

GOAT MANAGEMENT

Small ruminant production is a very significant component of livestock production throughout the world and more especially developing countries like India. These small ruminants play an important role in improving the socio – economy of the farmer in particular and economy of our nation in general. Popularly known as the “Poor Man’s cow”, the importance of Goat can be judged by their number and their contribution to the gross national product relative to other species. India ranks first in the world in goat population which constitutes about 19 % of the world goat population. The socio-economic importance of goat rearing in India is evident from the sharp increase in their population from 47.2 million (1951-52) to 135.17 million (2012). Annually, India produces 531 thousand tonnes of meat, 3910 thousand tonnes of milk, 130 million Kg of skins, 30 metric tonnes of Pashmina and about 90,000 metric tonnes of manure from goats. The goat population of Assam is 6.17 million (BAHS, 2012).

Goats have always been the species of choice for in-house rearing for innumerable small, marginal and landless farmers because of their hardiness, versatility, feeding habits and prolificacy. The meat and milk of this species are accepted universally. The animals have ready liquidity cash value. It is well known fact that genetic improvement is of little value if proper methods of management are not developed and employed. Hence, an effective goat management package was of high value to the farming community and all the stakeholders for efficient production.

Important Points for establishing a goat unit:

- Animals or Breed to rear
- Site selection
- Housing
- Breeding & Reproduction
- Feeding
- Management
- Healthcare

BREEDS OF GOAT TO REAR IN ASSAM

1. **ASSAM HILL GOAT:** It is a native breed of Assam. Following are some of the important characteristics of this breed.
 - a) It is adapted to the local climatic condition and resistant to diseases. It is mainly reared for meat purpose.
 - b) Age at sexual maturity varies from 12-16 months with a kidding interval of about 5 months.
 - c) This breed of goat is well known for its prolificacy.
 - i) Three kidding can be obtained within a period of two years.
 - ii) Incidence of multiple kidding (twinning and triplet) is higher than that of other breeds.
 - d) It is small in body size, weighing about 14 kg at 12 months of age.

2. BLACK BENGAL

This breed is found in West Bengal, Bangladesh and in some parts of Assam. Some of the important characteristics are:

- a) It is small in body size, weighing about 15 kg at 12 months of age.
- b) The animal yields excellent quality of meat.
- c) Incidences of multiple kidding (twinning and triplet) is also higher than that of other breeds.

3. BEETAL

It is found extensively in Punjab and Haryana. It is one of the important breeds of goats in India utilized for both milk and meat production. Some of the worth mentioning characters are:

- a) This breed is hardy.
- b) Average age at first kidding is approximately 19 months and annual kidding is the rule.
- c) Twinning, though not uncommon, the frequency however is not as high as of that Assam Hill Goat.
- d) This is a large breed, weighing about 21 kg at 12 months of age.
- e) The Beetal is milch breed with an average lactation yield of about 195 kg in about 224 days.

BREEDING OF GOATS

i) Crossbreeding:

It means mating of two unrelated individuals of two different breeds of same species resulting in an increase in productive and reproductive performances in offspring (crossbred) produced.

The growth rate and milk yield of Assam hill goats can be improved within a short period of time by adopting crossbreeding.

The crossbred that can be suggested for meat production as well as milk production are:

Assam Hill Goat Doe X Beetal Buck.

While practicing mating between individuals, one should always keep in mind that no individuals that are related by ancestry (parent, grand-parent, etc.) should be mated. Mating between relatives (inbreeding) may decrease production and reproductive performance.

Suggested level of inheritance of crossbred goats: For milk and meat production (Dual purpose) – 50% Local and 50% Beetal.

ii) Selective Breeding:

It means mating of two unrelated individuals of the same breed within the same species according to the performance of those individuals.

Since Assam Hill goats are well known for their prolificacy and excellent quality of meat, selective breeding among Assam hill goats may be adopted.

SELECTION OF DOE

The does which are to be selected as dam should be from the local animals with the following characteristics.

