

# Semi-Intensive Black Bengal Goat rearing: An innovation for Poverty Alleviation

Learning & Innovation Fund To Test New Ideas (LIFT)  
A specialized programme of Palli Karma-Sahayak Foundation (PKSF)



Palli Karma-Sahayak  
Foundation (PKSF)



ওয়েভ ফাউন্ডেশন  
WAVE FOUNDATION

Promoting Financial Services for  
Poverty Reduction (PROSPER)  
With the support of DFID



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## Semi-Intensive Black Bengal Goat rearing: An innovation for Poverty Alleviation

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## Goat Rearing in Prophetic (S.A.W) Tradition

- Abu Horara says the prophet (S.A.W) said that all the prophets sent by Allah have grazed the goats. Sahaba (the companions of the prophet of Islam) asked you too? He said yes, I used to graze goats for Makah peoples for some wages.
- Ayesha say that the prophet of Islam (S.A.W) asked a person how much of *barakah* is in your home, means one or two goats.
- Umme Hani Daughter of Abu Talib says the, prophet of Islam came to my home and said why I don't find *barakah* in your house; I asked which barakah you don't find in my house. He said I don't see any goat in your house.
- Goat is the sources of Barakh to eliminate the poverty. Anas Bin Malik says, Goat blocks seventy doors of poverty in house.
- Goat is the animal of paradise. Abdullah Bin Omar says the prophet of Islam said goat is the animal of paradise.

All Hadith taken from "Rasoul Allah (S.A.W)-Malik: Book 54: Hadith 54.6.18



**Mohsin Ali**  
*Founder and Executive Director*

## Preface

The extraordinary success of Black Bengal goat rearing has already become a benchmark of success in Chuadanga district. There is an urge at the organizational level to share the knowledge, experience and success of this initiative because sharing our knowledge and experiences on the Black Bengal goat rearing will surely take us one step closer to our dream of poverty reduction. It's really amazing to witness the publication of this booklet on Black Bengal goat (BBG) rearing. I do believe that this booklet will contribute immensely to spread the success of Black Bengal goat rearing in reducing poverty, empowering women and creating social entrepreneurships to the wider community of development practitioners across the country. This booklet will be useful in many ways because it tells in nutshell the circumstances under which we started Black Bengal goat rearing at farmer level; the initial obstacles that we faced; introduction and promotion of Perch (*Macha*) method; feed management; symptoms and treatment of different diseases and other important aspects needed for the successful implementation of the initiative. Particularly, the Perch (*Macha*) method which has drastically reduced the mortality rate has been discussed here with special focus. If development practitioners find interest in this Semi-intensive Perch (*Macha*) method of Goat Rearing and tend to replicate it, our efforts will be successful. I express my earnest gratitude to PKSF for supporting us developing and furthering our dream. Let's all work hand in hand for a

## About PKSf

Palli Karma-Sahayak Foundation(PKSf), an apex development organization, was established by the Government of Bangladesh (GoB) in May 1990, for sustainable poverty reduction through employment generation.

In the opening of its operation in 1990, PKSf set the goal of creating self-employment opportunities in the rural off-farm sector and adapted the strategy of promoting a credit programme for attaining this goal. This credit programme, launched for the rural moderate poor, has been diversified over time in accordance with the changing needs of heterogenous poverty-stricken segments of society and has gradually evolved into an “inclusive financing programme”. PKSf's present financing programme includes the moderate poor of both urban and rural areas, ultra poor, micro entrepreneurs, marginal and small farmers; members of these poverty groups are offered customized services. Enabling the poor to come out from the low productivity trap, PKSf has integrated capacity building, technology transfer, value chain development technical services, research and development cell as well as social advocacy & knowledge dissemination unit in its development programme.

PKSf provides a wide range of development services including financial, health, educational, capacity development, technology transfer and business development services to disadvantaged segments of the society through appropriate pro-poor institutions.

PKSf provides financial assistance accounting BDT 1646.89 billion to 10.41 million households through 6500 branches of 272 partner organizations in 64 districts.

## About WAVE Foundation

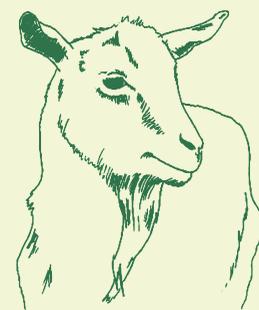
WAVE Foundation is established in 1990 in Darsana, Chuadanga, situated in the south-western part of Bangladesh. The aim of WAVE Foundation is to alleviate poverty through integrated development of human skill and economic growth. The organization is also involved in governance program to strengthen local government institutions and increasing access of the poor in public services through implementing local governance strengthening activities. Centering the program the organization has been contributing significantly in promoting democratic decentralization and local self-governance. Alongside, through its microfinance program and related activities WAVE Foundation has been playing an important role for the economic development of the poor and in the field of agriculture. According to the organization's policy, special emphasis is given on women's participation and in building poor people's capacity towards disaster risk reduction and climate resilience. Networking at various levels and policy advocacy are the important areas of WAVE's program implementation approach are being undertaken organizations at local and national level. With deepening its experience and considering the development context, organization has adopted necessary changes in its programs and working approaches. WAVE's main thrust is to secure rights of the poor and marginalized, good governance and sustainable livelihood development through promoting people's participation at all levels of the state and society, accountability, capacity development and access to resources.



LIFT beneficiary  
with her goat

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Perch (*Macha*) method is now a common practice for goat rearing at Chuadanga

## 1. Background

Black Bengal goat has been prevailing in the Bengal, Asam and neighboring areas since time immemorial. Black Bengal goat also known as “Poor Man's Cow”, have very high and income generating potentials.

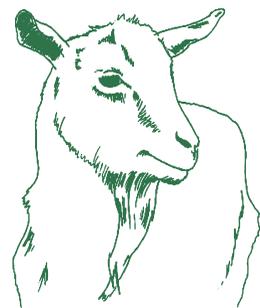
From the ancient period, goat rearing has an important role for the production of meat, milk and skin. There are near about 677 million goats in the world, among them 64% are found in Asia, 30% in Africa, 3.3% in North and South America, 2.3% in Europe and 0.4% in Oceania. In Asia, 71% goat reared by small farmers. In Bangladesh, out of two crore goats, 52% reared by landless marginal farmer. In Bangladesh, the average number of goats per farm is 4 and contribute up to 41% farm incomes come from goats in some parts of

Bangladesh. Besides leather is one of the best export goods in Bangladesh that earn 25 crore Taka per year.

Involvement of women in goat rearing helps poor families to combat over all food scarcity, malnutrition and to develop their socio-economic conditions. With these aims in view, WAVE Foundation started working on the Black Bengal goat in the Damurhuda upazilla of Chuadanga since 2008 under the PKSf funded LIFT programme. Apart from this, FEDEC (Finance for Enterprise Development & Employment Creation) goat are programme of PKSf also partially financed for technical aspects of the project. This booklet provides a brief on the overall activities and its implication on the poverty alleviation of these areas.



