



DETAILED PROJECT REPORT
FOR MODERNIZATION OF
EXISTING SLAUGHTER HOUSE
AT BHAGWANTPURA FOR
NAGAR NIGAM JHANSI

PREPARED BY

G. K. SEN
AND
ASSOCIATES

G.K. SEN AND ASSOCIATES

KOLKATA

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EXECUTIVE SUMMARY

1.0 PROJECT	Modernisation of Existing Slaughter House at Bhagwanpura, Jhansi. by Nagar Nigam Jhansi, Jhansi, Uttar Pradesh.	
2.0 LOCATION	Bhagwanpura, Jhansi, Uttar Pradesh	
3.0 INSTALLED CAPACITY	Large Animals Slaughter by Halal : 30 Heads/day Small Animals Slaughter by Halal : 60 Heads/day	
4.0 PLOT AREA	990 Sq.m owned by Nagar Nigam Jhansi.	
5.0 ELECTRICAL SUBSTATION	160 KVA, 11KV/415V	
6.0 DG STATION CAPACITY	1 X 100 KVA	
7.0 TOTAL BUILT UP AREA	1385 Sq. Mtr.	
8.0 REQUIREMENT OF ELECTRICITY	131390.00 KWH/Year	Rate : Rs 7.50/KWH
9.0 REQUIREMENT OF WATER	2700 CuM/Year	Rate : Rs.1.00/CuM
10.0 MANPOWER EMPLOYMENT	Administrative : 10 Heads Production & Maint. : 14 Heads Contract Labourers : 12 Heads	
11.0 PROJECT SCHEDULE	18 Months from Zero Date	
12.0 TOTAL PROJECT COST	Rs.	1129.83 Lacs
13.0 SUMMARY OF PROJECT COST(Rs. In Lacs)		
a) Cost of Land, Site Development.	65.00	
b) Buildings & Civil Works	223.48	
c) Plant & Equipment(Erected cost)		
Cost of Large Animal Slaughter Line	161.93	
Cost of Small Animal Slaughter Line	125.15	
Cost of ETP	60.75	
Cost of Equipment for Blood Coagulation Plant	48.65	
4 Nos. of Modern Meat Shops equipments	16.20	
Total Plant & Equipment	412.68	
d) Cost of PMC Services	46.71	
e) COST OF OTHER EQUIPMENT	233.60	

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नगर निगम, झाँसी.

नगर सहायक अभियन्ता
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अधिष्ठाता अभियन्ता
दरभर बिचम, झाँसी

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f) Pre-Operative Expenses	
Cost of Preparation of DPR and Preliminary Engineering + ST	5.62
Escalation @10% of fixed assets	93.42
Cost of Establishment	20.00
Total Insurance @1%	8.69
Total Pre-Operative Expenses	127.73
g) Contingencies @2%	21.24
TOTAL PROJECT COST	1129.83 Lacs

14.0 MEANS OF FINANCE	Rs. In Lacs
NNJ Contribution	564.92
Grant from MoFPI, GOI	564.92
TOTAL	1129.83

15.0 SERVICE CHARGES	In Rs.
Rate for Slaughtering per Large Animal	150.00
Rate for Slaughtering per Small Animal	70.00

16.0 OTHERS CHARGES	
Charge for each Meat Shop per Day	300.00
Reefer van charge for each Small Animal carcass	50.00
Reefer van charge for each Large Animal carcass	100.00

17.0 TOTAL REVENUE PER YEAR	48.48
(In Rs. Lacs)	

18.0 WORKING RESULTS

<u>Particulars</u>	<u>Rs. In Lacs</u>
Cost of Utilities	14.95
Expenditure of Maintenance	3.00
Salaries & Wages for Factory	11.76
Labour Contractor	5.40
Total Cost of Production	35.11
Total Revenue Earning	48.48
Total Profit (Per Year)	13.37



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Modernization of Existing Slaughter House for NNI at Bhagwantpura

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INTRODUCTION

1.1 GENERAL

Nagar Nigam Jhansi (NNJ) was set up for the development of city and civil social infrastructural services in the metropolis. Jhansi is the fastest growing commercial and industrial city in India. It is also a historical place of attention of many people from several parts of nation from very ancient days. The city is situated between the rivers Pahuj and Betwa between North longitudes 24°11' and 25°57' and East latitudes 78°10' and 79°25'. It has an average elevation of 284 metres (935 feet). It is about 415 kilometres (258 mi) from New Delhi and 292 kilometres (181 mi) from Lucknow, and is called the Gateway to Bundelkhand. Jhansi is well connected to all other major towns in Uttar Pradesh by road and railway networks. Due to the high population density and increasing number of tourists, the state government and international NGOs and institutions have expressed grave concern for the pollution and pressures on infrastructure in the city, mainly the sewage, sanitation and drainage components.



Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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In view of the poor hygienic condition of the existing slaughter house and due to manual slaughtering of animals in open area the subsequent nuisance being caused to the environment, Nagar Nigam Jhansi (NNJ), Jhansi, Uttar Pradesh has intended to modernise the existing slaughter house into a new modern mechanized slaughter house for Large Animals and Small Animals at Bhagwantpura, Jhansi. The setting up of the plant shall ensure availability of wholesome hygienic meat to the people of Jhansi and surrounding areas.