- Good body development, healthy in appearance and should stand squarely on feet.
- Wedge-shaped body with soft pliable skin which are important, particularly in respect of higher milk production.
- Conformation of udder (soft) and placement of teat with feminine appearance as a whole.
- For traits like age at sexual maturity, age at first kidding, kidding interval, kid size and lactation yield, etc, the doe to be selected should be based on performance of dam as well as individual performance.
- For selection of does in respect of characters like growth rate and body measurement, selection is efficient when based on individual performance. Improvement of these characters is particularly important in respect of meat production and gain in body weight.

SELECTION OF BUCK

The buck is frequently spoken as half of the herd as the buck is the sire of more number of kids whereas the does are the dams of only few kids. So the selection of buck is far more important than any other steps in breeding and should therefore always be done in consultation with an expert.

Selection of buck is to be done on the basis of the following points:

- Buck to be selected should have a strong and well developed body with good conformation and masculine vigour.
- Good depth of ribs with legs straight and well placed under the body.
- Should be healthy and free from any disease condition.
- The buck should be from a good milking strain and should be the progeny of a dam having good performance records.

Selection of buck in respect of other traits like age at sexual maturity, age at first kidding, kid size, lactation yield, etc, which are expressed only in females, may be carried out by considering the performance of their dams and other female relatives.

Selection of buck for improvement of traits like growth rate, body weight at birth and at weaning, one should rely on the individual performance.

HOUSING

Goat prefers clean, dry and well ventilated housing. Hence, it is worthwhile to design a goats shed with adequate space, proper ventilation, good drainage and plenty of light.

1. SLATTED HOUSE

This type of housing is very suitable in this North Eastern Region because of high humidity and heavy rainfall. Goats need protection against possible water logging. In this type of housing the floor is elevated approximately 3 to 3.5 ft. (0.9 to 1.05 m) above ground to facilitate cleaning. Another floor underneath the slatted one may be provided where the dung and urine will fall.

Advantage of slatted floor type of housing are that the goats will not come in direct contact with urine and faeces, thereby preventing various parasitic and respiratory diseases.

Bamboo slats or wooden slats 3` thick and 1` wide (7.5 cm and 2.5 cm respectively) may be used as flooring material which are laid one after another leaving about 1cm gap in between. In this system, a space of 2 ft. 6 inch X 4 ft. 6 inch (0.75 m x 1.35 m) is required for each goat.

The walls may be constructed with bamboo or timber with provision for adequate ventilation. The roof may be constructed with thatch or asbestos sheets which can maintain more or less equitable temperature in all season. Attached with the goat house an open fenced area should be provided for exercises. Arrangement for feeding rack and water trough should be made in the house.

Following sheds for different group of animals can be constructed for a commercial goat farm:

1. **GENERAL FLOCK SHED:** For adult breeding does, each shed should accommodate about 50-60 does. Each shed should be partitioned and made into pens to accommodate 10-12 does in each. Space required 1.7. M² per does.
2. **SHED FOR BUCK:** Bucks are housed individually. For each buck an area of 3.4 M² is required.
3. **KIDDING SHED:** Pregnant animals are housed individually in this sheds. Kidding Boxes of 1.5 meter square with wall of 1 M height are made to accommodate each pregnant doe. In winter season, some warming device like room heater should be provided here. These pens should be protected from entry of birds like crows, etc.
4. **KID SHED:** Kids from weaning up to attaining maturity are housed in these sheds, preferably in groups. In order to accommodate 20 kids, a loose stall with a pen area of 17 M² is required.
5. **SEGREGATION SHED:** Provision for small segregation shed (sick animals shed) about 3.6 m sq. is desirable when the herd is large.

MANAGEMENT OF GOAT

A. Identification and Data Recording:

Identification of animal (e.g. Tattooing, ear tag) is an important husbandry practice to be carried out together with proper maintenance of performance records of the animals. These recording of the performances of animals ultimately help in the selection procedures. Following records should be maintained in a goat farm –

1. Herd Strength register :

Sl. No.	Age-Group	No. of Males	No. of Females
1.	0-1 month		
2.	1-3 months		
3.	3-6 months		
4.	6 – 12 months		
5.	12 months and above		
TOTAL			

2. Birth register: It should contain the details of birth of kids in the farm.

Sl.No.	Date of birth	Sire no.	Dam No.	Parity	No. of Kids born	Sex	Kid ID No.

