Commercial Goatery

1. Why do goat rearing?

Goat is a multi functional animal and plays a significant role in the economy and nutrition of landless, small and marginal farmers in the country. Goat rearing is an enterprise which has been practiced by a large section of population in rural areas. Goats can efficiently survive on available shrubs and trees in adverse harsh environment in low fertility lands where no other crop can be grown. In pastoral and agricultural subsistence societies in India, goats are kept as a source of additional income and as an insurance against disaster. Goats are also used in ceremonial feastings and for the payment of social dues. In addition to this, goat has religious and ritualistic importance in many societies. The advantages of goat rearing are :

i) The initial investment needed for Goat farming is low.

ii) Due to small body size and docile nature, housing requirements and managemental problems with goats are less.

iii) Goats are friendly animals and enjoy being with the people.

iv) Goats are prolific breeders and achieve sexual maturity at the age of 10-12 months gestation period in goats is short and at the age of 16-17 months it starts giving milk. Twinning is very common and triplets and quadruplets are rare.

v) In drought prone areas risk of goat farming is very much less as compared to other livestock species.

vi) Unlike large animals in commercial farm conditions both male and female goats have equal value.

vii) Goats are ideal for mixed species grazing. The animal can thrive well on wide variety of thorny bushes, weeds, crop residues, agricultural by-products unsuitable for human consumption.

viii)Under proper management, goats can improve and maintain grazing land and reduce bush encroachment (biological control) without causing harm to the environment.

ix) No religious taboo against goat slaughter and meat consumption prevalent in the country.

x) Slaughter and dressing operation and meat disposal can be carried without much environmental problems.

xi) The goat meat is more lean (low cholesterol) and relatively good for people who prefer low energy diet especially in summer and sometimes goat meat (chevon) is preferred over mutton because of its "chewability"

xii)Goat milk is easy to digest than cow milk because of small fat globules and is naturally homogenised. Goat milk is said to play a role in improving appetite and digestive efficiency. Goat milk is non allergic as compared to cow milk and it has anti-fungal and anti bacterial properties and can be used for treating urogenital diseases of fungal origin.

xiii) Goats are 2.5 times more economical than sheep on free range grazing under semi arid conditions.

xiv)Goat creates employment to the rural poor besides effectively utilising unpaid family labour. There is ample scope for establishing cottage industries based on goat meat and milk products and value addition to skin and fibre.

xv)Goat is termed as walking refrigerator for the storage of milk and can be milked number of times in a day.

2 Scope for goat rearing and its national importance

2.1 The country has 115.278 million goat as per 1992 livestock census has increased to 120.8 million in 1997 and ranks first in the world. The state wise goat population is given in Annexure-I. Goat meat production stands at the level of 0.47 million tonnes. The slaughter rate of goat is at the level of 39.7 % as compared to 31.8% for sheep and 11% for buffaloes respectively. Goat also produce 2.55 million tonnes of milk and 0.1288 million tonnes of skin as per FAO 189 records 2002 report (Annexure-II).The trend in consumption of mutton and goat meat shows increase from 467000MT in 1981 to 696000 MTin 2002indicating annual compound growth rate of 1.28 % during 92-02.Sheep and goat meat production has reached 700400MT during 2002in India. Ovine meat export has touched 29670 thousand $ during 2000 which was then reduced to 5635thousand $ during 2001.

2.2 Goat make a valuable contribution to the livelihood of economically weaker sections of the society. Amongst the livestock owners goat rearers are the poorest of the lot.

2.3 Realising the importance of goat in the agrarian economy of the country, various developmental activities have been taken up by Govt.of India. The Central Government had established Central Institute for Research on Goats at Makhdoom, Farah, Mathura District,UttarPradesh. During VIII Plan Period Seven Intensive goat breeding farms were proposed with the objectives:

i) To produce 1000 stud bucks per year for the distribution among goat rearers

ii)To improve yield of milk and chevon through selective breeding of regular breeds like Jamnapari, Beetal, Barbari, Jakhrana, Jhalawadi.

iii)Cross breeding of non Pashmina goats with Angora goats to produce Mohair in Jammu and Kashmir, Himachal Pradesh and Uttar Pradesh.

iv) To conserve germ plasm of regular breeds like Jamnapari, Beetal, Barbari, Black Bengal, Malbari, Sirohi etc.