Nagar Nigam Jhansi has earmarked an area of about 990 square meters in Bhagwantpura where slaughtering of animals are taking place at present to set up a Service Oriented Modern Slaughter House equipped with standard facilities to slaughter 60 nos. Small Animals per day and 30 nos. Large Animals per day as per Halal Method followed by the required utilities and ETP facilities.

To implement the project NNJ has retained the services of M/S G. K. Sen and Associates (GKSA) having its office at UNIT NO.- 0222, UPOHAR TOWN CENTER, CHAK GARIA, KOLKATA - 700094 as consultants to prepare the Detailed Project Report (DPR) towards setting up the above mentioned Modernise Abattoir along with required utilities and ETP facilities.

The purpose of NNJ is to provide proper civic services and to protect, develop and maintain the properties owned by NNJ to its best possible manners as also to take steps for over all development of the complete Municipal Area in Bhagwantpura, Jhansi. The above includes providing hygienically prepared wholesome meat to local population by the modernization of the old existing Slaughter house.

The main objective of implementation of such service abattoirs by local bodies through Govt. of India initiative are as follows:-

1. To stop illegal slaughtering and thereby to reduce pollution & environmental hazards in the locality.
2. To provide hygienically prepared wholesome meat to local population to reduce health hazards.
3. To benefit the animal farmers to receive remunerative prices for their farm produce.

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4. The PIA/Local Bodies shall be benefitted due to more revenue earnings by way of collection of slaughter fees and other charges.

As per Terms of Reference, a detailed study has been carried out to prepare the Detailed Project Report comprising market survey, availability of animals and other utilities, selection of plant & equipment, site layout, manpower schedule, project implementation schedule and project economics.

1.2 Govt. of India Rules & Supreme Court Orders regarding Abattoirs:

Govt. of India rules

Govt. of India vide their Notification bearing no. S.O 207(e) dated 26th march, 2001 published in the Gazette of India, 'Preventing of Cruelty to Animals (Slaughter House) Rules: 2001' which provided the guidelines of functioning in all the slaughter houses in India.

It is also mentioned in the above notification as follows:-

Inspection of Slaughter House:

- 1) The animal Welfare Board of India or any person or Animal Welfare Organization authorized by it may inspect any slaughter house without notice to its owner or the person in charge of it at any time during the working hours to ensure that the provisions of these rules are being complied with.
- 2) The person or the Animal welfare organization authorized under sub rule(1) shall after inspection send its Report to Animal Welfare board of India as well as to the Municipal or Local Authority for appropriate action including initiation of legal proceedings if any, in the event of violation of any provisions of these rules.

Supreme Court Orders:

- The Hon'ble Supreme Court is concerned about the poor sanitation and hygiene condition of abattoirs and in writ Petition, (Civil) No. (s) 309 of 2003 filed by Laxmi Narain Modi Versus Union of India and others, has directed the State Governments and UTs vide its order dated 23-08-2012 to constitute committees for slaughterhouses to fulfill the mandatory requirements under various legislation dealing with functioning of slaughter houses in the country.
- The Hon'ble court has also directed Central Pollution Control Board (CPCB) to initiate action against all slaughter houses which are not meeting the norms

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- In the same case, vide order dated 30-01-2014, Supreme Court has- Requested the Chief Justice of various High Courts to nominate a retired District Judge for the period of two years as a Convener of the State Committees.
- Quarterly reports to be submitted to the Supreme Court.

1.3 SCOPE OF THE REPORT

The scope of the Report consists of the followings:-

The Background and basis/considerations to set up Modern Abattoir along with ETP are analyzed with respect to proposed conditions as well as local factors.

- Study on availability of raw materials / livestock with cost of procurement
- Estimation of various utility services like electricity, water etc. and their sources, specifications and delivered cost.
- Plant description including list of major equipment with brief specification, source of supply and process flow diagram.
- Effluent treatment plant and the process of waste water treatment.
- Various norms and standards to be followed for quality assurance for local sale.
- Site layout indicating civil works for factory building and other utilities and off-sites.
- Total Manpower schedule along with organization chart with salaries and benefits.
- The project schedule covering all activities.
- Project economics based on quotations from leading suppliers of plant and equipment and offsite facilities and other assumptions and data available with the consultants.

1.4 REPORT STRUCTURE

The complete report is presented in 11 chapters covering all major components.

Engineering drawings, showing detailed layout, process flow diagram, utility flow diagram, project schedule in the form of Bar Chart, organization structure, etc. are annexed in respective chapters.

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Project economics in the format of Forms are prepared and provided in the chapter of Project Economics.

1.5 A Brief Idea about Meat industry

1.5.1 Introduction

Meat industry is one of the growing food industries globally. A slaughter house or abattoir is a facility where animals are killed for consumption as food products. In India, the rate of meat consumption is on an increasing trend and therefore there is a need to develop this poorly developed sector. The reasons for the meat industry not expanding to its full potential can be attributed to socio- religious factors. Lack of finance, poor private participation and environmental problems are some of the other constraints felt.

1.5.2 Status of meat industry in India

There are nearly 3,600 municipal slaughter houses in India, but most of them are very old and have already outlived their utility. They lack the essential amenities required such as water, light and drainage. Apart from these, there are numerous unauthorized slaughterhouses are also working in several cities of India. About 36.5% of Goat, 32.5% of Sheep, 28% of Pigs, 1.9% of Buffaloes and 0.9% cattle are slaughtered every year. The reported per capita availability of meat in India is about 1.4 kg per annum, which is rather low compared to 60-90 kg in European countries.

