No	105
17	Total of kids/year		No	270
18	Male:Female kids		Ratio	1:01
19	Male kids born / year		No	135
20	Female kids born / year		No	135
21	Saleable age of young animals		Month	11
22	Area for fodder cultivation		Acre	2
23	Cost of	Fodder cultivation/acre/season	Rs.	6000
24	Cost of	Fodder transportation/tractor load	Rs.	100
25	Labourer		No	1
26	Labour wage / month		Rs.	7000
27	Door to door repayment tenure of term loan		Month	84
28	Interest rate		%	10
29	Economic viability of the project depends upon			Proper care & attention of the promoter

30	Adult animal replacement in case of death		No	Out of insurance claims
31	Young males for sale/year		No	115
32	Young females for sale/year		No	115
33	Space requirement / Buck		Sq.ft	15
34	Space requirement / Doe		Sq.ft	10
35	Space requirement / Kid		Sq.ft	4
36	Cost of	Shed construction	Sq.ft	200
37	Cost of	PVC Over Head Tank with stand (1000 ltr capacity)	Rs.	10000
38	Cost of	Inverter(1.5 KVA)	Rs.	30000
39	Water requirement/adult animal/day		Liter	10
40	Water requirement/kid/day		Liter	3
41	Electricity requirement/adult animal/day		Watt	2
42	Electricity requirement/kid/day		Watt	3
43	Conc.feed / doe / month / kidding (one month before breeding and one month after kidding)		Kg	6.75
44	Conc.feed / buck / month (two months per breeding season)		Kg	7.5
45	Conc.feed / kid / month (for 1 month)		Kg	3.75
46	Total feed quantity / year	Conc.feed	MT	2.5
47	Cost of	Conc.feed	Rs.	20
48	Cost of	Conc.feed transportation / MT	Rs.	400
49	Conc.feed / bag		Kg	50
50	Insurance premium / annum (on cost of adult buck)		%	5
51	Insurance premium / annum (on cost of adult doe)		%	5
52	Insurance premium / annum (on cost of saleable young male)		%	5
53	Insurance premium / annum (on cost of saleable young female)		%	5
54	Total cost of Insurance premium / annum		Rs.	78750
55	Cost of	Veterinary aid /adult animal /year	Rs.	50
56	Cost of	Veterinary aid / kid / year	Rs.	20
57	Total cost of Veterinary aid / year		Rs.	10650
58	Cost of	Electricity/year for adult animals	Rs.	10
59	Cost of	Electricity/year for kids	Rs.	5
60	Total cost of Electricity / year		Rs.	3000
61	Cost of	Water supply/year for adult animals	Rs.	5
62	Cost of	Water supply/year for kids	Rs.	3
63	Total cost of Water supply / year		Rs.	1500
64	Green fodder / day / adult animal		Kg	1.5
65	Green fodder / day / kid		Kg	0.5
66	Total green fodder / year		Tractor load	85
67	Dry fodder / day /adult animal		Kg	0.5
68	Dry fodder / day / kid		Kg	0.25
69	Total green fodder / year		Tractor load	22
70	Quantity of green fodder/tractor load		Kg	1000
71	Quantity of dry fodder/tractor load		Kg	1500
72	Contingency cost / adult animal / year		Rs.	50

73	Contingency cost / kid / year		Rs.	20
74	Total Contingency cost / year		Rs.	10650
75	Cost of	Equipment for adult animals	Rs.	30
76	Cost of	Equipment for kids	Rs.	15
77	Cost of	Electrification for adult animals	Rs.	25
78	Cost of	Electrification for kids	Rs.	25
79	Cost of	Water supply for adult animals	Rs.	55
80	Cost of	Water supply for kids	Rs.	20
81	Cost of	Feeding equipment for adult animals	Rs.	25
82	Cost of	Feeding equipment for kids	Rs.	15
83	Cost of	Drinking equipment for adult animals	Rs.	25
84	Cost of	Drinking equipment for kids	Rs.	10
85	Cost of	Misc./ contingency items for adult animals	Rs.	50
86	Cost of	Misc./ contingency items for kids	Rs.	25
87	Sale price of	Young male	Rs.	5000
88	Sale price of	Young female	Rs.	4000
89	Manure		Rs.	To be used for fodder cultivation
90	Sale price of	Gunny bag	Rs.	15
91	Sale price of	Culled animal	Rs.	1000
92	Culled animals / year		%	5

B	**CAPITAL COST**			
1	Purchase cost of	Adult buck	Rs.	40000
2	Purchase cost of	Adult doe	Rs.	500000
3	Cost of	Shed construction	Rs.	431000
4	Cost of	Equipment for adult animals	Rs.	3150
5	Cost of	Equipment for kids	Rs.	4050
6	Cost of	Electrification for adult animals	Rs.	2625
7	Cost of	Electrification for kids	Rs.	6750
8	Cost of	PVC Over Head Tank with stand (1000 ltr cap)	Rs.	10000
9	Cost of	Inverter(1.5 KVA)	Rs.	30000
10	Cost of	Water supply for adult animals	Rs.	5775
11	Cost of	Water supply for kids	Rs.	5400
12	Cost of	Feeding equipment for adult animals	Rs.	2625
13	Cost of	Feeding equipment for kids	Rs.	4050
14	Cost of	Drinking equipment for adult animals	Rs.	2625
15	Cost of	Drinking equipment for kids	Rs.	2700
16	Cost of	Misc./ contingency items for adult animals	Rs.	5250
17	Cost of	Misc./ contingency items for kids	Rs.	6750
		Sub Total		**1062750**
18	Expenses for one year	Int & Bank loan & Recurring Exps	Rs.	349250
		TOTAL		**1412000**