3. Financial assistance available from banks/NABARD for Goat rearing

3.1 NABARD is an apex institution for all matters relating to policy, planning and operation in the field of agricultural credit. It serves as refinancing agency for the institutions providing investment and production credit for agriculture and rural development. It promotes development through a well organised Technical Services Department at the head office and Technical Cells at each of the Regional Offices.

3.2 Loan from banks with refinance facility from NABARD is available for starting Goat farming. For obtaining bank loan, the farmers should apply to the nearest branch of a Commercial or Co-operative or Regional Rural Bank in their area in the prescribed application form which is available in the branches of financing bank. The Technical Officer attached to or the Manager of the bank can also help/give guidance to the farmers in preparing the project report to obtain bank loan.

3.3 For goat rearing schemes with very large outlays, detailed reports will have to be prepared. The items of finance would include costs of assets like Development of land, construction of sheds, purchase of equipments, purchase of breeding stock, rearing cost of animals till it generates income etc. The cost of land is not considered for loan. However, if land is purchased for setting up a goat farm its cost can be treated as party's margin as per the norms.

4. Schme formulation

4.1 A scheme can be prepared by a beneficiary after consulting local technical persons of State animal husbandry department, Commercial farmers etc. If possible the beneficiaries should also visit progressive goat rearers and government/ military/ agricultural university farms in the vicinity and discuss the profitability of goat rearing. A good practical training and experience in goat rearing will be highly desirable. Nearness of

the Goat farm to a veterinary aid centre and breeding centre should be ensured.

4.2 The scheme should include information about land, livestock markets, availability of water, feed, fodders, veterinary aid, breeding facilities, marketing aspects, training facilities, experience of the farmer and the type of assistance available from State Government.

4.3 The scheme should also include information on number and types of animals to be purchased, their breeds, production performance, cost and other relevant input and output costs with their description. Based on this, the total cost of the project, margin money to be provided by the beneficiary, requirement of the bank loan, estimated annual expenditure, income, profit and loss statement, repayment period etc, can be worked out and included in the scheme.

5. Requirements of a Good Project

A format developed for formulation of Goat rearing schemes is appended as Annexure-III. The scheme so formulated should be submitted to the nearest branch of bank. The bank's officers can assist in preparation of the scheme or filling in the prescribed application form. The bank will then examine the scheme for its technical feasibility and economic viability.

A) Technical Feasibility - This would briefly include

i) Nearness of the selected area to veterinary dispensary, goat breeding centre, marketing outlets for fattened kids/meat and the financing bank's branch.

ii) Availability of good quality animals in nearby livestock markets. The distribution of goat breeds in India are given in Annexure-IV and Fig. 1. Production parameters of breeds are given in Annexure V and VI.

iii) Availability of training facilities.

iv) Availability of good grazing ground/lands.

v) Availability of Green/dry fodder, concentrate feed, medicines etc.

vi)Availability of veterinary aid/breeding centers and marketing facilities near the same area.

B) Economic Viability - This would briefly include :

i) Unit cost of animals

ii) Input cost for feeds and fodders, veterinary aid, insurance charges, etc.

iii) Output costs i.e. sale price of live animals, manure/penning charges, etc.

iv) The average unit cost (indicative only) of goat rearing units is assumed for calculating project cost.

v) Income-expenditure statement and annual gross surplus.

vi)Cash flow analysis.

vii)Repayment schedule (i.e. repayment of principal loan amount and interest).

Other documents such as loan application forms, security aspects, margin money requirements etc. are also examined. A field visit to the scheme area is undertaken for conducting a techno-economic feasibility study for appraisal of the same. The model economics of goat rearing unit of 50+2 under semi intensive system is

given in Annexure VIIa to VIIf.

6. Sanction of Bank Loan and its Disbursement

After ensuring technical feasibility and financial viability, the scheme is sanctioned by the Bank. The loan is disbursed in stages against creation of specific assets, purchase of equipments and animals. The end use of the loan is verified and constant follow-up is done by the bank.

7.0 Lending Terms - General

7.1 Unit cost:

Each Regional Office of NABARD has constituted a State Level Unit Cost Committee under the chairmanship of RO-in-charge and with the members from developmental agencies, commercial banks and co-operative banks to review the unit cost of various investments once in six months. The same is circulated among the banks for their guidance.