A beneficiary with her black diamonds





Goat rearing is an  
inseparable part of  
our heredity

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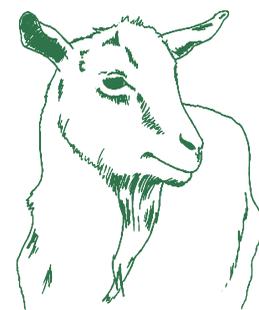
## 2. EXISTING GOAT REARING APPROACH

Prior to the introduction of goat rearing on Perch (*Macha*) method, farmers used to rear goat on ground at household level. Traditional goat shelters are poorly lit and have inadequate ventilation and drainage. Being an open and unorganized method, it has many disadvantages that caused high mortality and morbidity that discouraged farmers in goat rearing.

### 2.1 DESIGN OF TRADITIONAL HOUSING

Traditional goat house is of varying designs and made of various types of locally available materials. Some types of housing include:

- Housing at the corner of the main house
- An overhang roof of a house;
- Open yards with no roof
- Separate houses with thatched roofs;
- Kids may be kept separately in a dome made of



Housing at the  
corner of  
the main house

---



An overhang  
roof of a house

---



Open yards  
with no roof

---



Separate houses  
with thatched roofs

---



Kids kept separately  
in a dome made of  
bamboo or other locally  
available materials

---



## 2.2. SHORTCOMINGS OF TRADITIONAL HOUSING

- Rearing goats within the family house can have serious consequences through an outbreak of zoonotic diseases (e.g. anthrax, mange and coccidiosis etc)
- Goats in close quarter also cause spread of external parasites, bacterial and viral infections among animals.
- Feeding management is inefficient and unhygienic in a traditional approach.
- Attacks of predators are also frequent.
- High kid mortality, low growth rate and high infertility which have negative impact on the profitability of goat rearing.

## 3. Intervention of WAVE Foundation in Goat rearing under LIFT of PKSF

WAVE Foundation started Black Bengal goat rearing at beneficiary level experimentally in 2000. A pilot project had started in 2002 that was extended up to 2007. This phase was a learning period that cemented our initial hypothesis that Black Bengal goat rearing could play a transformative role in changing the life and livelihood of the poor family.

In 2008, WAVE foundation started implementing of **“Genetic Conservation of Black Bengal goat and Poverty reduction through increment of its Productivity of family and breeding farm level”** Project under LIFT of PKSF. At organization level, a goat breeding farm was established following Open Nucleous Breeding System (ONBS) to maintain and produce pure breeds of Black Bengal goat. At beneficiary level, the practice of scientific goat rearing was followed using semi-intensive Perch (*Macha*) method. The project was implemented during 2008 to 2010. Since then, Black Bengal goat rearing has been incorporated with the mainstream micro-credit program and products had designed based on the learning and insights of the project. One of the important features of this project was the introduction of Semi-intensive

Perch (*Macha*) method of goat rearing which reduced goat mortality rate significantly from 40% to 10%.

Another contribution of the project was scaling up of commercial Black Bengal goat rearing at the beneficiary level. In achieving these goals, the project ensured door-step veterinary services, breeding (buck) service, fodder cultivation and training of beneficiaries on scientific goat rearing management.

### 3.1. INTERVENTION AT ORGANIZATION LEVEL

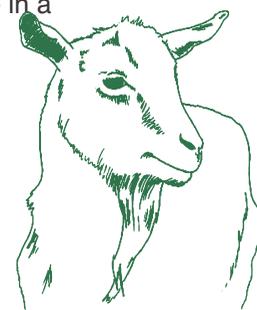
- Establishment of Goat Breeding farm.

### 3.2. INTERVENTIONS AT BENEFICIARY LEVEL

- a) Specialized flexible loan for goat rearing
- b) Insurance facilities
- c) Training
- d) Establishment of Ideal *Macha* for goat
- e) Vaccination and medication
- f) Distribution of quality buck and doe
- g) Establishment of buck service centre
- h) Providing fodder cutting supply
- i) Introduction of Health Card of goat to every farming unit
- j) Develop Livestock Service Provider (LSP)

## 4. REASONS FOR REARING BLACK BENGAL GOAT

- As goat is a small animal, its food demand is relatively low.
- They require less space for living than other livestock.
- The necessary capital and investment for starting goat farming business with this breed is very low and it is within the ability of general people.
- Disease prevalence is lower compared to other domestic animals.
- Produce many goats in short time.
- The female goat become pregnant twice in a year and give birth 2-3 kids each time.
- The meat, skin and milk of goat have a





huge demand in Bangladesh and abroad.

- The goat milk prevents Tuberculosis and Asthma, for this reason it has great demand to the Bangladeshi people.
- Raising Black Bengal goat is considered as an additional source of income for the landless farmer.

**Details about Black Bengal goat is given at Annexure I**

## 5. WHY SEMI-INTENSIVE PERCH (MACHA) METHOD

**Semi-Intensive goat rearing:** The prime propositions of this method is rearing goat in partial confinement and partial grazing with adequate supplemental feed, veterinary care and breeding management. During confinement, goat are housed in Perch (*Macha*) with sufficient feeding and kid rearing space.

- Perch method prefers places higher than the ground level for proper ventilation and comfortable temperature. Perch (*Macha*) renders the comfort and space for goats.
- Allows manure, urine and debris drop through the slatted floor, thus removing a major source of diseases and parasite infestation.

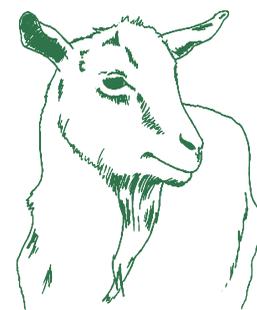


Breeding farm  
on the lush  
green field

- Meets the nutrient requirement both from grazing and stall feeding.
- Facilitates to manage medium to large commercial flock.
- Utilizes cultivated forage during lean period.
- Harvests good crop of kids for both meat and milk.
- Easy to maintain cleanliness and hygiene.
- Easy to ensure nutrient recycling through fertilizer.
- Allows air pass through the slats to increase ventilation and ensure comfort.
- Provides security to goats against predators.

**Details about Semi-Intensive Perch (*Macha*) method is given at Annexure II**

## 6. Activities of WAVE under LIFT Funded by PKSF



## 6.1. ORGANIZATION LEVEL

A breeding farm has been developed at the organization level. The main activities of this breeding farm are-

- Collecting the pure bred Black Bengal goat (buck and doe) and their breeding for genetic conservation and improvement.
- Ensure deworming (two times in a year).
- Vaccination and provide preventive veterinary services.
- Regular bathing and dipping for preventing skin diseases.
- Provide treatment to sick animals in case of sickness.
- Supply of pure Black Bengal goat (buck and doe) to the beneficiary.