1.5.3 Components of a slaughter house.

A slaughter house generally includes a collection centre, main slaughtering and chilling chambers, storage room, packaging and processing centres. Some slaughter houses also have provision for a market to sell and purchase animals. Slaughter houses have been under the control of municipal authorities/local bodies but no systematic efforts have been made so far to make meat production a commercial activity. Barring a few export-oriented abattoirs, it has been in the hands of those who have no knowledge of slaughter house hygiene, sanitation, meat quality and animal rights. At present slaughter houses in rural areas are under the control of local bodies like Panchayats and Municipalities. The slaughterhouses maintained by them get least priority and no standards are being insisted on. Production of meat in them cannot be recognized as meat from organized sector.

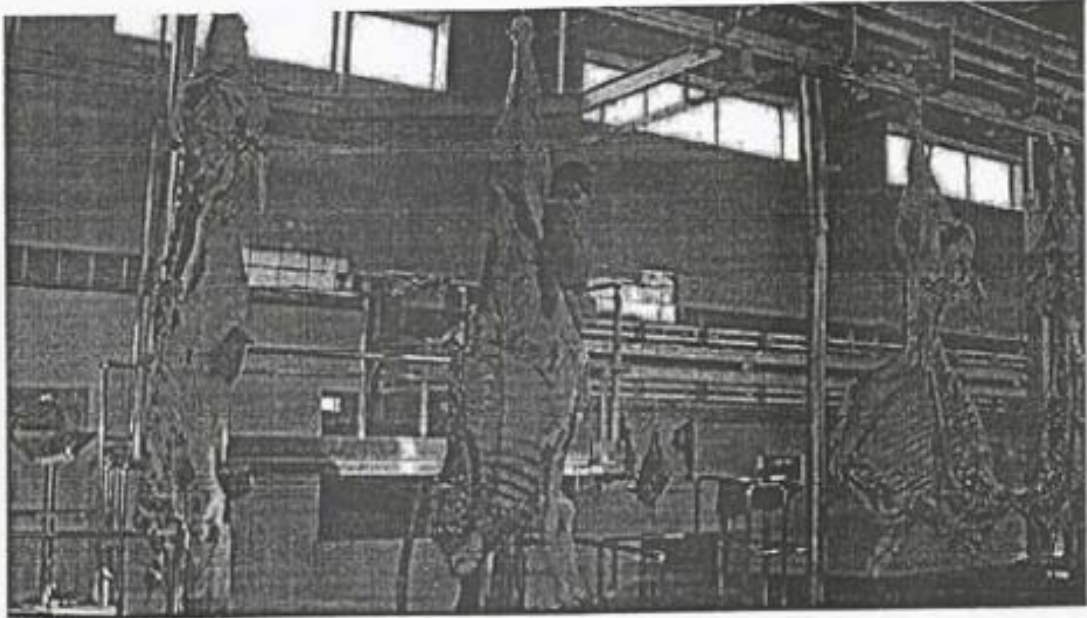


Figure 1: A typical slaughter house and Meat Processing Plant for Large Animals.

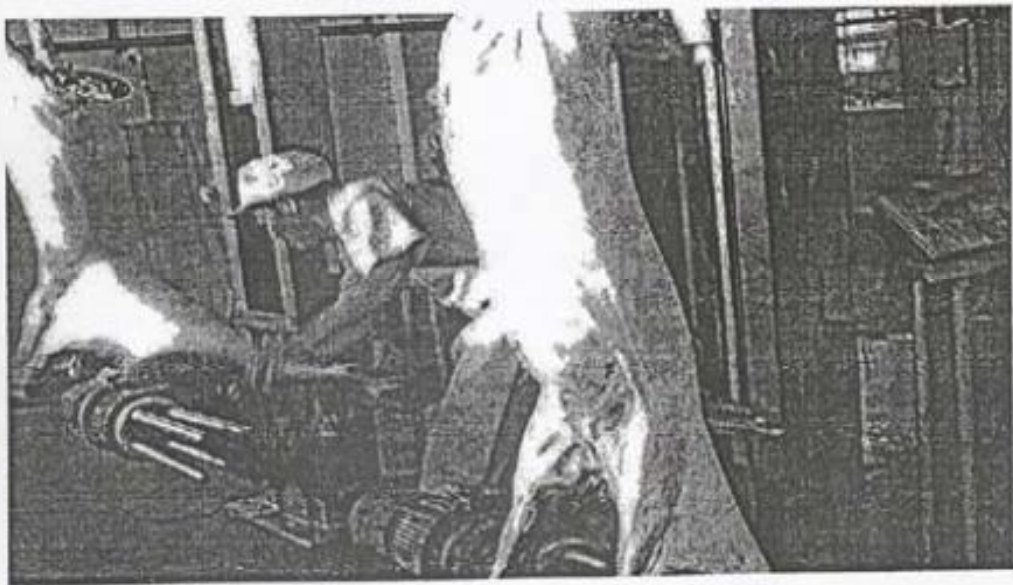


Figure 2: A typical slaughter house Plant for Small Animals.



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निशासा क्रिमियन्ता,
नगर निगम, झारसी.