7.2 Margin Money:

NABARD has defined farmers into three different categories and where subsidy is not available the minimum down payment as shown below is collected from the beneficiaries.

Sr. No.	Category of Farmer	Beneficiary's contribution
a)	Small farmer	5%
b)	Medium farmers	10%
c)	Large farmers	15%

7.3 Interest Rate for ultimate borrowers :

Banks are free to decide the rate of interest within the overall RBI guidelines.However, for working out the financing viability and bankability of the model project we have assumed the rate of interest as 12% p.a.

7.4 Security:

Security will be as per NABARD/RBI guidelines issued from time to time.

7.5 Repayment Period of Loan:

Repayment period depends upon the gross surplus in the scheme. The loans will be repaid in suitable half yearly/annual instalments usually within a period of about 5-6 years with a grace period of one year.

7.6 Insurance:

The animals may be insured annually or on long term master policy, where ever it is applicable. The present rate of insurance premium for non IRDP schemes is 4% per annum.

8.Package of Common Management Practices Recommended for Goat rearing

Modern and well established scientific principles, practices and skills should be used to obtain maximum economic benefits from goat rearing. Some of the recommended practices are given here under :

I. Housing management:

1) Construct shed on dry and properly raised ground.

2) Avoid water-logging, marshy areas.

3) In low lying and heavy rainfall areas the floors should be preferably elevated.

4) In temperate Himalayan region the floor may be made of wood.

5) The shed should be 10 ft. high and should have good ventilation.

6) Bucks should be housed in individual pens.

7) Does can be housed in groups upto 60 per pen.

8) Provide proper shade and cool drinking water in summer.

9) Dispose of dung and urine properly.

10) Give adequate space for the animals. The housing space required for

11) goats of various age groups is given in Annexure VIII.

12) Avoid over stocking or crowding

II. Selection of breeding stock and it's management:

1. Immediately after release of the loan purchase the stock from a reliable breeders or from nearest livestock market.

2. Animals in good health and having good physical features must be purchased in consultation with Veterinarian/ Bank's technical officer.

3.Purchase animals which are ready to breed and in prime stage of production.

4.Identify the newly purchased animals by suitable identification mark.

5. Vaccinate the newly purchased animals against the diseases

6.Keep the newly purchased animals under observation for about 15 days and then mix with the general flock.

7.Unproductive animals should be culled promptly and should be replaced by the newly purchased animals or farm born one

8. Animals are to be bred at the interval of 8-9 months for maximum productivity.

9. Cull the old animals at the age of 6 years and above.

10. Avoid the kidding during peak periods of summer and winter.

III. Feeding management:

1.Ensure Bushes/shrubs for browising of animals

2.As an alternative to above, supply of cultivated fodder from own farm or from surrounding farms may be ensured.

3.Offer roughages adlib.

4.As a thumb rule 2/3rds of the energy requirements should be met through roughages. Half of the roughages should be leguminous green fodders and rest half should be grasses/tender tree leaves.

5. In the absence of good quality green fodders, concentrates must be considered to replace them.

6. Kids should be fed colostrum upto 5 days of age. Later on they can be put on Kid starter rations.

7.Green leguminous fodders should be offered adlib. to kids from 15 days onwards.

8.Provide salt and water to kids at all times

9. Additional concentrates should be given to bucks and does during breeding season.

10.Care should be taken to meet the nutrient requirements as recommended (Annexure-IX).

IV. Protection against diseases:

1.Be on the alert for signs of illness such as reduced feed intake, fever, abnormal discharge or unusual behaviour.

2.Consult the nearest veterinary aid centre for help if illness is suspected.

3. Protect the animals against common diseases.

4. In case of outbreak of contagious diseases, immediately segregate the sickanimals from healthy one and take necessary disease control measures.

5.Deworm the animals regularly.

6.Examine the faeces of adult animals to detect eggs of internal parasites and treat the animals with suitable drugs.

7.Provide clean and uncontaminated feed and water for minimising the health disorders.

8. Strictly follow the recommended vaccine schedule as given in Fig. 2.

V. Breeding care:

1. It should be planned to obtain 3 kiddings in 2 years period by adopting optimal management conditions.

2. For every 25 does one buck should be provided in one breeding season.

3. Breed the animals 12 hours after the onset of the first symptoms of heat for maximum conception.

4. Unbreedable animals must be examined thoroughly as directed by veterinary doctor for prompt elimination of causes for anoestrum or cull them if necessary.