### 6.1.1. Number of Goats and Farm-houses under WAVE Breeding Farm (As on June 2014)

SL	Particulars	Achievements
01	Doe (no.)	102
02	Buck (no.)	08
03	Kid (no.)	60
04	Quarantine shed (no.)	01
05	Goat sheds (no.)	02
06	Store room (no.)	01
07	Buck service centre (no.)	01
08	Cattle (no.)	04
09	Cow rearing shed (no.)	01
10	Mortality rate (%)	8

## 6.2. BENEFICIARY LEVEL

We target poor and ultra-poor people for the programme to whom we provide financial and technical supports. The graduated poor are also addressed through goat production based micro-enterprise. Various supports provided to beneficiaries

under LIFT of PKSF are as follows.

### 6.2.1 Specialized Flexible Loan

We provide four types of financial service to buniad, jagoron and agrosor borrower based on their goat population.

- Housing loan
- Doe loan
- Buck loan
- Castrated goat loan
- Grace period of the loan is six months with a total duration of 12 to 36 months.
- The amount of service charges may vary from 20-25% in declining balance method.

### 6.2.2. Insurance Facilities

- The organization maintain insurance coverage for two goats of every beneficiary for each loan cycle.

### 6.2.3. Training

We provide a number of trainings at the beneficiary level.

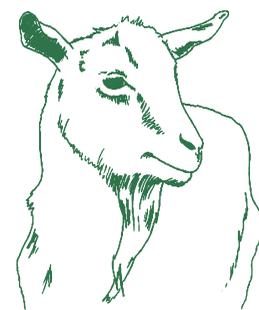
SL	Name of Training
01	Semi-intensive method of goat rearing
02	Business development service (BDS) training
03	Training on marketing
04	Buck service and breeding management
05	Livestock Service Provider (LSP)

### 6.2.4. Ideal Perch (*Macha*) Establishment

Trained beneficiaries start their farming through establishing goat Perch (*Macha*).



Establishing a breeding farm is a major intervention at organization level





An Ideal Doe

#### 6.2.5. Vaccination and Medication

- Regular mass vaccination against PPR and Goat pox by the WAVE field level technical worker.
- Creating awareness on the advantages of the Perch (*Macha*) method of goat rearing.
- Providing curative and preventive veterinary services for goat.
- Awareness building and knowledge dissemination on goat farm management to the poor beneficiary.
- Providing advices on fodder production, feeds and feeding management of the goats.

#### 6.2.6. Distribution of Buck and Doe

- Pure Black Bengal buck and doe are distributed from the WAVE breeding farm supplied among the beneficiaries. Besides, good quality



Training to the beneficiaries

breeding stock are also collected from beneficiary level for the WAVE breeding farm. This Open Nucleus Breeding System (ONBS) is an on-going process to ensure conservation of Black Bengal goat's genetic purity and to improve their productive traits.

#### 6.2.7. Establishment of Buck Service Centre

- Organization has established 40 buck service centres at the community level to ensure Black Bengal goat purity and supply quality breeding stock; where organization has contributed one buck each to those buck service centres.
- These buck service centres are contributing immensely to provide easy breeding sources to the goat and also conserving genetic merit of



An Ideal Buck





Regular vaccination  
arranged by  
WAVE Foundation at  
community level that  
ensures healthy  
goat population



Buck Service  
Centre at  
beneficiaries level

### 6.2.8. Linkage with Government and Non-governmental Organizations.

For smooth running of the organization's targeted work, it is essential to maintain liaison with GO/NGO organization. As a result different seminar, workshop, community mela, road show are arranged in regular interval in different favorite public places.

## 7. Achievements of WAVE Foundation

### 7.1. BREEDING FARM (AS ON JUNE 2014)

SL	Particulars	Achievements
01	Doe (no.)	102
02	Buck (no.)	08
03	Kid (no.)	90
04	Cumulative kid production (no.)	850
05	Kid sales to beneficiaries (no.)	550
06	Napier cutting supply to beneficiaries (no.)	240
07	Cattle (no.)	05

Semi-Intensive Black Bengal Goat rearing: An innovation for Poverty Alleviation



## 7.2. SPECIALIZED FLEXIBLE MICROCREDIT (UP TO JUNE 2014)

Type of Beneficiary	Cumulative Loan Disbursement (TK)	Cumulative Loan Recovery (TK)	Total Loan Outstanding (TK)	Total Borrower (Person)
Buniad	15,049,000	10,859,706	4,189,294	4612
Jagoron	98,652,000	54768075	43,883,925	14558
Agrosor	57,173,000	54839727	2,333,273	477
<b>Total</b>	<b>170,874,000</b>	<b>120,467,508</b>	<b>50,406,492</b>	<b>19,647</b>

## 7.3. TRAINING (AS ON JUNE 2014)

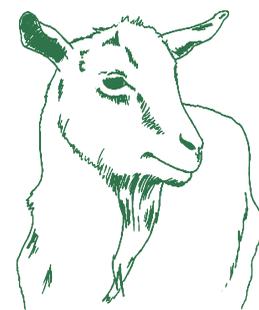
SL	Name of Training	Duration	Batch Number	Achievement
1	Semi intensive method of goat rearing	1 day	235	5741 person
2	Business development services (BDS) training	3 days	7	156 person
3	Training on marketing	1 day	3	67 person
4	Buck service and breeding management	3 days	2	40 person
5	Livestock Service Provider (LSP)	10 days	1	20 person

## 7.4. BENEFICIARIES GOAT STATUS WITH THEIR *MACHA* (AS ON JUNE 2014)

Type A beneficiaries	No of Beneficiary	No of Goat	No. of <i>Macha</i>
Buniad	1142	6852	1142
Jagoron	5467	38597	5467
Agrosor	191	4775	191
<b>Total</b>	<b>6800</b>	<b>50224</b>	<b>6800</b>



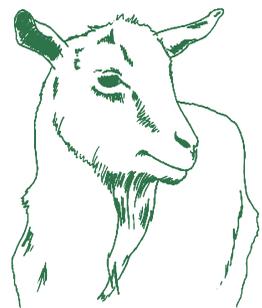
Goat Macha  
of a Jagoron  
Beneficiary







Goat Macha of an Agrosor Beneficiary





Goat Macha  
of a Buniad  
Beneficiary

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### 7.5. Grant To The Beneficiaries

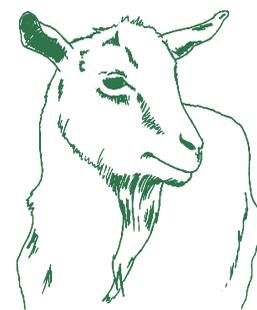
SL	Name of content	Quantity/Amount	No. of Beneficiary
1	Ideal <i>Macha</i> preparation	2000 TK	45 person
2	Providing doe as grant to ultra poor	1 Doe	289 person
3	Providing grant for macha to ultra poor	1000 TK	100 person

### 7.6. TECHNICAL SERVICE TO THE BENEFICIARY (YEARLY)

SL	Types of Service	Types of Beneficiary			Total
		Buniad	Jagoron	Agrosor	
1	PPR Vaccine	24000	117000	9000	150000
2	Deworming	400	850	250	1500
3	Fodder cultivation	-	150	200	350
4	Treatment	1000	1500	500	3000



Vaccination and Medication of Goat



## 7.7. ESTABLISHMENT OF BUCK SERVICE CENTRE

There are 40 buck service centers established at the community level.