3. Growth register:

Sl.No.	Kid ID No.	0 day				3 months				6 months				9 months				12 months							
		Wt.	B L	Ht.	H G	Wt.	B L	Ht.	H G	Wt.	B L	Ht.	H G	Wt.	B L	Ht.	H G	Wt.	B L	Ht.	H G				

Wt: Weight of the animal; **BL:** Body Length; **Ht.:** Height of the animal; **HG:** Heart Girth

4. Service and Kidding:

Sl.No.	Female No.	Date of Service	Buck No.	Expected date of kidding	Actual date of kidding	No. of Kids born	sex

5. Disease and treatment:

Sl.No.	Animal No.	Disease	Treatment	Vaccination date	Deworming Date	Next Due of Vaccination	Next Due of Deworming	Remark

6. Death record:

Sl.No.	Animal No.	Sex	Date of Death	Cause	Post mortem Report, if any	Remark

B. Castration: It is the most important practice in respect of meat production as well as breeding practices.

- To get a higher body-weight gain as well as good quality meat, castration of male kids is an important management practice.
- Male kids which are not to be allowed to produce the next generation after they are found to be inferior in the selection procedure should be castrated.
 - Castration is best carried out when the kid is of 3 months old by Burdizo or by open method.

C. Culling: Culling of animals is important from economic point of view. On following conditions culling may be carried out:

- Goat with slow growth rate
- Congenital defects
- Old age (8-9 years)
- Chronic debilitating diseases

D. Care and management of kids

For the production of well grown goats, excellent care from birth and adequate feeding are important factors. Following points should be kept in mind.

- Immediately after birth, the nose of the kid should be cleared of any entangling membrane or mucous to prevent suffocation.
- Extra mucous membrane that may adhere to the body to be removed and the newborn should be cleaned dry.
- Kid's navel should be dipped in tincture of iodine or swabbed with any antiseptic solution to prevent navel ill. In case of intact umbilical cord, it should be severed with a sterile knife at a distance of about 4-7 cm from the umbilicus. The cut end should be swabbed with tincture of iodine.
- If there is breathing trouble, artificial means of breathing should be resorted to.
- The kid should get the first drink of colostrum within 30 minutes to provide energy, immunity against diseases during early life and to expel the first fecal material (meconium).
- Feed the kid 400 – 600 ml of milk daily depending upon body weight.
- When the kids are 3 weeks to a month old, gradually add a good kid starter to the kids and increase the amount at a rate the kids can take without upsetting digestion.
- Start offering the kid chaffed greens, hay and grains (concentrate).
- Milk can be discontinued by 3 or 4 months of age or possibly sooner if the kids are eating grass or hay and concentrate.
- Record the weight of the kid at birth.
- Give every kid an identification number at an early age.
- Care should be taken not to overfeed or underfeed as this can cause digestive and growth problems.
- First deworming should be done at the fourth week of age.

E. Care of young stock

- Protect the kids from being butted by other animals.
- Provide good and clean drinking water.
- Keep the kids in a well ventilated place.
- Avoid dampness and protect them from cold and chilly weather. Sometimes warming or artificial heating-up of the pens is required in cold months.
- Give adequate exercise to grown-up kids.
- Supply of good quality concentrate mixture as well as fodder will help in early development of the rumen.
- Periodic de-worming is advocated.
- Male kids, not required for breeding purpose, should be castrated before weaning.
- Kids should be weaned at 90 days of age.

F. Care and management of doe

The does come into heat every 18-24 days on an average of 21 days. The duration of heat period is 2-3 days. Generally, the breeding season is spread throughout the year and under good feeding and management condition, two pregnancies in a year are possible.

G. Care and management of pregnant doe

- Separate the pregnant doe from the flock.
- Provision of adequate clean drinking water, green fodders and feeds are the essential pre-requisites. Adequate nutrition of does after the 90th day of gestation is essential for the development of foetus.
- Provision of kidding pen – which should be dry, clean and free from any dirt or flits.
- Trim the hooves of the doe.
- From 1 week before kidding check the doe's udder, vulva and base of the tail.
- As the pregnant doe completes the gestation period (145 ± 5 days), it should be observed for visible signs of parturition. The signs usually noticed are:
 - Enlargement of the udder which becomes light and shiny.
 - Loosening of the vulva about 3 days prior to parturition.
 - Distinct depression on either side of the tail.
 - Hollow appearance in the flank region.
 - The doe any paw on the ground, lie down and get up at frequent interval.
 - The doe will become restless and nervous and frequently make a low bleating sound.
 - Slight opaque yellowish discharge from the vagina. This will indicate that parturition has started.