VI. Care during pregnancy:

In advanced stage of pregnancy the does must be transferred to either kidding pens or separately earmarked space for kidding with in the main shed after thoroughly disinfecting it. After kidding, the does should be provided with warm bran mash for two days.

VII. Care of kids:

1. Take care of new born kids by providing guard rails.

2. Treat / disinfect the naval cord with tincture of iodine as soon as it is cut with a sharp knife.

3. Protect the kids from extreme weather conditions, particularly during the first two months.

4. Dehorn the kids during first two weeks of age

5. Male kids should be castrated for better quality meat production.

6. Vaccinate the kids as per the recommended schedule

7. Wean the kids at the age of 8 weeks

8. Proper selection of kids on the basis of initial body weight and weaning weight should be initiated by maintaining appropriate records for replacing the culled adult stock as breeders.

9. Additional feed requirements of lactating does must be ensured for proper nursing of all the piglets born.

VIII.Marketing:

The marketable products of goat farming includes the fattened kids, manure, culled animals. Marketing avenues for the above products are slaughter houses and individual meat consuming customers and agriculture farms. Therefore availability of either slaughtering facilities or traders who will purchase live animals should be ensured to convert the fatteners into wholesome meat and meat products. Further, demand for manure from nearby agriculture farms must also be ensured.

Annexure I

STATEWISE GOAT POPULATION IN INDIA (1997)

(inthousands)

Sl No.	States/U.T.s	Total
1	Andhra Pradesh	5213
2	Arunachal Pradesh	154
3	Assam	2717
4	Bihar	20229

6	Goa	13
7	Gujarat	4386
8	Haryana	968
9	Himachal Pradesh	1168
10	Jammu & Kashmir	1864
11	Karnataka	4875
12	Kerala	1598
13	Madhya Pradesh	6470
14	Maharashtra	11434
15	Manipur	33
16	Meghalaya	280
17	Mizoram	15
18	Nagaland	161
19	Orissa	5772
20	Punjab	414
21	Rajasthan	16971
22	Sikkim	86
23	Tamil Nadu	6416
24	Tripura	639
25	Uttar Pradesh	11784
26	Uttaranchal	1070
27	West Bengal	15648
	Union Territories	
28	Andaman & Nicobar Islands	71

30	Dadra & N Haveli	20
31	Daman & Diu	5
32	Delhi	25
33	Lakshadweep	26
34	Pondicherry	41
	All INDIA	122721

Annexure II

GOAT MILK, MEAT, SKIN AND MANURE PRODUCTION IN INDIA

Year	Milk Production (Million MT)	Meat Production (Million MT)	Skin Production (Million MT)
1998	2.5	0.462	0.126
1999	2.3	0.466	0.127
2000	2.4	0.467	0.128
2001	2.5	0.469	0.1288
2002	2.55	0.470	0.1288

Source : FAO Production year book (2002)

Annexure III

Format for submission of schemes Scheme : Commercial Goat farming

1. GENERAL

i) Name of the sponsoring bank

ii) Address of the controlling scheme

iii) Nature and objectives of the proposed scheme

iv) Details of proposed investments

Sr.No.	Investment	No. of units
a)		
b)		
c)		

v) Specification of the scheme area(Name of District & Block/s)

Sr.No.	District	Block

vi) Names of the financing bank's branches

Sr.No.	Name of the branch	District
a)		
b)		
c)		

vii) Status of beneficiary/ies: Partnership/ Company/Corporation/Co-operative Society/Others

viii) In case of area based schemes, coverage of borrowers in weaker sections (landless labourers, small, medium & large farmers as per NABARD's norms, SC/ST, etc.)

ix) Details of borrowers profile (Not applicable to area based schemes)