Buck service center (Left)  
Trabis-Animal Controlling Place (Right)



### 7.7.1. Profitability Analysis of Buck Service Centers

No of entrepreneur	Type of farm	No of buck at starting of the project	No of buck at present of the project	Average monthly income before starting the buck centre	At present average monthly income in individual buck centre	At present average monthly expenditure in individual buck centre	Average monthly net profit per buck centre
40	Buck Centre	34	99	2330	6358	1804	4554

### 7.7.2. Grant to The Beneficiaries

SL	Name of content	Quantity/Amount	No. of Beneficiary
1	Grant on establishment of buck service center	3000 TK	40 person
2	Grant of buck to individual buck service center	6000 TK	40 bucks

## 7.8. FODDER CUTTING SUPPLY: 240 BENEFICIARIES

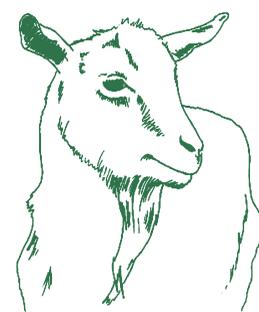
### 7.8.1. Grant to The Beneficiaries

SL	Name of content	Quantity/Amount	No. of Beneficiary
1	Grant for Napier grass cultivation	200 Napier Cutting	180 person
2	Supply of Napier grass cutting	2000 TK	60 person



Napier  
Cultivation

---





Cutting  
of fodder

## 7.9. INTRODUCTION OF GOAT HEALTH CARDS AMONG THE BENEFICIARIES

For proper record keeping of goat, health cards have been distributed to the every goat rearing beneficiary. As a result, they could maintain animal health and breeding record of goat that ensured the farm profitability.

WAVE  
Goat Health Card

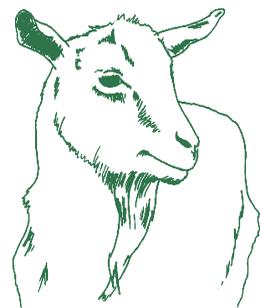
## 7.10. LIVESTOCK SERVICE PROVIDER (LSP) DEVELOPMENT

A total of 20 Livestock Service Providers (LSP) developed in WAVE working areas. Typically Livestock Service Providers (LSP) provide following services to the farming community.

- Curative veterinary services.
- Regular deworming and vaccination of goat.
- Increasing awareness on Semi-intensive Perch (*Macha*) method of goat rearing.



Veterinary care of  
LSP (Left) and  
Kit box (Right)



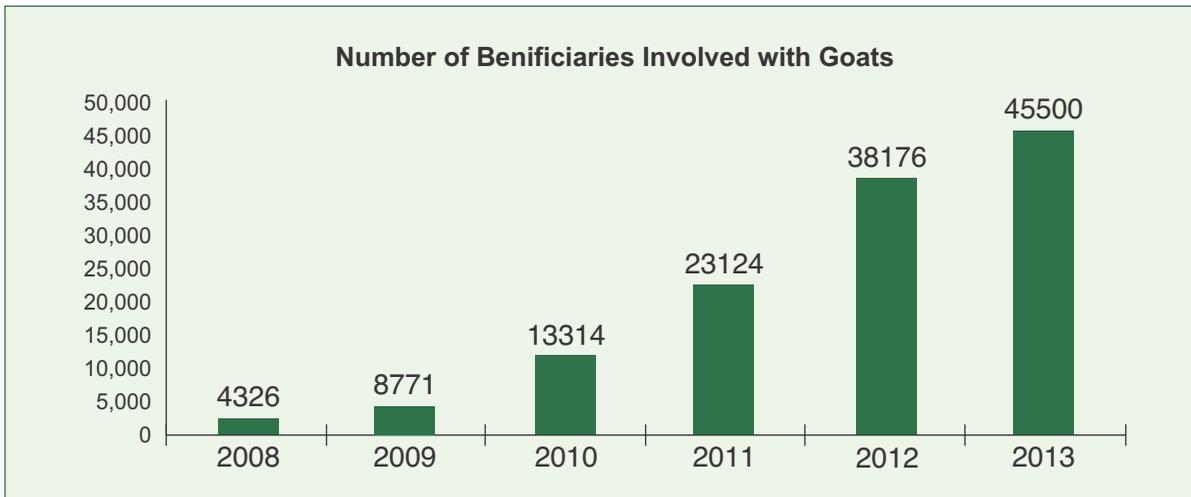
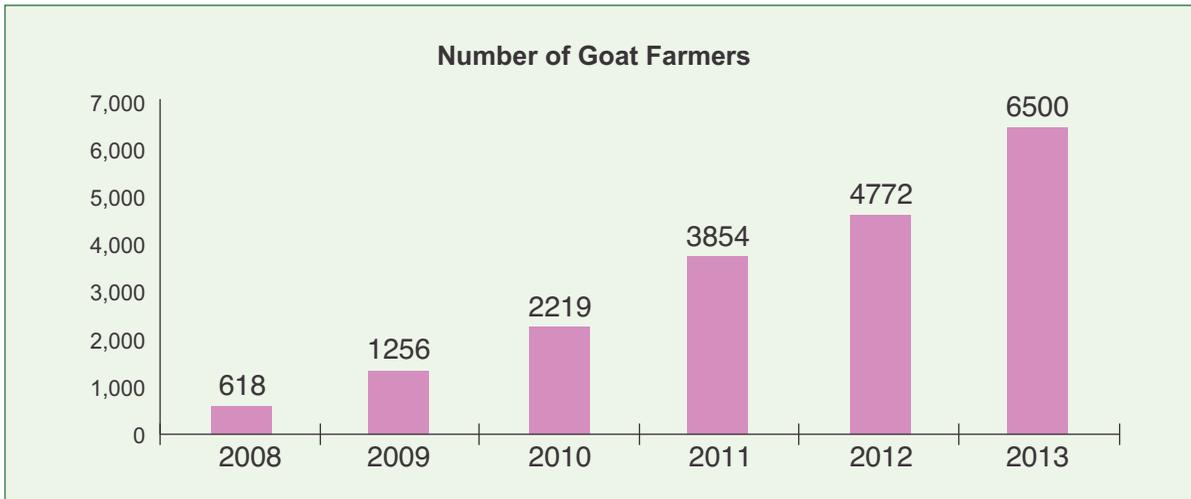
### 7.10.1. Income of Livestock Service Provider (LSP)