H. Care and management at kidding

- Prepare the kidding pen by cleaning, disinfecting and using fine bedding to prevent the kids from getting any infection.
- If there are any water troughs, keep them high enough of the floor so that the kids do not get dropped into the water.
- The day before kidding, substitute part of the grain with a warm wet wheat bran mash, which is laxative and will clean out the digestive tract, and will also help in kidding.
- Keep the animal in a pen and let her alone. Check the doe every half an hour and give her chance to kid without assistance.
- The placenta will usually be passed out in 30 minutes to 4 hours after the kids are born. If this does not happen within six hours of parturition call the Veterinarian.

I. Care and management of buck

- Male goats become fertile at an age of 7 months and are capable of breeding. The male goats which are not worth retaining should be castrated.
- The buck, to be in good condition and well suited for breeding, should be kept on range and made to cover 3 to 5 km each day for sufficient exercise.
- Generally one male is considered sufficient for about 25-30 females. But when breeding season is restricted, more males may be needed in order to ensure high conception rate.
- The buck's hooves should be trimmed regularly to avoid lameness or foot-rot.
- Buck should always be kept separate from the does.

FEEDING OF GOAT

The goats can be raised almost entirely on roughages. Hence the cost of production in terms of milk and meat is lower than any other animal. They usually prefer tree leaves, small branches, weeds, herbs etc. in the natural grazing condition. Cultivated fodders like maize, cowpea, teosinte, deenanath, oats and other perennials are also consumed by the goats. Leaves of trees like jack fruit, subabool, dimaru, kanchan etc. can be fed to the goats. There is hardly anything that goat will not eat.

A. Dry matter intake of goats

The dry matter intake varies according to the energy of the diet and the physical character of the roughage. The dry matter intake is usually 3-3.5% of the body weight.

Normally about 70-80% of DM intake consists of leaves of shrubs and bushes. An adult goat consumes about 3 kg of green fodder per day.

B. Feeding of kids upto 3 months

Kids should get colostrums up to 3/5 day of age as they acquire antibodies from the mother through it. Later on, they must be offered a kid-starting ration to the extent they can eat. They should also get ad lib supply of green leguminous fodder. Nibbling on green grasses from the early age helps in early development of rumen. Salt in the form of salt lick and wholesome water should be provided at all times.

Composition of kid starter Ration

No. 1

<u>Ingredients</u>		<u>Parts.</u>
Ground cereal	.....	53
Wheat bran	.....	25
Crushed GNC	.....	12
Skim milk powder	.....	11
Mineral mixture	.....	2

No. 2

Gram		20
Maize crashed		22
GN cake		25
Wheat bran		10
Soybean meal		20
Mineral mixture		2.5
Common salt		0.5

The above ration should be fortified with Vitamin supplements.

If the mother goat does not have sufficient milk for her kids, bottle feeding of cow's milk should be practiced.

After nursing the kids for 4-7 days on colostrums and milk, kids should be separated and be offered kid starter ration. This ration should be fed up to ten weeks of age. The kids be allowed restricted suckling 2-3 times a day. This will spare the mother from nutritional stress which enables the dam to come to heat early.

C. Feeding kids from 3 months to 1 year of age:

During the active growth period a grower ration having 9-10% DCP and 62-64% TDN with 25% DM from good quality roughage can meet the requirement.

The following concentrate mixture may be fed during the growing period.

Composition of Concentrate mixture:

		Ration-I	Ration-II
Maize	.....	7	30
Ground gram	.....	42	13
Wheat bran	.....	7	30
Crushed GNC	.....	42	20
Molasses	.....	-	5
Mineral Mixture	.....	1	1
Salt	.....	1	1

With leguminous fodders, a mixture of any cereal grain and wheat bran in 1:1 rate will supply the required nutrient for growing kids.