(a) Capability

(b) Experience

(c) Financial soundness

(d) Technical/Other special Qualifications

(e) Technical/Managerial Staff and adequacy thereof

2. TECHNICAL ASPECTS

a) Animals

v) Proposed Breed

vi) Age of the animal

vii) Arrangements for vaccination, identification and health certificate

viii) Insurance

ix) Cost of buck/does

b) Production parameters

i) Age at first Kidding

ii) Kidding interval

iii) Kidding percentage

iv) Number of kids produced

v) Mortality of adults/ young ones

vi) Age at which kids are sold

vii) Body weight of animals

c) Flock projection-For big units only (with all assumptions)

d) Housing

i) Type of housing

ii) Floor space - adults/ kids

iii) Cost of construction

iv) Other civil structures (for commercial units)

e) Equipment needed

i) Water troughs

ii) Feeding troughs

iii) Other equipments like chaff cutter etc

f)Comments on technical feasibility

g)Government restrictions, if any

3. FINANCIAL ASPECTS

i) Unit cost

Sr.No.	Name of investment	Size of unit	Unit cost with component wise breakup (Rs.)	Whether approved by state level unit cost committee
			a)	
			b)	
			c)	
			Total	

ii) Down payment/margin/ subsidy (Indicate source & extent of subsidy)

iii) Year - wise physical & financial programme.

Year	Investment	No. of units	Unitcost(Rs.)	Total		Bank	Refinance assistance (Rs.)

				outlay(Rs.)	Margin (Rs.)	loan (Rs.)	
Total							

iv) Financial viability (comment on the cash flow projection on a farm model / unit and enclose the same)

Particulars	Item of investment		
	X	Y	Z
a) Internal Rate of Return (IRR)			
b) Benefit Cost Ratio (BCR)			
c) Net Present Worth (NPW)			

v) Financial position of the borrowers (to be furnished in case of corporate bodies/partnership firms)

a) Profitability ratio

i) GP ratio

ii) NP ratio

b) Debt equity ratio

c) Whether Income tax & other tax obligations are paid upto date

d) Whether audit is upto date (enclose copies of audited financial statements for the last three years)

vi) Lending Terms

i) Rate of interest

ii) Grace period

iii) Repayment period

iv) Nature of Security

v) Availability of Government guarantee wherever necessary

4. INFRASTRUCTURAL FACILITIES

a) Availability of animals

i) Source

ii) Place of purchase

iii) Distance

iv) Type of arrangements for purchase

v) Availability in required numbers

b) Grazing/fodder land

i) Adequacy

ii) Distance and duration of grazing

iii) Condition of grazing lands

iv) Cost to be paid per animal

v) Green fodder:

Type of fodder grown

Area under fodder crops

Cost of fodder cultivation

(If it is own fodder cultivation)

b) Feeding

i) Type of feeds

ii) Source

iii) Cost/animal/year

c) Breeding / Veterinary services

i) Source

ii) Place

iii) Distance

iv) Type of services available

v) Availability of staff

vi) Cost/animal/year

d) Marketing

i)Source for fattened
kids/culled animals

ii) Place

iii) Distance

iv) Price realised (Rs. per animal or Kg)

- Culls

- Fattened kids

e) Other aspects

i) Source of technical guidance

ii) Training facilities

- Source

- Periodicity

- Duration

iii) Other Government support

f) Supervision and Monitoring arrangements available with bank

Annexure IV

Goat breeds of India and their description

Region/breed	Utility	Body size	Adult Weight	Confirmation
1	2	3	4	5
1. Temperate				
Gaddi	Fibre	Medium	M 27.45+ - 0.41 F 24.72+ - 0.51	Coat colour is while but black and brown combination is also seen. Ears medium and drooping, nose convex, under small and and round long white hairs
Changthangi	Fibre	Small	M 20.37+- 0.24 F19.75+- 0.15	Predominantly white but grey, brown or black also found. Large horns. Producing pashmina as under coat
Chegu	Fibre	Small	M 21.39+_1.12 F 20.45 +_0.45	Coat is usually white mixed with greyish red produ- cing pashmina as under coat
Shingari	Meat	Small	M 25.23 + - 0.56 F 20.35 + - 0.41	Coat colour vary from while to grey with black or tan patches
2. North- Western Region				
Jamunapari	Milk	Large	M 44.66 + - 1.89 F 38.03 + - 0.63	Predominantly white with brown patches on neck and face, long and pendulous ears, roman