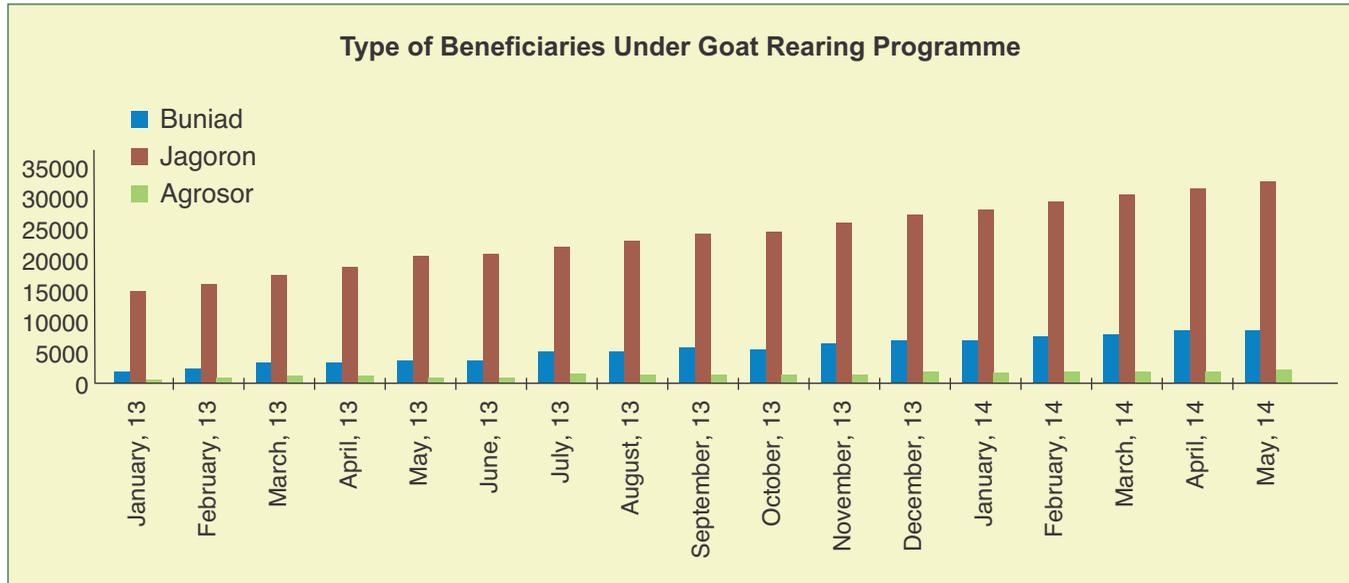
Number of LSPs	Working area	Kit box distribution	Average weekly vaccination of goats (No)	Average weekly family expenditure	Weekly average income	Net Income
20	Chuadanga	20	160	1112 TK	3563 TK	2451TK

### 7.10.2. Grant to the Beneficiaries

SL.	Name of content	No. of Beneficiary	Amount per LSP
1	Kit box distribution to LSP	20 Person	2000 TK

### 7.11. CHANGE IN THE POPULATION OF BLACK BENGAL GOAT IN CHUADANGA AFTER IMPLEMENTATION OF LIFT PROGRAMME



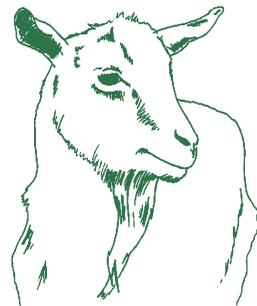


## 8. Output of Programme

- Hundred percent of targeted beneficiaries have been rearing goats in semi-intensive Perch (*Macha*) method.
- 6020 beneficiaries have adopted Semi-intensive Perch (*Macha*) method of goat rearing. Commercial goat rearing is getting popularity among beneficiaries.
- Breeding farm at the organizational level is playing a vital role as a training venue and conservation of Black Bengal goat and supply of pure Black Bengal goat at the beneficiary level.
- Beneficiaries are having access to quality buck service at reasonable cost at their door step.
- Fodder cutting supply to beneficiaries has created enthusiasm for commercial fodder cultivation among them. Many beneficiaries have taken fodder cultivation as their main income generating activity. Furthermore, a commercial market for fodder has been created in our working areas.
- Regular technical service by veterinarian and technical officers at the field level has drastically reduced goat mortality rate from 40% to 10%.
- Local Service Providers trained by the organization are providing door step veterinary services to beneficiaries which has significantly reduced mortality and morbidity and thus increased goat population. Furthermore, the Local Service Providers now have a sustainable means of livelihood.
- Flexible goat loan has enabled poor and ultra-poor beneficiaries to undertake goat-rearing programme as a means of income and employment.



Local Fodder Market





Goat rearing  
is easy and  
profitable

## 9. Impact

- Increased income of project beneficiaries; Buniad 2000-4000 TK, Jagoron 3500-5000 TK and Agrosor 6000-10000 TK.
- Enhanced knowledge taking skills, entrepreneurial ability, family education etc.
- Ensure food security.
- Reduced vulnerability in social level.



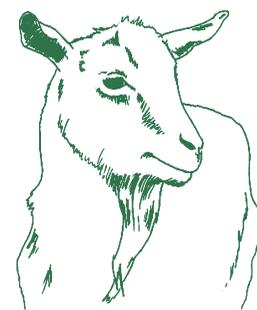
Goat rearing can involve a variety of human resources who are obsolete in the mainstream labour market

## 10. Scopes/Prospects

Black Bengal goat rearing has great potentiality in Bangladesh in transforming the lives of poor and marginalized people. Its growth potential can be marked by its overwhelming demand in local, national as well as international market. Scope of value addition is immense given the huge demand of meat and leather in and outside our country. Cheese extracted from the goat's milk may also open a new window of development. Coordination with local livestock extension services ensures availability of goat vaccines

### **A) PARTICIPATION OF RURAL WOMEN IN GOAT REARING**

The very nature of goat rearing accommodates large number of rural women and creates opportunity for them to participate in income generating activities.





Women Play  
the Key Role in  
Goat Rearing

## 11. Lessons Learned

- Availability of pure-breed quality Black Bengal goat is a pre-condition for successful farming.
- Black Bengal goat rearing can be a sustainable income generating activity but need to ensure scientific management.
- Semi-Intensive Perch (*Macha*) system of goat rearing is effective in reducing goat mortality and increase profitability of farming.

## 12. Challenges

- Ensuring availability of quality breeding buck and doe of Black Bengal goat.
- Ensuring availability of green fodder as pasture lands are decreasing day by day, efforts should be made for fodder cultivation round the year.
- All goat farmers should be brought under goat-insurance programme.