When the grazing is scanty or during monsoon, cultivated fodders whether fresh or as hay may be provided. The maintenance requirement will be met from 3-4 kg. of green fodder or 1 kg of dry fodder when dried grass is available, supplementation of 250 g concentrate mixture will be required. In summer months 1 to 1.5 kg. of tree leaves may be fed. The concentrate may be fed twice in divided dozes, once in the morning and then in the evening.

Presently feed block machine can be used in which dry fodder, concentrate along with binding materials (liquid molasses) are utilized in a concentration of 60:30:10 respectively for preparation of feed block and supply to the goat.

D. Feeding goat above 1 year of age**Concentrate Ration.****Ration -1****Ration -2**

Ingredients	Parts	Ingredients	Parts
Ground gram	32	Ground maize	25
Crushed GNC	32	Ground gram	20
Ground Cereals	17	Ground oat	20
Wheat bran	17	Rice Polish	18
Mineral Mixture	1	GNC	15
Salt	1	Mineral Mixture	1
		Salt	1

For lactating animals the computation of ration should be as follows:

Gram	.....	15
Maize	.....	35
GN Cake	.....	15
Soybean meal	.....	15
Wheat bran	.....	17
Mineral Mixture	.....	2
Common Salt	.....	1

E. Feeding of bucks

Bucks in normal condition require some additional nutrients during the breeding season. An over-fat buck, on the other hand, needs thinning before the commencement of the breeding season. This may be done by a combination of feed reduction and vigorous exercise. The common practice is to allow the buck to graze with the does. Under such circumstance the buck will get the same ration as the does get as their maintenance ration.

BY PRODUCTS AS FEED

Several Agricultural and industrial by-products and forest products can be used as feed stuff for goat and other livestock. They are classified as follows :

INDUSTRIAL BY-PRODUCTS :

- Factory Tea Waste (3% Caffeine)
- Decaffeinated Tea Waste (after extraction of caffeine from Factory Tea Waste, Camellie assamica / sinensis)
- Coffee husk/pulse/waste (Coffee Arabica)
- Molasses

AGRICULTURAL BY-PRODUCTS

- Rice bran, Rice husk, Rice polish, Broken rice etc.
- Wheat straw
- Wheat bran
- Sugarcane tops & Bagasse

BY-PRODUCTS OF EDIBLE OIL SEEDS

- Mustard Oil Cake (*Brassica elba*)
- Rape Seed Oil Cake (*Brassica campestris*)
- Sun Flower Oil Cake.

HEALTH COVERAGE

Usually diseases in goats are comparatively less than other domesticated animals. Yet some diseases are commonly observed in them. Few diseases can be prevented by means of vaccination e.g. Enterotoxaemia, FMD and PPR.

Common bacterial diseases:

1. **Enterotoxaemia** – This is caused by *Clostridium perfringens* type D. The predisposing factors are excessive consumption of succulent grass and sudden change of diet as well as excess feeding of concentrate. Distended abdomen, difficulty in respiration, rolling of eye ball, extension of legs, and stiffness of neck and terminally diarrhoea are some of the common symptoms seen.

This disease can be prevented by vaccination with enterotoxaemia vaccine.

2. **Pneumonia** – It is caused by *Pasteurella* organism. Symptoms include fever, nasal discharge, coughing, difficulty in respiration and off-fed.
3. **Collibacillosis** – This is caused by *E. coli* and affects kids. The symptoms are diarrhoea dehydration, wetness, depression and marked soling of the back.

Viral Diseases:-

1. **Contagious ecthyma** – This disease is caused by a virus which produced formation of papules around the facial region, teat and around vulva. Recently vaccine is developed against this disease.
2. **FMD (Foot & Mouth Disease)** : It occurs occasionally in goats. It is a viral disease with vesicle formation in the mouth and inter digital space. There is drooling of saliva from mouth and unable to eat properly.
3. **PPR** – It is a highly infectious viral disease of small ruminants. The symptoms include fever, lacrimation, diarrhoea and nasal discharge.

Vaccination schedule:

Diseases	Primary dose	Revaccination
Enterotoxaemia	4 months of age	6 monthly
PPR	3 months of age	Yearly
FMD	3-4 months of age	Yearly

Parasitic diseases:

- The agro-climatic condition of Assam favours occurrence of parasitic diseases such as round worm, tape worm, flatworm and ecto-parasites. Common symptoms of endo-parasites are diarrhoea with foul smelling, dehydration, anaemia, debility and off fed condition.