				nose, tuff of hairs on buttocks, large and developed udder
Beetal	Milk	Large	M 59.07 +_ 2.82 F 34.97 +_ 0.52	Coat colour is black or brown with white patches. Face convex, long and flat ears, udder large and well set
3.Southern Region				
Osmanabadi	Milk & Meat	Medium	M 33.66 + - 0.55 F 32.36 + - 0.55	Coat colour variable-black, white or spotted, medium long ears, udder is small, round with short teats
Malabari	Milk & Meat	Medium	M 38.96 + - 2.32 F 31.12 + - 0.90	Coat colour vary from complete white to complete black, small twisted horns, medium sized ears, udder small and round
Sangamneri	Meat	Medium	M 38.37 + - 2.44 F 28.97 + - 0.49	Body colour white, black or brown with spots. Ears are medium and drooping, udder small
4. Eastern Region				
Bengal	Meat	Small	M 32.37 + - 2.74 F 18.31 + - 1.67	Colour is black, brown or grey, short horns both sexes have beard, profile, udder very small
Ganjam	Meat	Medium	M 44.05+ - 0.13 F 31.87+ - 0.37	Tall, laggy, coat is black, white or brown or spotted, medium sized ears, straight long horns, udder poorly developed
Assam Hill	Meat	Small	M 25.45+ - 2.12 F 18.31+ - 1.67	Small body with short leg, coat colour vary from black to brown and spotted ears small and flat
Jakharana	Milk	Large	M 57.80 + - 3.50 F 44.48 + - 0.52	Coat is predominantly black with white spots on ears, narrow forehead, udder is large with conical teats.
5. Western Region				
Sirohi	Milk & Meat	Large	M 50.37+ - 2.52 F 22.54+ - 0.17	Compact body, coat colour predominantly brown with light or dark patches, flat ears, udder medium sized and round
Barbari	Milk & Meat	Medium	M 30.8+ - 1.96 F 22.56+ - 0.17	Body compact, coat colour is white with brown patches, short erect ears, shining eyes, udder well set with small teats

Kutchi	Milk and Meat	Medium	M 43.50+- 1.16 F 39.29+ - 0.38	Coat is predominantly black, few with brown or white spots, long hairs, long and drooping ears, udder well developed.
Marwari	Milk and Meat	Medium	M 33.18+ - 1.77 F 25.85+ - 0.29	Predominantly black coat with long hairs, few animals with white or brown patches, udder is round and small
Mehasana	Milk and Meat	Medium	M 37.14+ - 1.51 F 32.29+ - 0.38	The coat is black with white spots at the hase of the ears. Leaf like & droop-ing ears, twisted horns, developed udder.
Zalawadi	Milk and Meat	Medium	M 38.84+ - 1.46 F 32.99+ - 0.32	Coat is black with long hairs, long and drooping ears, long twisted horns, large udder with conical teats.
Surti	Milk	Medium	M 29.50+ - 0.50 F	White in colour, medium sized ears, small horns, very well developed udder

Source : CIRG, Makhdoom

M - MaleF-Female

Source : CIRG, Makhdoom

Annexure - VI

MILK PRODUCTION PARAMETERS (TRAITS) OF

IMPORTANT GOAT BREEDS

Sr.No.	Breed	Location yield (Kg)	Loctation length (days)
1	Jamunapari	201.67+_6.39	194
2	Beetal	173.90+_1.27	182
3	Jakharana	121.80+_8.82	115
4	Sirohi	113.62+_2.43	194
5	Marwari	101.49+_2.43	197
6	Kutchi	124.06+_2.84	195
7	Barbari	95.60+_2.78	152
8	Sangamneri	83.40+_3.43	168
9	Malabari	90.02+_4.10	178
10	Bengal	35.20+_1.56	111

Source :CIRG, Makhdoom

Annexure - VIIa

Economics of Goat Farming - At a glance

1	Unit Size	50 Does + 2 bucks
2	Breed	Osmanbadi
3	State	Karnataka
4	Unit Cost (Rs.)	148764
5	Bank Loan (Rs.)	126449
6	Margin Money (Rs.)	22315
7	Repayment period (Years)	6 years with one year grace period
8	Interest rate (%)	12
9	BCR AT 15% DF	1.60:1
10	NPW at 15% DF (Rs.)	142653
11	IRR (%)	< 45%