## 13. Recommendations

- Establish breeding farm at beneficiary level who will ensure supply of quality breeding stock for propagation.
- Increase the fodder cultivation at beneficiary level.
- Increase awareness of the importance of buck service centre.
- Bring all beneficiaries under the protective umbrella of insurance policy.

## 14. Conclusion

Proper patronization and planning of semi-intensive system of Black Bengal goat rearing has proved to be an effective of means livelihood for poor and marginalized people. It has the commercial potentials to meet local and global demand in goat meat and other by products. Development practitioners could exploit the unique advents of Black Bengal goat rearing which may further improve development processes of marginalized people pioneered by WAVE Foundation.



In our Social Setting,  
Goat rearing is a  
Common  
Phenomenon



Case Studies

# Muktiara Now Moves On

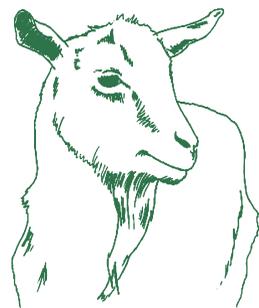




Muktiara remembers those toughest days in her life with a loving glance as if it is a distant past. But it was not very long ago when her days were gloomy in utter starvation and full of despair of tomorrow. Her fate was no different than the average girls whose childhood was a misery, adulthood a nightmare and old age an uncertainty. But Muktiara strived to jump out of the miserable wheel that leads to nowhere. She is an ultra-poor beneficiary from Bishnupur village, Damurhuda thana under Chuadanga district. Her husband died even before her two children would step out of their tender feet. Muktiara pushed to the end of her limit and she bounced back like a champ.

She came to know the advent of Black Bengal goat from a neighbor and decided to get enrolled in the adjacent WAVE Foundation savings Group named '**Dipali Mohila Somity**' on 12/03/10 under unit-057, Koshaghata. She bought three Does with the first installment of 4000/- taka which have so far reversed the wheel of her fate. She has now 16 Does with number of kids. She received 17,000/- taka as her last loan. The wind of change has touched every minute of her life. Her Shanty house has become brick-built comfortable and safe abode. Her two children are studying with the aspiration of higher education. The elder son is a secondary school student while the younger one is reading in class three. She has purchased 33 decimal of cultivable land with 66 decimal of inherited land. A bamboo-made poultry house with 15 hens is also the source of income and nutrition of her family. Last but not the least; she has bought a sewing machine with the profit of selling goats. She has started clothing business with the sewing machine alongside her living room. Now the clothing business has become her main source of income.

Totally transformed Muktiara now wishes to move forward. She wants to provide proper education to her two children who themselves are very keen and sincere to fulfill the dream of their mother. Muktiara with her bright eyes conveying rays of confidence and contentment and pointing to the distant horizon, 'Life is very strange. It always sends a million of opportunities to everybody. One just has to be open to receive those opportunities. I had hard times. But I trusted the opportunities I came across. I express my deep gratitude to WAVE Foundation. I believe they will accompany me in my long journey ahead.'



Case Studies

# The Magic Touch of Black Diamond





**F**atema, now a self-reliant woman, was telling her story how she overcome the difficulties and has reached at the present stage with full of confidence. It has become possible because of her dedication, commitment, sincerity and passion. Her father was poor and because of poverty her family got her married at the age of 15 years with Abdul Mannan at the village Hogoldanga in Chuadanga district. Her husband was the only earning member in her family. Fatema and her husband agreed to find out a permanent way for income and decided to rear Black Bengal goat.

She was neighbor of Fatema advised her to involve with WAVE Foundation for Black Bengal goat rearing. Once enrolled in Black Bengal goat rearing group called **“Satata Mohila Samity”** on 23 November, 2008 she received 6000/- Tk. which she invested for three Black Bengal doe rearing. Soon number of goat increased in her farm which she sold with good price. She repaid first installment successfully.

In the next phase she took Tk. 20000/- loan which she invested for more doe and also in expanding goat shed. Through Black Bengal goat rearing, she moved forward; she got more profit in every year. She repaid her loan timely, now she has a good amount of assets in her house. She has purchased land and started rearing cows. Now she can meet all necessary expenses. Now she has got a happy and affluent family. One of her sons is a successful service holder. Her only daughter is also a wage earner while her younger son is going to college. Furthermore, now they have 25 goats and 5 cows in her farm.



Case Studies

# Blooming Bilkis





**B**ilkis Begum with her family lives at Bishnupur village under Damurhuda thana of Chuadanga district. Bilkis' life has transformed with the magic of her self-belief and the advent of Black Bengal goat rearing. But it was not a long ago when Bilkis was struggling to survive on the negligible income of her day-laborer husband.

Bilkis was intelligent enough to think about escape-gate but she did not have a pair of benevolent hand to pull her out of the misery. She was socially and financially vulnerable therefore she lacked a source to support her dreams of breaking the shell of miserable poverty. She heard of Black Bengal goat rearing and she and her husband decided to take loan from Wave Foundation for goat rearing. She got enrolled as a member of **“Shopnil Mohila Samity”** of Wave Foundation's branch office at 057, Koshaghata. She had previous experience on rearing goats but due to lack of capital she was unable to capitalize that experience. She received 2000/- taka grant under FEDEC project of WAVE Foundation for ideal goat-shed construction. She took additional 50,000/- taka loan under LIFT project for purchasing Doe. She purchased 11 Does which have changed her life significantly. Her husband died last year which would have posed a major shake in her family life. But Black Bengal goat has created a solid and dependable foundation for them. In her words 'Black Bengal became my only hope in those difficult days. Last year, she had sold goats worth Tk. 87,500/-. She had another 42 goats of different sizes which worth about Tk. 1, 46,000/-. After repaying the loan, her monthly average income is now 12,000/-. Now Bilkis has been blooming all of her potentials with the magic of Black Bengal Goat.



## Annexure I

### 1. Physical Characteristics of Black Bengal goat

Black Bengal goat is the common name of a small breed of goat found in Bangladesh and northeastern India (Assam and West Bengal). In Bangladesh, they are known simply as “Black Bengal Goat.” Despite the name, the coat color of Black Bengal goats is not only black in all cases. At least seven recognizable coat color patterns can be found: solid black, solid white, black with “Toggenburg pattern” of spotting, brown with “Toggenburg pattern” of spotting, black with “Dutch belt” spotting, silver bezoar, and brown bezoar wild-type pattern. Coat color is controlled by epistatic

genes.