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अध्यक्ष अभियन्ता, झारसी

1.5.4 Process followed for slaughtering in India

A. Slaughtering

In India mostly slaughtering of animals is done either by way of Halal or Jhatka method. Halal is the method preferred by Muslims and Jhatka by the Hindus/Christians/Sikhs, etc. To slaughter the animals in a humane way stunning of the animals is prescribed, but in most of the cases stunning before slaughtering has yet not been adopted due to certain religious feelings.

B. Bleeding

In both the above methods of slaughtering, blood collection is not done immediately on slaughtering and most of the blood goes down into municipal drains causing pollution. Blood of the animals, which can be collected for making use in pharmaceutical industry, is thus by and large lost. Due to inadequate facilities at the slaughter houses and scattered illegal slaughtering of animals, a very few slaughter houses collect blood.

C. Dressing

Due to lack of means and tools, dehiding of the carcasses is done on the floor itself, which causes contamination of the meat. The hides and skins are spread on the floor of the slaughtering area. Similarly legs, bones, hooves etc. are not removed immediately from the slaughtering area.

D. Evisceration

This particular process during slaughtering generates maximum amount of waste. The butchers who carry out illegal slaughtering of animals generally throw visceral material at the community bins and wash the small intestines at their shops itself and thus create pollution problem.

1.6 Classification of slaughter houses

At present there are no official norms for classification of slaughter houses. However, depending upon the type of animal to be slaughtered, the slaughter houses are classified into:

- Large animal (i.e. cattle, buffalo etc.) slaughter house

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अवध अभियन्ता,
नगर निगम, श्रीसिंग

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नगर निगम, श्रीसिंग

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श्रीसिंग नगर निगम, श्रीसिंग

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- Goat and sheep slaughter house
- Pig slaughter house
- Poultry slaughter house

In order to assess the variations in pollution load with respect to number of animals slaughtered, Bovines and Goat & Sheep slaughter houses are further classified into following categories:

- *Large Scale - More than 200 large animals i.e. Bovines per day or more than 1000 goat and sheep per day.*
- *Medium Scale - More than 50 and upto 200 large animals or more than 300 upto 1000 goat and sheep/day.*
- *Small Scale - Less than 50 Bovines and 300 goat and sheep per day*

Large scale slaughter houses are located mainly in big cities, medium slaughter houses in District/towns while the small scale slaughter houses are scattered all over the country.

1.7 METHODOLOGY ADOPTED

The report is prepared by compilation of information and data collected from local authority, butchers community & our own database / expertise in addition to meeting other experts in local market of Bhagwantpura, Jhansi and for food and meat processing, relevant journals, directory, internal search and other secondary sources.

A multi-disciplinary team of experienced engineers and marketing executives specified in meat processing were deployed. Strategic inputs and expertise are also given by key personnel in the related field. For estimation of project economics and working results, quotations are obtained from renowned suppliers of plant and equipment covering major sections. For miscellaneous small equipment / components, the prices are worked out from in-house database and telephonic enquiries with the suppliers.

For offsite facilities, quotations are obtained from leading indigenous manufacturers. The cost towards civil work / shed and technological structure are obtained mainly from fabricator / supplier of pre-fabricated shed and panel wall manufacturer. Some cases in-house estimation based on our experience in similar project have been considered.



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परिचालनी अभियन्ता,
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To provide hygienically prepared wholesome meat to consumers without any contaminations, 4 nos. Modern meat shops and 4nos. small reefer vehicles to transport meat carcasses to the shops are included in the DPR.

Generation of revenue by NNJ has been worked out through realization of slaughter fees and through renting out the proposed modern meat shops as also through charges for hiring the reefer vehicles.



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BACKGROUND OF THE PROJECT

The proposed Modernization of Existing Slaughter House comprising slaughtering facilities with a view to supply hygienic Large Animal Meat and Small Animal Meat to the local market.

In addition to the Slaughtering the project shall have Blood Coagulation Plant to convert blood into blood Coagulant.

The guidelines to achieve a status of Modern Slaughter House are required to be fulfilled up on implementation of followings:-

- *Transportation of Live Animals to the Abattoir by Trucks.*
- *Isolated point of entry of Raw Materials/Live animals and exit of Finished Product*
- *Adequate space for Lairage with ample of water supply for the animals, particularly for Large Animals.*
- *Ante-Mortem Inspection by qualified and experienced Govt. veterinarian doctors.*
- *Halal Ritual Killing Box with Raceway to slaughter animals at a single point in such a way that the slaughtering of one animal shall not be visible to other animals waiting for their turn.*
- *Collection of blood fraction in appropriate and hygienic manner in dedicated SS trough followed by gainful utilizing to produce Blood Meal thus reducing the load on Effluent Treatment Plant.*
- *Separation of Head & non edible offal and post mortem inspection.*
- *De-Hiding by hydraulically operated Hide Pullers*
- *Washing of Carcass by chlorinated water.*
- *Post Mortem Inspection by qualified veterinary officials of Carcass in accordance with relevant code and stamping.*

Sterilization of Knives and other cutting tools.

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- handling of carcass and edible offal
- Dispatch of carcasses.
- Blood Coagulation Plant.
- Custom built Effluent Treatment Plant
- Refrigerated van facility for transportation of meat carcasses.

The proposed plant is located at Bhagwantpura, Jhansi on vacant area admeasuring around 990.00 Sq.m nearby area Jhansi Industrial Area is the largest and most economical industrial area in the division. The site is away under industrial Zone and has very good road connectivity for transportation of live animals as well as distribution of carcass which is adequate to build up the Modern Slaughter House equipped with all necessary facilities suitable for a Service purpose Unit.