C	MEANS OF FINANCE:			
1	Bank Loan at 10% interest payable in 72 instalments after one year moratorium			797000
2	Promoter's Contribution			615000
3		**TOTAL**		**1412000**
4	Debt/Equity			1.30
5	Promoter's Contribution			43.56%

D	**FLOCK PROJECTION CHART**							
		Year						
	Particulars	**1st**	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**
1	No. of does purchased	100	0	0	0	0	0	0
2	No. of bucks purchased	5	0	0	0	0	0	0
3	Kidding (%)	90	90	90	90	90	90	90
4	Average litter size	2	2	2	2	2	2	2
5	No. of kidding/year	1.5	1.5	1.5	1.5	1.5	1.5	1.5
6	No. of male kids	135	135	135	135	135	135	135
7	No. of female kids	135	135	135	135	135	135	135
8	Mortality (%)	15	15	15	15	15	15	15
9	No of male kids died	20	20	20	20	20	20	20
10	No of female kids died	20	20	20	20	20	20	20
11	No. of male kids available for sale	0	115	115	115	115	115	115
12	No. of female kids available for sale	0	115	115	115	115	115	115

ECONOMICS OF GOAT FARMING

Year	1st	2nd	3rd	4th	5th	6th	7th
Income:							
Sale of young males	0	575000	575000	575000	575000	575000	575000
Sale of young females	0	460000	460000	460000	460000	460000	460000
Sale og gunny bags	750	750	750	750	750	750	750
Sale of culled animals	5000	5000	5000	5000	5000	5000	5000
Total Income	**5750**	**1040750**	**1040750**	**1040750**	**1040750**	**1040750**	**1040750**
Expenditure:							
Cost of conc. feed for does	27000	27000	27000	27000	27000	27000	27000
Cost of conc. feed for bucks	1500	1500	1500	1500	1500	1500	1500
Cost of conc. feed for kids	20250	20250	20250	20250	20250	20250	20250
Cost of transportation of conc. feed	1000	1000	1000	1000	1000	1000	1000
Cost of fodder cultivation	12000	12000	12000	12000	12000	12000	12000
Cost of transport of green fodder	8500	8500	8500	8500	8500	8500	8500
Cot of transport of dry fodder	2200	2200	2200	2200	2200	2200	2200
Electricity charges	3000	3000	3000	3000	3000	3000	3000
Water supply expenses	1500	1500	1500	1500	1500	1500	1500
Cost of veterinary aid	10650	10650	10650	10650	10650	10650	10650
Insurance premium	78750	78750	78750	78750	78750	78750	78750
Wages	84000	84000	84000	84000	84000	84000	84000
Contingency & misc. exp.	10650	10650	10650	10650	10650	10650	10650
Sub Total	261000	261000	261000	261000	261000	261000	261000
Interest on Bank Loan	79700	74719	61435	48151	34867	21583	8299
Total expenditure	**340700**	**335719**	**322435**	**309151**	**295867**	**282583**	**269299**
Profit	**-334950**	**705032**	**718316**	**731600**	**744884**	**758168**	**771452**

BCR & IRR							
Year	**1st**	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**
Total Cost							
Initial Project cost	1412000						
Total recurring cost	261000	261000	261000	261000	261000	261000	261000
Total Cost	1673000	261000	261000	261000	261000	261000	261000
Total Income	5750	1040750	1040750	1040750	1040750	1040750	1040750
	-1667250	779750	779750	779750	779750	779750	779750
Total cost NPW @15%	2497870						
Total Income NPW @15%	3429957						
NPW	932087						
BCR	1.373						
IRR	29.50%						