- The Black Bengal goat has short, soft and lustrous hair.
- The back is straight, legs are short, and the ears are 11–14 cm in size and pointed forward.
- Both sexes have horns (5-6 cm), directed upward or sometimes backward.
- Beards are often observed in both sexes.
- The average height of an adult is 50-60 cm and length 80-90 cm.
- Adult bucks weigh 25–40 kg and does weigh 20–40 kilograms.
- This goat breed starts producing baby goat at their 12-15 months of age.
- The female goat becomes pregnant twice a year. In

#### 1.1. BREED SELECTION CRITERIA

Figure	Characteristics
	<p>Bones will be felt sharply in the palm if hand placed on the backbone. Absence of muscles around the backbone will be felt.</p>
	<p>Bones will be felt in the palm if hand placed on the backbone. Presence of little muscles around the backbone will be felt.</p>
	<p>Bones will be felt lightly in the palm if hand placed on the backbone. Presence of satisfactory amount of muscles around the</p>
	<p>Bones will not be felt in the palm if hand placed on the backbone. Presence of satisfactory amount of muscles around the backbone will be</p>



An ideal Black Bengal Doe (Left)  
Black Bengal Kids (Right)

## 1.2. DOE SELECTION

- Age within 8 to 15 months and average weight 22 kg.
- Mother, grandmother of a doe should have records of reproducing twice in every year during their respective reproductive phases and the low kid mortality rate. Her ancestors should have a good track record of milk production.
- Black Bengal doe becomes mature at the sixth month and reproductive within nine months of age.
- An ideal doe regulates the estrous cycle after every 18-21 days.
- Gestation period of a doe is about 145-148 days.
- Doe usually gives birth twice in a year. In each calving, she produces 2-4 kids.
- A doe remains reproductive up to 6-7 years.



An Ideal Black Bengal Buck

## 1.3. BUCK SELECTION

- An ideal Black Bengal buck should be within 12 to 15 months of age (1st pair permanent teeth).
- Average weight about 25 kg in 12 months of age.
- Mother, grandmother of a buck should have records of reproducing twice in every year during their respective reproductive phases. His ancestors should have a good track record of milk production.
- Deep body with broad chest. Large and rounded testicle.
- The selected buck should be free from venereal, skin, parasitic and different contagious diseases.





Smooth  
Ventilation



Roof



Bamboo wall  
provides good  
atmosphere for goats

## Annexure II

### 2. What is Semi-intensive Perch (*Macha*) Method?

- Semi-intensive method refers the rearing of goat under partial confinement and 3 to 4 hours of grazing during the day.
- Supplemental feeding of concentrated (200-450 gram/day/goat) and green grass (2-3 kg/day) to all breeding animals.
- Routine vaccination against PPR and deworming against parasite.
- Ensuring breeding services to breedable doe so as to have two kidding in a year.
- Proper kid management (Feeding, health care and predator control) for reducing kid mortality and morbidity.

#### 2.1 SALIENT FEATURES OF AN IDEAL MACHA HOUSE

##### 2.1.1 Ventilation

- The purposes of ventilation are
  - To provide free-flow of fresh air, without barrier
  - To maintain comfortable temperatures and
  - To keep ammonia levels low.
- The ventilation openings must be placed high enough so that air does not blow directly past the goats.
- In adverse climatic condition, curtain should provided in the wall.

##### 2.1.2. Roof

- The roof should have sufficient overhang to prevent rain blowing in.
- Roof can be Gabol type
- Roofs can be constructed from grass/bushes, wood, stone/brick, iron sheet or earth depending on production system, materials availability and climate.

### 2.1.3. Wall

- The wall should be made of bamboo or locally available materials.
- Solid fence of 2.5-3 feet should be set above the Perch (*Macha*) to avoid direct entrance of wind.
- Wall should be of sufficient so that air freely moves in and out.

### 2.1.4. Floor

- The floor could either be made of soil, concrete or slatted. Slatted floors should be raised about 3-4 feet above ground level for proper drainage, cleanliness and collection of dung.
- The gap between the slats should be 1.5 to 2 cm to allow easy passage of feces and to prevent leg injury.



Floors are usually wooden and slatted which is easy to clean





Concentrate  
Mixing with Straw



Different types  
of Concentrate feed

## Annexure III

### 3. Feeds & Feeding Management of Black Bengal goat

#### 3.1. SPECIAL MANAGEMENT FOR NEW GOATS AT THE FARM

**1st Day:** After bringing does at the farm, they should be kept apart with sufficient supply of fresh water as much as possible. Body temperature of a newly arrived goat has to be measured twice (Morning and afternoon) in the first five days (Normal temperature:  $101\pm 1^\circ\text{F}$ ).

**2nd Day:** Deworming tablets should be fed to the newly adopted goats. Goats have to be dipped in 0.5% malathion solution. 1.5 ml Vitamin AD<sub>3</sub>E and B-complex have to be administered intramuscularly of every goats.

**From 3rd to 7th Day:** Goats should be kept under intensive care during this period. In case of any symptom of illness, affected goats should immediately be shifted from the farm. Second round deworming tablets has to be fed after seventh day.

**8th to 14th Day:** PPR vaccine should be administered if there is no symptom of illness in observed.

#### 3.2. FEED MANAGEMENT AT DIFFERENT AGES

Goats need optimum amount of concentrated feed for proper growth, increasing milk and meat production. Feed compositions for goats at different stages of age are given below.

##### 3.2.1. Thumb Rule Kids (0-4 months) feeding

- Kids up to one month of age should be offered daily 15 gram of concentrated feed and 50 gram of green fodder alongside

suckling.

- Kids (1-2 months) should be fed daily 25 gram of concentrated feed and 135 gram of green fodder alongside suckling.
- Kids (2-3 months) should be fed daily 60 gram of concentrated feed and 230 gram of green fodder alongside suckling.
- Kids (3-4 months) should be fed daily 15 gram of concentrated feed and 50 gram of green fodder alongside suckling.

Note: Amount of concentrated feed and green fodder will gradually increase day-by-day.

### 3.2.2. Thumb Rule Growing Kids (4 months up to 1st Kidding) feeding

- Growing doe before pregnancy should daily be fed 300 gram of concentrated feed and 2.5-3 kg green fodder.

### 3.2.3. Thumb Rule Pregnant Doe feeding

Pregnant doe should daily be fed 400-450 gram of concentrated feed and 3-3.5 kg green fodder.

### 3.2.4. Thumb Rule lactating feeding

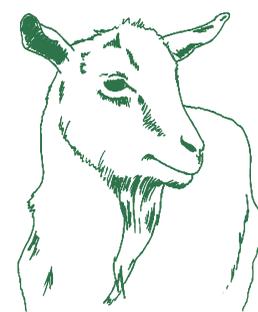
- Lactating doe should daily be fed 400-450

### Possible Concentrate Mixture

Ingredients	Quantity (%)
Wheat/Maize Grain/Rice	35.00
Wheat Bran/Flour/Rice Husk	24.00
Cesar/Black Gram/Other Pulse Polish	16.00
Sesame/Mustard/Coconut Oil Cake	21.50
Dicalcium Phosphate	2.00
Salt	1.00
Vitamin Mineral Premix	0.5



Supplemental Grass at Semi-intensive management



## Annexure IV

### 4. Breeding Management

#### 4.1. HEAT SIGNS OF DOE

- Doe will lose appetite.
- Milk production reduce significantly.
- The most common behaviors exhibited by a doe in heat is “Calling” and “bleating”.
- Frequent tail wagging or “flagging” restlessness, frequent movements and urination.
- Does may be seen in mounting other does when they are in heat.
- A submissive and easy-going doe can be transformed by hormones, leading to fights with other goats.
- Vaginal discharge, along with redness and swelling of vulva.
- Doe jumps over the neck of bucks.