The installed capacity of the Large Animal Slaughter Line shall be 30 Heads per Day for service slaughtering for local meat sellers. The installed capacity of Small Animal slaughter line shall be 60 Heads per day for service slaughtering for local meat sellers.

The Project Implementation Schedule is estimated as 18 months from the Zero Date, i.e., the date of receipt of clearance from competent authority as well as start of civil work at site.

Under present scope, the project will generate direct employment of about 24 and the contractual labors of about 12 nos. In addition to the direct employment there will be involvement of indirect manpower towards transportation, animal trading etc.



Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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असुर
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AVAILABILITY OF RAW MATERIAL

3.1 INTRODUCTION

The feed stocks of the proposed Modernization of Existing Abattoir Plant are Large Animals and Small Animal. At 100% capacity utilization, the plant capacity is envisaged as 30 nos. Large Animal for local consumption. Considering 300 working days per year, the annual slaughtering of live Large Animal is estimated at 9000 nos. For Small Animal the plant capacity is envisaged as 60 nos. of Small Animal per day for local consumption only. Considering 300 working days per year, the annual slaughtering of live Small Animal is estimated at 18000 nos.

The livestock market in Jhansi and other markets in Uttar Pradesh can be considered as the source of animals for the proposed project. From other livestock market in adjacent states animals can be procured for slaughtering as the site is well connected with Roads and Railway. The animal transportation will be made by animal owners with their own means as animals should be received at plant should be in good health condition.

The animals to be slaughtered shall pass through Ante-mortem inspection by qualified and experienced veterinary surgeons after declaring the animals are fit for slaughtering. These must be disease free, not pregnant and over 14 years of age in case of large animal.

The population of animals in India starting from 1951 to 2012 and state wise availability of the same in the year 2012 is provided here. All the figures are based on Indian livestock census carried out by Government of India. Average weight of live animals and weight of meat and carcass thereof are also discussed in following sections. The price of procurement has been worked out based on present trend and norms applicable to similar modern abattoirs in India.



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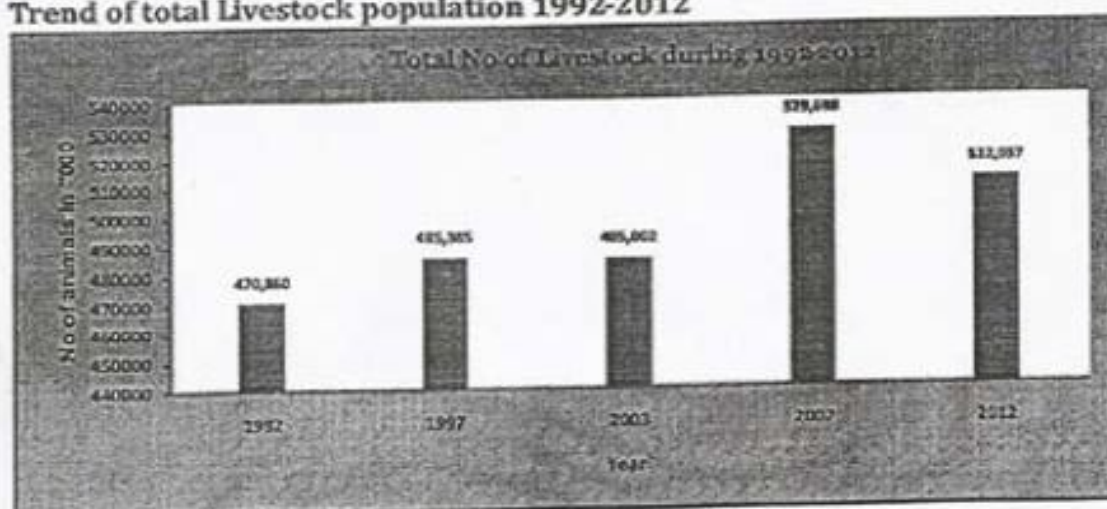
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India has a considerable share of world livestock resources and emerged as number one (57% of world population) in case of buffaloes and number two (16% of world population) in case of goat and number three (6% of world population) in case of sheep population. The population of buffalo, goat and sheep recorded as per Indian Livestock Census carried out in the year 1992, 1997, 2003, 2007 & 2012 are presented below: -

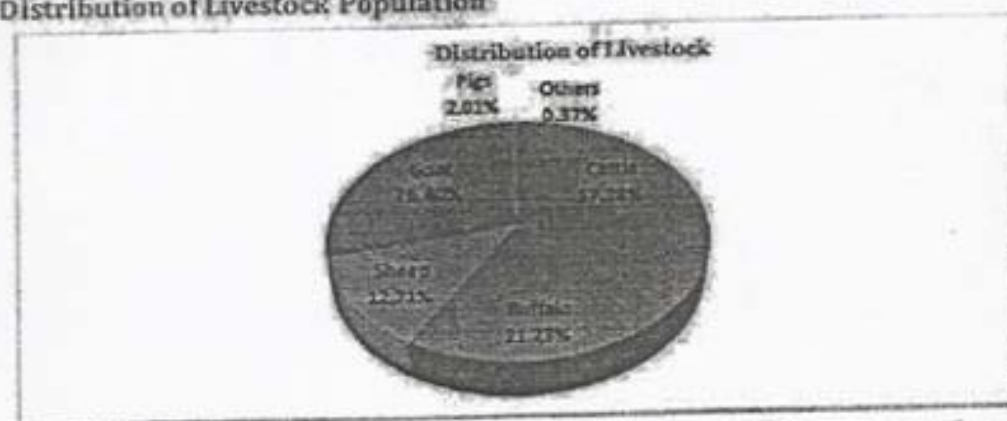
TABLE - 3.1

LIVESTOCK POPULATION DURING DIFFERENT CENSUS PERIOD

Trend of total Livestock population 1992-2012

19th LIVESTOCK CENSUS-2012

Distribution of Livestock Population



Source: 19th (2012) Animal Census

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आर० के० सिंह
सहायक अभियन्ता
प्रांतीय नगर निगम, साँची

आयुक्त
नगर निगम, साँची.