Annexure - VIIb

ECONOMICS OF GOAT FARMING - INVESTMENT COST

Sr.	Items	Specifications	Physical Units No.	Unit Cost (Rs./Unit)	Total (Rs.)
1	Shed	Does-10s.ft/animal	50	35	28,420
		Buck-20 s.ft./buck	2		
		Kids-4s.ft/kid	68		
		(Thatch roof)			
2	Equipment	--	52	10	520
3	Cost of Animals	Does	50	1600	80000
		Buck	2	2200	4400
4	Insurance	Does	50		3200
		Buck	2	44	176
5	Veterinary aid		52	20	1,040
6	Fodder cultivation	Per season for two acres & for 3 seasons	2		9,000
7	Supplementary	Does-6.75 kg/month for 3 months	50	5	5063
		Buck -7.5 kg/month for 3 months	2	1	225
		Kids -3.75 kg/month for one month	64	1	1200

8	Labour wages		1	1250	15000
9	Water, electricity and other misc. expenses		52	10	520
10	Total Cost				148764
11	Margin Money @15% of total cost				22315
12	Bank loan @85% of total cost		Say		126449

Annexure - VIIc

ECONOMICS OF GOAT FARMING - TECHNO-ECONOMIC PARAMETERS

		No. of Bucks	2
		No. of Does	50
A.		Production Traits	
	i	Age at Maturity (Months)	10-12
	ii	Kidding interval (Months)	8
	iii	Kidding percentage	85
	iv	Twinning percentage	60
	v	No. of kiddings per year	1.5
	vi	Sex ratio	1:1
	vii	Mortality(%) Adults Kids	5 15
	viii	Saleable age of kids (months)	8-9
	ix	Culling of does (% per year) from second year onwards	20
B.		Expenditure norms	
	i	Space requirement (st.per head) Buck Doe Kids	 20 10 4
	ii	Cost of construction (Rs.per sft)	35
	iii	Cost of equipment (Rs.per adult animal)	10
	iv	a) Cost of green fodder cultivation (Rs./acre/season) b) No. of acres	1,500 2
	v	Concentrate feed : Adult does (one month before breeding and one month after kidding i.e. per kidding) Bucks (two months per breeding season)	 6.75 kg per month 7.5 kg per month 3.75 kg per kid

	vi	Cost of conc. Feed (Rs./kg)	5
	vii	Labour (No.) Labour wages (Rs.per month)	1 1250
	viii	Insurance (as percentage of the cost of breeding stock)	4
	ix	Veterinary aid (Rs./adult/year)	20
	x	Water, electricity and other misc. expenses (Rs./adult)	10
C.		Income norms :	
	i	Sale price of Bucklings (Rs./kid)	1000
	ii	Sale price of Doelings (Rs./kid)	900
	iii	Sale of culled does (Rs./doe)	1200
	iv	Sale price of culled Buck (Rs./buck)	1500
	v	Sale value of male/female kids (Rs./kid)	600
	vi	Income from manure is not assumed as it is used on the own farm	
	vii	Sale of Gunnyu bags (Rs./bag) (13.3 bags / tonne)	10
D.		Repayment norms:	
	i	Repayment period (years)	6
	ii	Grace Period (years)	1

ECONOMICS OF GOAT FARMING - CASH FLOW STATEMENT

Sr. No.	Particulars	Years						
		I	II	III	IV	V	VI	
I	Costs							
1	Capital cost *	111340						
2	Recurring cost							
a)	Grren fodder cultivation cost	9,000	9,000	9,000	9,000	9,000	9,000	
b)	Feed cost							
	Bucks	225	225	225	225	225	225	
	Does	5063	5063	5063	5063	5063	5063	
	Kids	1200	2400	1200	2400	1200	2400	
c)	Medicines/Vet. charges	1,040	1,040	1,040	1,040	1,040	1,040	
d)	Insurance	3376	3376	3376	3376	3376	3376	
e)	Misc.(water/electricity charges)	520	520	520	520	520	520	
f)	Labour wages	15000	15000	15000	15000	15000	15000	
	Total recurring expenses	35424	36624	35424	36624	35424	36624	