#### 4.2 PROPER TIME FOR INSEMINATION

- Doe comes into heat after 15-20 days of calving.
- Doe should be bred between 12-36 hours of showing signs of heat.
- To avoid repeated breeding doe should be bred twice: i.e. once at 12 hours and second at 24 hours.



Buck Service Center  
at Community Level

## Annexure V

### 5. Special Management

#### 5.1. CASTRATION OF BLACK BENGAL KIDS

- A Kid could be castrated with 15 days to 01 month after the delivery.
- Castration can be open method, rubbering method or may use Burdizzo's castrator.
- Castration should be done with experienced person.
  - Age of Castration: Male Kids 2-3 weeks.
    - Methods
      1. Rubber Ring
      2. Burdizzo's Castrator
      3. Cutting of testicle

#### 5.2. DIPPING

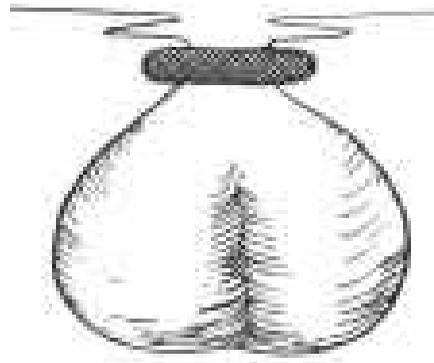
- Dipping should be done at least once in every month with 0.5% malathion solution. Alternatively goat can be washed with water containing boiled castor oil leaf.

#### 5.3. BATHING

- Minimum 2-3 times in a week.



Method of Castration



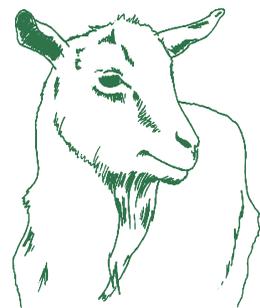
Method of Castration



Dipping pan



Bathing of goat



## Annexure VI

### 6. Diseases Management

Goats are usually susceptible to various diseases. Among those diseases, a list of most common diseases along with their symptoms and remedies are given below:

Name of the Disease	Symptom Image	Symptoms	Prevention
<b>Pestides Petits Ruminants (PPR)</b>		<ul style="list-style-type: none"> <li>• High Temperature with diarrhoea</li> <li>• Watery discharge from nose and eyes</li> <li>• Pneumonic condition</li> <li>• Sore in mouth</li> <li>• Suffers from dyspnea</li> <li>• Death within 3-7 days.</li> </ul>	PPR Vaccine should be injected twice in a year.
<b>Pneumonia</b>		<ul style="list-style-type: none"> <li>• Goats may develop fevers of 104-105°F (40-40.5°C), which can drop back into the normal range in a few days</li> <li>• Accelerated pulse and respiration rate</li> <li>• Coughing</li> <li>• Discharge of bronchial exudates</li> </ul>	Goats should be kept at a neat and clean place ( <i>Macha</i> ).
<b>Goat Pox</b>		<ul style="list-style-type: none"> <li>• Initially high fever</li> <li>• Vesicles appear on the hairless area (nose, mouth, udder and inside the ear etc.)</li> <li>• Loss of appetite.</li> </ul>	Goat Pox vaccine should be injected twice in a year.
<b>Ecthyma</b>		<ul style="list-style-type: none"> <li>• High Body temperature</li> <li>• Lesion may develop on the gum below the incisor teeth</li> <li>• The lesions develop as papules and progress through vesicular and pustular stages before encrusting.</li> <li>• Frequently develops Secondary necrobacillosis.</li> </ul>	First dose of Ecthyma Vaccine should be injected at the third day after delivery and then once in a year.

Name of the Disease	Symptom Image	Symptoms	Prevention
<b>Worm</b>		<ul style="list-style-type: none"> <li>• Pot-belly appearance</li> <li>• Emaciation</li> <li>• Reduced productivity</li> <li>• Sometimes worms come out with their closet.</li> </ul>	Deworming tablets should be administered twice in a year.
<b>Enterotoxaemia</b>		<ul style="list-style-type: none"> <li>• Ropy salivation</li> <li>• Decreases normal body temperature</li> <li>• Anorexia</li> <li>• Bloat or tympany may occur</li> <li>• Pushing the head towards fixed objects</li> <li>• Excitement, incoordination and convulsions may occur before death.</li> </ul>	<ul style="list-style-type: none"> <li>• Goats should not be fed rotten food that may cause food poisoning.</li> <li>• Some fodders also cause poisoning. These fodders should also be excluded from the feed list.</li> </ul>
<b>Foot and Mouth Disease</b>		<ul style="list-style-type: none"> <li>• High temperature may up to 107°F (41.5°C)</li> <li>• Anorexic, salivation and stamps its feet</li> <li>• Vesicles develop on the tongue, dental pad, gums, lips and on the coronary band and interdigital cleft of the feet</li> <li>• Young kids may die before showing any vesicles because of virus-induced damage to the developing cells of the myocardium.</li> </ul>	FMD vaccine should be injected every six months.

## 6.1. VACCINATION SCHEDULE

Name of Disease	Third Day After Birth	Three months Age	Six Months Age	Nine Months Age
Ecthyma	First Dose			
FMD		First Dose		Second Dose
PPR		First Dose		Second Dose
Goat Pox		First Dose		



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- ছাগল পালন ম্যানুয়াল, ডঃ মোঃ শরীফ আহমেদ চৌধুরী।
- গৃহপালিত পশু-পাখির চিকিৎসা, ডঃ মোঃ জালাল উদ্দিন সরকার।
- পশু পালন ও চিকিৎসাবিদ্যা, জুলাই ২০১০ইং, ডাঃ এম এ সামাদ, বাকুবি, ময়মনসিংহ।
- দারিদ্র বিমোচনে ব্ল্যাক বেঙ্গল ছাগল পালন, পশুসম্পদ অধিদপ্তর, কৃষি খামার সড়ক, ফার্মগেট, ঢাকা-১২১৫।
- ছাগলের বাচার প্রতিপালন, ড. মোঃ এরসাদুজ্জামান ও অন্যান্যরা, বাংলাদেশ পশুসম্পদ গবেষণা প্রতিষ্ঠান, সাভার, ঢাকা-১৩৪১।



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Semi-Intensive Black Bengal Goat rearing:  
An innovation for Poverty Alleviation

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