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नगर निगम, साँची

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नगर निगम, साँची

The distribution of population of buffalo, goat and sheep in the 35 nos. of state and Union Territories of India according to livestock census, 2012 are provided in bellow :-

5.3 AVAILABILITY OF BUFFALOES

With reference to the latest census estimates (2012), the strength of animals of Uttar Pradesh along with its 6 adjacent states respect to all India bases are tabulated in Table 5.3.2

TABLE- 5.3.1

POPULATIONS OF BUFFALOES (2012)

16th LIVESTOCK CENSUS-2012

: Details of Buffaloes by Sex

Sl. No.	State/UT	Male			Female			Total Buffaloes		
		Rural (A)	Urban (B)	Total (C)	Rural (D)	Urban (E)	Total (F)	Rural (G)	Urban (H)	Total (I)
1	ANDHRA PRADESH	20288	118	20406	21182	891	22073	22386	613	23000
2	ARUNACHAL PRADESH	1761297	89799	1851096	1442769	408327	1851096	1851096	0	1851096
3	ASSAM	207670	6413	214083	482649	14828	497477	712228	114750	826978
4	BHARAT CHHATTISGARH	422283	11801	434084	613628	100447	714075	2864263	131344	2995607
5	BHARAT JHARKHAND	462886	82493	545379	1522502	160538	1683040	1804228	863623	2667851
6	BHARAT KARNATAKA	534	1683	2217	2214	13415	15629	2658	13152	15810
7	BHARAT KERALA	149114	149114	298228	204287	129725	334012	287611	80934	368545
8	BHARAT MADHYA PRADESH	24781	1175	25956	14794	1562	16356	17276	4175	21451
9	BHARAT GUJARAT	1842	21	1863	1753	131	1884	792	861	1653
10	BHARAT RAJASTHAN	23967	1477	25444	17364	6553	23917	41266	8079	49345
11	BHARAT WEST BENGAL	242752	128281	371033	1542528	823214	2365742	1948222	461391	2389613
12	BHARAT HIMACHAL PRADESH	121213	10300	131513	885276	479942	1365218	712286	276242	988528
13	BHARAT JHARKHAND	26223	1287	27510	207183	30712	237895	26223	2400	266295
14	BHARAT JHARKHAND	30454	2972	33426	29996	11880	31876	24798	14211	36009
15	BHARAT JHARKHAND	308784	8152	316936	468228	201897	670125	902803	70842	973645
16	BHARAT MADHYA PRADESH	222819	19481	242300	828444	521115	1349559	1248763	408220	1656983
17	BHARAT KERALA	20712	17526	38238	122972	80854	203826	832284	8513	840797
18	BHARAT GUJARAT	432	0	432	2667	0	2667	2667	0	2667
19	BHARAT MADHYA PRADESH	117461	117461	234922	1746222	832114	2582336	2699776	1184577	3884353
20	BHARAT GUJARAT	149279	149279	298558	1746222	832114	2582336	2699776	1184577	3884353
21	BHARAT GUJARAT	11268	11268	22536	184224	26417	210641	26428	3715	26800
22	BHARAT GUJARAT	38842	453	39295	94882	1184	96066	84213	287	84500
23	BHARAT GUJARAT	11126	1495	12621	12888	6075	18963	2474	838	3312
24	BHARAT GUJARAT	17587	7725	25312	168824	16729	185553	27682	2294	29976
25	BHARAT GUJARAT	2426	1190	3616	20718	658	21376	23794	879	24673
26	BHARAT GUJARAT	686229	91242	777471	582222	228894	811116	1222244	182254	1404470
27	BHARAT GUJARAT	8819	1377	10196	42817	18518	61335	4888	2282	7120
28	BHARAT GUJARAT	82218	4277	86495	479481	22843	501324	798188	38228	836416
29	BHARAT GUJARAT	472417	12439	484856	208248	72642	270890	2648879	84281	2733160
30	BHARAT GUJARAT	4432	181	4613	8042	763	8805	14257	342	14600
31	BHARAT GUJARAT	138228	138228	276456	202222	244285	446507	446507	0	446507
32	BHARAT GUJARAT	34625	4241	38866	52721	26812	79533	82426	2114	84540
33	BHARAT GUJARAT	48129	48129	96258	207222	112884	320106	48129	212212	693318
34	BHARAT GUJARAT	82734	1623	84357	217881	62322	279203	282883	7205	290088
35	BHARAT GUJARAT	127811	8742	136553	128842	42118	170960	1882962	52546	1932508
36	BHARAT GUJARAT	822222	264474	1086696	2088722	871824	3160546	3481825	1178279	4660125