	Total costs	146764	36624	35424	36624	35424	35546	
II	**Benefits**							
a)	Sale of animals							
	Sale of adult Buck	0	0	3000	0	3000	0	
	Sale of adult Doe	0	12000	12000	12000	12000	12000	
	Sale of bucklings**	0	25500	25000	56000	29000	56000	
	Sale of doelings**	0	39900	17000	45000	17000	45000	
b)	Sale of gunny bags	174	208	174	208	174	208	
	Total income	174	107108	61174	113208	58174	113208	
c)	Value of Closing Stock						104100	
d)	Scrap value of shed and equip.						11576	
	Total benefits	174	77608	57174	82208	61174	228884	
	NET BNEFITS	-146590	42062	21750	46662	25750	193338	
	NPV cost at 15%	231093						
	NPV benefits at 15%	272797						
V	NPW at 15%		41703					
V	BCR at 15% DF		1.18:1					
VII		IRR	25%					

* Excludes the capitalised cost for fodder cultivation for one season, supplementary feed, insurance, veterinary aid, labour wages and Misc. expenses. .

** Bucklings and doelings cost is assumed as Rs. 1000/ Rs. 950 respectively

Annexure - VIIf

ECONOMICS OF GOAT FARMING - REPAYMENT SCHEDULE

Bank loan : Rs.126449

Interest Rate (%) : 12%

Years	**Income**	**Expenses —**	**Gross surplus**	**Loan balance**	**Interest**	**Repayment**		**Net surplus**
						Interest	**Principal**	
I	174	0	174	126449	15174	0	0	174
II	107108	36624	70484	141622	16995	16994	30622	22868
III	61174	35424	25750	111000	13320	13320	1000	11430
IV	113208	36624	76584	110000	13200	13200	40000	23384
V	78174	35424	42750	70000	8400	8400	20000	14350
VI	354286	36624	317664	50000	6000	6000	50000	261664

Expenses during first year are other than capitalised amount

Annexure - VIII

SPACE REQUIREMENT OF GOATS

Sl. No.	Type of goats	Space requirement Sq.mt.per head	Maximum No. of animals per pen				
				1	Adult doe	1.00	60
				2	Milch doe	1.68	Individual pens
				3	Buck	3.4	Individual pens
				4	Kids	0.4	75

Annexure - VIII

Nutrient requirements of goats in percentage or AMOUNT PER KG OF DRY FEED

Sr. No.	Type of animals	Body wt.(kg)	DCP (%)	TDN (%)	ME (%)	Ca (%)	P(%)
1	**Growing - finishing kids**						
	a) small breeds	5	12.8	70	2.52	0.23	0.21
		10	10	65	2.34	0.23	0.21
		15	7	65	2.34	0.21	0.2
		20	6	60	2.16	0.2	0.19
		25	5.5	60	2.16	0.2	0.19
	b) Large breeds	10	12	70	2.52	0.23	0.21
		15	10	65	2.34	0.21	0.2
		20	7	65	2.34	0.2	0.19
		25	6	60	2.16	0.2	0.19
		30	5.5	60	2.16	0.19	0.18
		35	5	55	1.98	0.19	0.18
2	**Non lactating pregnant does**						
	a) first 15 weeks of gestation	25	4.5	50	1.8	0.3	0.23
		30	4	50	1.8	0.27	0.21
		40	4	50	1.8	0.27	0.21
		50	4	50	1.8	0.24	0.19
		60	4	50	1.8	0.22	0.17
	a) last 6 weeks of gestation	25	5	55	1.98	0.27	0.21
		30	5	55	1.98	0.24	0.2
		40	5	55	1.98	0.23	0.17
		50	4.5	53	1.91	0.22	0.16
3	**Lactating does**						
	a) First half of lactation	25	6	65	2.34	0.3	0.22
		30	6	62	2.23	0.29	0.21
		40	5	60	2.16	0.28	0.2

		50	5	60	2.16	0.27	0.2
		60	4.5	60	2.16	0.27	0.2
	a) Second half of lactation	25	5.5	60	2.16	0.3	0.22
		30	5.5	60	2.16	0.28	0.2
		40	5	55	1.98	0.27	0.19
		50	4.5	55	1.98	0.25	0.18
		60	4.5	55	1.98	0.24	0.17
4	**Bucks - breeding,adult and yearlings**						
		25	6.5	65	2.34	0.21	0.19
		30	6	65	2.34	0.2	0.18
		40	5	64	2.3	0.2	0.18
		50	5	60	2.16	0.18	0.16
		60	4.5	55	1.98	0.17	0.15
		70	4	50	1.8	0.16	0.13
		80	4	50	1.8	0.15	0.14