- **Prevention:**
 - Regular screening of dung for parasitic infestation at Vety. Dispensary.
 - De-worming with anthelmintics like Albendazole, Fenbendazol, Mebendazole, Ivermectin (for Round worms);
 - Oxyclozanide, Tricla-bendazole (for Flatworm);
 - Praziquantel, Niclosamida, Cestophen (for Tapeworm) can be administered orally at regular interval.
 - For control of ecto-parasites Ivermectin, Butox, Taktic, Ridd, Tikkil, Cliner etc. can be used externally at quarterly interval.

Mange –

- This ecto-parasitic disease is caused by a mite. Common symptoms are itching, alopecia, thickening of skin and rough body coat.
- Treatment consists of – washing of affected part with Savlon followed by use of available acaricides.
- Water extract of tobacco leaves can also be applied on the affected areas.
- A suitable antibiotic injection should be used to guard secondary infection in severe cases.

Gid: Though the disease is occasional in goats, it is a fatal one and surgical intervention is the only treatment to save the animal. The symptoms are head pressing and circling movement.

SETTING UP OF GOAT BREEDING UNIT (100 doe + 6 bucks)

1. NAME OF THE PROMOTER:
2. AREA OF OPERATION:
3. BENEFICIARY: Promoter as well as farming community of the operational area.
4. LOCATION:
5. UNIT SIZE:
6. BREED: ASSAM HILL GOAT
7. TERMS AND CONDITION OF THE SCHEME:

a. TOTAL PROJECT COST:	Rs. 6,30,564.00
b. FINANCING BANK AND BRANCH:	SBI
c. BANK LOAN:	Rs. 3,25,812.00
d. MARGIN MONEY:	Rs. 94,585.00
e. SECURITY:	Nil
f. INTEREST RATE:	As per bank's norm
8. REPAYMENT PERIOD: 5 years with one year grace period
9. DSCR (Debt service coverage ratio): 4.82
10. BCR (Benefit cost ratio): 1.16
11. IRR (Internal rate of return): 183 %
12. NPV (Net present value) at 15% DF : 7,61,330.00

TECHNICAL PARAMETER OF THE PROJECT

SL NO	PARAMETERS	GOAT
1	Breed	Assam Hill Goat
2	Age of breeding stock	12 months
3	Best meat available at	6-12 months
4	Dressing percentage	0.47
5	Best time for breed	14-18 months
6	Kidding interval	8 months (3 kidding in 2 years)
7	Gestation period	145-153 days
8	Oestrus Cycle	24-48 hrs
9	Recurrence of oestrus cycle	18-21 days
10	System of rearing	Free range/semi intensive
11	Male female ratio in kidding	50:50
12	Kidding	180%
13	Adult Mortality	5%
14	Kid mortality	10%
15	2nd year goat sold at	6 months
16	Selling price at 6 months old(Rs)	1500
17	Sale of breeding stock	18 months old
18	Adult goat(breeding) replaced per Year	5%
19	Selling price of breeding stock	2000
20	Subsidy	33.33%
21	Margin	25%

ASSUMPTIONS

S. No.	Descriptions	Total
A	No. of Does	100
	No. of Buck	6
B.	Expenditure norms	
	Cost of bucks of 12 months old	2700
	Cost of does of 12 months old	2300
I	Space requirement (sq ft. per head)	
	Buck	15
	Doe	10
	Kids	4
Ii	Cost of construction (Rs.per sft)	60
Iii	Quarter cum office room	150 sqft
Iv	Cost of construction of quarters (Rs. per sft)	200
V	Cost of equipment (Rs.per adult animal)	20
Vi	a) Cost of green fodder cultivation (Rs./acre/season)	2500
	b) No. of acres	20
Vii	Concentrate feed :	
	Adult does (one month before breeding and one month after kidding i.e. per kidding)	6.00 kg per month
	Bucks (two months per breeding season)	4.5 kg per month
	Kids (for 30 days)	3.00 kg per kid
Viii	Cost of conc. Feed (Rs./kg)	12
Ix	Labour (No.)	2
	Labour wages (Rs.per month)	3000
X	Insurance (as percentage of the cost of breeding stock)	6
Xi	Veterinary aid (Rs./adult/year)	20
Xii	Water, electricity and other misc. expenses (Rs./adult)	20
C.	Income norms :	
Iii	Sale of culled does (Rs./doe)	2000
Iv	Sale price of culled Buck (Rs./buck)	2000
V	Sale value of male/female kids (Rs./kid)	1500
Vi	Income from manure is not assumed as it is used on the own farm	
Vii	Sale of Gunny bags (Rs./bag) (13.3 bags / tonne)	10
D.	Repayment norms:	
I	Repayment period (years)	6
Ii	Grace Period (years)	1
Iii	Interest rate (%)	14