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अधियासी अभियंता, नगर निगम, झारखंड

मुकुंद अभियंता, नगर निगम, झारखंड

TABLE - 5.3.2

POPULATIONS OF BUFFALOES (2012)

Sl. No.	Name of the State	Million Nos.
1.	Uttar Pradesh	50.18
2.	Madhya Pradesh	27.79
3.	Chattisgarh	11.20
4.	Bihar	19.79
5.	Jharkhand	9.91
6.	Rajasthan	26.30
7.	Haryana	7.89
	Total	153.06

Ref: 19th Indian Livestock Census, 2012

The total population of buffaloes in Uttar Pradesh and 6 nearby states from where the animals are likely to be procured amounts to be about 153.06 Million nos. i.e. about 51% of all India population as per 2012 livestock census. Based on average growth rate of 2 % per year, the population of buffalo in Uttar Pradesh and with 6 neighboring states is expected to reach about 162.42 Million nos. in the year 2015-16. Therefore procurement of 9000 nos. of buffalo for the unit would not pose any problem.

5.4 AVAILABILITY OF GOAT AND SHEEP.

With reference to the latest census estimates (2012), the strength of animals of Uttar Pradesh along with its 6 adjacent states and percentage with respect to all India bases are tabulated in Table 5.4.3

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नगर निगम, झांसी

आर० के० सिंह
सहायक अभियन्ता
झांसी नगर निगम, झांसी

अधिसूची अभियन्ता,
नगर निगम, झांसी.

नगर निगम, झांसी

TABLE - 5.4.1
POPULATIONS OF GOAT (2012)

19th LIVESTOCK CENSUS-2012

Details of Goats by Age, Sex and Use in Rural and Urban Combined

S.No.	State/UT	Male			Total	Female			Total	Total Goats
		Under 1 Year	1 Year and Above	Under 1 Year		Sub Milk	Dry	Not Cared Over		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1	ANDHRA PRADESH	11838	11840	23678	23883	14220	11139	2499	4498	48376
2	ANDHRA PRADESH	1391960	1008120	2399980	2602268	2093227	2412738	854108	890941	7071223
3	ARUNACHAL PRADESH	80131	80952	161083	84008	57637	23474	23315	27922	340308
4	ASSAM	758781	5841889	6600670	1607717	1158122	870688	233818	348811	8109193
5	BIHAR	2002248	2480203	4482451	2280007	2960042	1880708	1100439	3840988	12323439
6	CHHATTISGARH	82	306	388	310	311	58	8	367	694
7	CHHATTISGARH	448329	498415	946744	341585	487988	71480	37062	207213	1154007
8	CHHATTISGARH	904	157	1061	767	632	981	125	308	1369
9	CHHATTISGARH	302	306	608	287	685	324	197	284	2092
10	GOA	1888	2189	4077	3177	3491	2018	388	874	12988
11	GUJARAT	613002	804444	1417446	883343	1700862	872838	243811	3619528	4989722
12	HARYANA	47634	24805	72439	72072	128642	81184	13207	26887	268118
13	HARYANA	132251	178881	311132	184889	218038	217028	88825	89888	1119882
14	HARYANA	232200	275448	507648	307168	369882	422478	107718	150211	2017980
15	HARYANA	1078085	1172913	2251000	1500038	1572848	1548208	542138	668441	5581449
16	KARNATAKA	878480	511723	1390203	668234	3442807	1043078	243378	370944	4798347
17	KARNATAKA	218470	83613	292083	408668	338087	188830	18188	80790	1248277
18	KARNATAKA	7428	8725	16153	9421	8060	8383	8490	3034	4647
19	KARNATAKA	113647	88900	202547	153778	218736	189200	36640	36640	801824
20	KARNATAKA	115834	82848	198682	173712	261116	187138	36742	63334	843307
21	KARNATAKA	12378	13354	25732	13505	13270	8436	8378	3684	43134
22	KARNATAKA	89641	89664	179305	91172	80274	45768	40772	26242	420070
23	KARNATAKA	5888	4988	10876	3888	3438	3788	2818	1388	12008
24	KARNATAKA	18167	14212	32379	17227	20189	12232	10797	8063	38385
25	NCT OF DELHI	8115	4744	12859	3503	2545	2025	3688	1811	30270
26	GUJARAT	607872	1234081	1841953	1182736	1308908	1313586	434088	411134	6323087
27	KARNATAKA	7997	4638	12635	13411	37881	10000	1362	4218	37880
28	KARNATAKA	20968	20472	41440	41288	112030	87982	13231	26442	127272
29	KARNATAKA	2817318	3248828	6066146	4308700	7008880	4830888	1284138	1760862	21668820
30	KARNATAKA	22308	20905	43213	30368	15545	15800	4281	8081	113841
31	KARNATAKA	1218823	2091207	3309930	1840008	2190072	1247988	583888	363314	8161311
32	KARNATAKA	118880	79227	198107	126288	114000	101228	45472	402808	810822
33	KARNATAKA	2348554	2807128	5155682	3281880	4248008	2864188	1072324	1201988	15888811
34	KARNATAKA	184180	208781	392961	238881	278799	166687	84122	84122	1387411
35	KARNATAKA	2348021	2088423	4436444	2388444	2348004	1788124	2688004	11508884	11508884
Total		3648888	1728818	5377706	3648888	3638284	38263180	8483482	87888872	12323439