REPAYMENT SCHEDULE								
Year		**Bank Loan(OB)**	**Surplus**	**Interest**	**Principal**	**Total Repayment**	**Net Surplus**	**Bank Loan (CB)**
Bank Loan availed		**797000**						
1st year	1st Quarter	797000	-255250	19925	0	19925	-334950	797000
	2nd Quarter	797000		19925	0	19925		797000
	3rd Quarter	797000		19925	0	19925		797000
	4th Quarter	797000		19925	0	19925		797000
Total 1st year			**-255250**	**79700**	**0**	**79700**	**-334950**	
2nd year	1st Quarter	797000	779750	19925	33210	53135	572192	763790
	2nd Quarter	763790		19095	33210	52305		730580
	3rd Quarter	730580		18265	33210	51475		697370
	4th Quarter	697370		17434	33210	50644		664160
Total 2nd year			**779750**	**74719**	**132840**	**207559**	**572192**	
3rd year	1st Quarter	664160	779750	16604	33210	49814	585476	630950
	2nd Quarter	630950		15774	33210	48984		597740
	3rd Quarter	597740		14944	33210	48154		564530
	4th Quarter	564530		14113	33210	47323		531320
Total 3rd year			**779750**	**61435**	**132840**	**194275**	**585476**	
4th year	1st Quarter	531320	779750	13283	33210	46493	598760	498110
	2nd Quarter	498110		12453	33210	45663		464900
	3rd Quarter	464900		11623	33210	44833		431690
	4th Quarter	431690		10792	33210	44002		398480
Total 4th year			**779750**	**48151**	**132840**	**180991**	**598760**	
5th year	1st Quarter	398480	779750	9962	33210	43172	612044	365270
	2nd Quarter	365270		9132	33210	42342		332060
	3rd Quarter	332060		8302	33210	41512		298850
	4th Quarter	298850		7471	33210	40681		265640
Total 5th year			**779750**	**34867**	**132840**	**167707**	**612044**	
6th year	1st Quarter	265640	779750	6641	33210	39851	625328	232430
	2nd Quarter	232430		5811	33210	39021		199220
	3rd Quarter	199220		4981	33210	38191		166010
	4th Quarter	166010		4150	33210	37360		132800
Total 6th year			**779750**	**21583**	**132840**	**154423**	**625328**	
7th year	1st Quarter	132800	779750	3320	33210	36530	638652	99590
	2nd Quarter	99590		2490	33210	35700		66380
	3rd Quarter	66380		1660	33210	34870		33170
	4th Quarter	33170		829	33170	33999		0
Total 7th year			**779750**	**8299**	**132800**	**141099**	**638652**	
GRAND TOTAL			**4423250**	**328751**	**797000**	**1125751**	**3297499**	

CASH FLOW STATEMENT:								
Year	**1st**	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**	**Total**
Receipts								
Opening Balance	0	14300	86492	171967	170727	182770	208098	0
Promoter's Contribution	615000							615000
Bank Loan	797000							797000
Sale of young males	0	575000	575000	575000	575000	575000	575000	3450000
Sale of young females	0	460000	460000	460000	460000	460000	460000	2760000
Sale og gunny bags	750	750	750	750	750	750	750	5250
Sale of culled animals	5000	5000	5000	5000	5000	5000	5000	35000
Total Receipts	**1417750**	**1055050**	**1127242**	**1212717**	**1211477**	**1223520**	**1248848**	**7662250**
Payments								
Purchase cost of 5 nos Adult buck	40000							40000
Purchase of 100 nos Adult doe	500000							500000
Construction of Shed	431000							431000
Cost of equipments for adult animals	3150							3150
Cost of equipment for kids	4050							4050
Cost of electrification for adult animals	2625							2625
Cost of electrification for kids	6750							6750
Cost of PVC Over Head Tank with stand (1000 ltr capacity)	10000							10000
Cost of Inverter(1.5 KVA)	30000							30000
Cost of water supply for adult animals	5775							5775
Cost of water supply for kids	5400							5400
Cost of feeding equipment for adult animals	2625							2625
Cost of feeding equipment for kids	4050							4050
Cost of drinking equip.t for adult animals	2625							2625
Cost of drinking equipment for kids	2700							2700
Misc./ contingency items for adult animals	5250							5250
Misc./ contingency items for kids	6750							6750
Cost of conc.feed for does	27000	27000	27000	27000	27000	27000	27000	189000
Cost of conc.feed for bucks	1500	1500	1500	1500	1500	1500	1500	10500
Cost of conc.feed for kids	20250	20250	20250	20250	20250	20250	20250	141750
Cost of transportation of conc.feed	1000	1000	1000	1000	1000	1000	1000	7000
Cost of fodder cultivation	12000	12000	12000	12000	12000	12000	12000	84000
Cost of transport of green fodder	8500	8500	8500	8500	8500	8500	8500	59500
Cot of transport of dry fodder	2200	2200	2200	2200	2200	2200	2200	15400
Electricity charges	3000	3000	3000	3000	3000	3000	3000	21000
Water supply expenses	1500	1500	1500	1500	1500	1500	1500	10500
Cost of veterinary aid	10650	10650	10650	10650	10650	10650	10650	74550
Insurance premium	78750	78750	78750	78750	78750	78750	78750	551250
Wages	84000	84000	84000	84000	84000	84000	84000	588000
Contingency & misc. exp.	10650	10650	10650	10650	10650	10650	10650	74550
Interestr on Bank Loan	79700	74719	61435	48151	34867	21583	8299	328751
Repayment of Bank loan(Principal)	0	132840	132840	132840	132840	132840	132800	797000
Drawings by Promoter	0	500000	500000	600000	600000	600000	700000	3500000
Closing Balance	14300	86492	171967	170727	182770	208098	146749	146749
TOTAL	1417750	1055050	1127242	1212717	1211477	1223520	1248848	7662250