FLOCK PROJECTION CHART

Year	Opening Stock					Closing stock					No of Adult Maintained each Year		Goat sold per Year	Remarks
	AD	A B	K D	K B	Total	AD	A B	K D	KB	Total	AD	AB		
1	100	6			106	100	6	90	90	286	100	6	0	
2	100	6	90		286	100	6	90	90	466	100	6	486	
3	100	6	90		286	100	6	90	90	286	100	6	180	
4	100	6	90		286	100	6	90	90	466	100	6	486	
5	100	6	90		286	100	6	90	90	286	100	6	180	
6	100	6	90		286	100	6	90	90	286	100	6	486	

AD : Adult Doe

AB : Adult Buck

KD : Kid Doe

KB : Kid Buck

Mortality Kid

Project layout for goat breeding farm (100+6) under semi intensive system

SI No	Particulars	Specifications	Physical units No	Unit Cost (Rs/Unit)	Total (Rs)
	Capital Cost				
1	Land development / Civil Structures	(L.S)			50000
2	Shed(In Sq ft)				
	a. Does	10	100	60	60000
	b. Buck	15	6	60	5400
	c. Kids	4	180	60	43200
3	Labour quarter cum office room	150	1	200	30000
4	Feeding & watering equipment				
	a. Adult		106	20	2120
	b. Kids		180	10	1800
5	Cost of breeder stock of 12 mon old				
	a. Does		100	2300	230000
	b. Bucks		6	2700	16200
	Total Capital Cost				438720
	Recurring Cost				
6	Cost of Concentrate feed				
	a. Adult	@100gm /day for 90 days	100	12	10800
	b. Kids	@50 gm/day for 6 months	6		648
7	Cost of Veterinary aid				
	a. Adult		106	20	2120
	b. Kids		180	10	1800
8	Insurance on original stock		0.06		14772
9	Miscellaneous expenditure		106	20	2120
10	Fodder Cultivation	capitalised for 2 seasons in 1st year for 10 acres	10 acres	2500	50000
11	Labour Cost (for one year)		3000	2	72000
	Total Recurring Cost				154260

Income and expenditure statements

Sl no	Particulars	Ist Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
1	Replacement of Adult stock	0	14200	14200	14200	14200	14200
2	Cost of fodder cultivation in 10 acre, Rs 2500/acre /season (2 seasons in first year & 3 seasons from 2nd year onwards)	50000	75000	75000	75000	75000	75000
3	Cost of concentrate @ Rs 12/kg and @100gm/day for 106 adult for 360 days	45792	45792	45792	45792	45792	45792
4	Cost of concentrate feed for 180 kids @ 50gms/day for 30 days in 1st year and for 10 months in subsequent years @ Rs 12/kg	3240	32400	32400	32400	32400	32400
5	Insurance @ 6% on opening stock	14772	14772	14772	14772	14772	14772
6	Medicine & vaccination charges @ Rs 20/adult and Rs 10/kid on flock after kidding	3920	3920	3920	3920	3920	3920
7	Labour cost	72000	72000	72000	72000	72000	72000
8	Misc @ Rs 20/- per goat	2120	2120	2120	2120	2120	2120
	Total Costs	191844	260204	260204	260204	260204	260204

INCOME

1	Sale of kids at 6 months old	0	729000	270000	729000	270000	729000
2	Sale of breeding stock						212000
	Total benefits	0	729000	270000	729000	270000	941000
	Gross Income	-191844	468796	9796	468796	9796	680796