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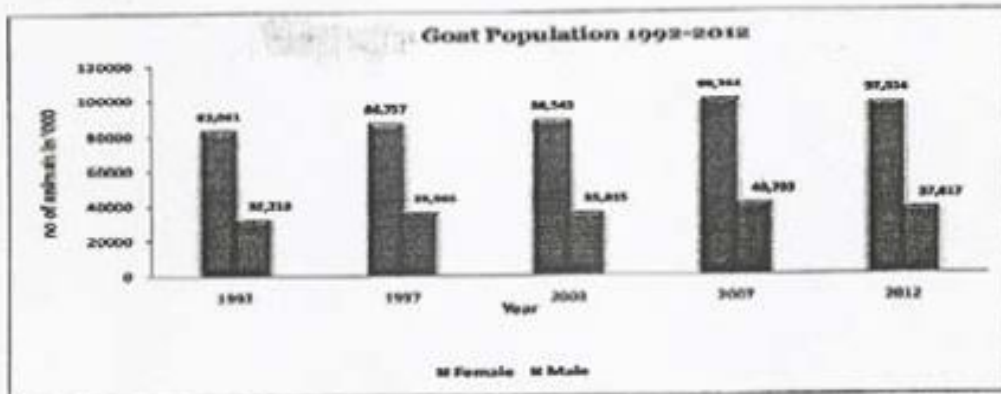
अभिजाती अभियन्ता,
नगर निगम, झारखंड

आर० के० मिश्र
सहायक अभियन्ता
झारखंड नगर निगम, झारखंड

नगर अभियन्ता
नगर निगम, झारखंड

Goat

- ❖ The total Goat contributes around 26.40% of the total livestock population.
- ❖ The total number of Goat in the country as per 2012 Census is 135.17 million numbers.



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अध्यक्ष अभियन्ता

नगर निगम, झारसी.

(Signature)

अधिसारी वास्तुशास्त्रज्ञ,
बघवत निगम, झारसी.

(Signature)

मुख्य अभियन्ता
नगर निगम, झारसी

(Signature)
अध्यक्ष अभियन्ता
नगर निगम, झारसी

TABLE - 5.4.2
POPULATIONS OF SHEEP (2012)

13th LIVESTOCK CENSUS-2012

Details of Sheep by Age and Sex in Rural and Urban Combined for Indigenous and Total Sheep

Sl. No.	State/UT	In Age of Sheep						Total Indigenous Sheep	Total Sheep
		Male			Female				
		Under 1 year	1 Year and Above	Total Indigenes Sheep	Under year	1 Year and Above	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
1	ANDAMAN & NICOBAR ISLANDS	0	0	0	0	0	0	0	
2	ANDHRA PRADESH	2013761	2207628	4221391	5696007	15422796	21119193	26340589	
3	ARUNACHAL PRADESH	1796	2970	4766	2946	4574	7542	12308	
4	ASSAM	96147	36461	132608	117961	294291	212872	305480	
5	Bihar	27094	48527	85621	48192	89548	137960	223371	
6	CHHATTISGARH	3	24	27	3	29	32	64	
7	CHHATTISGARH	26630	36461	63091	51757	73821	124878	187919	
8	CHHATTISGARH	33	16	49	8	9	17	34	
9	CHHATTISGARH	0	1	1	0	0	0	1	
10	GOA	0	0	0	0	0	0	0	
11	GUJARAT	145284	204308	349592	243188	368975	612373	988567	
12	HARYANA	27882	24111	51993	6499	181925	248914	300907	
13	HARYANA	36725	87075	123800	30974	258880	382680	506480	
14	HARYANA	131327	184564	315891	234969	510860	745830	1061690	
15	HARYANA	89482	125111	214593	113716	240532	354248	567980	
16	KARNATAKA	3018308	895964	3914272	1369620	3458289	4783909	8702481	
17	KARNATAKA	49	605	654	83	232	315	569	
18	KARNATAKA	0	0	0	0	0	0	0	
19	KARNATAKA	43401	49831	93232	64421	137640	201871	294812	
20	KARNATAKA	270841	214377	485218	534401	1499140	2033541	2518759	
21	KARNATAKA	354	2311	2665	1370	2275	3645	5015	
22	KARNATAKA	2703	5445	8148	4850	7421	12271	16421	
23	KARNATAKA	17	12	29	15	23	38	62	
24	KARNATAKA	705	817	1522	640	729	1369	1891	
25	KARNATAKA	66	79	145	47	64	111	157	
26	KARNATAKA	218760	222869	441629	218928	737257	958885	1400512	
27	KARNATAKA	134	104	238	130	370	504	674	
28	KARNATAKA	11507	10738	22245	20021	35650	55671	75696	
29	KARNATAKA	1181106	847443	2028549	1940122	5018917	6959039	8987582	
30	KARNATAKA	249	328	577	314	618	932	1250	
31	KARNATAKA	618448	596796	1215244	933649	2137246	2671134	4308380	
32	KARNATAKA	551	534	1085	621	1127	1748	2375	
33	KARNATAKA	200449	236012	436461	271040	541054	812094	1248145	
34	KARNATAKA	2784	2443	5227	4856	13782	19038	24264	
35	KARNATAKA	207098	201301	408399	219794	348122	568516	757521	
36	KARNATAKA	7476718	6439624	13916342	12018864	24935206	35935066	60851270	



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असर अभियन्ता, ६६
नगर निगम, झोंसी.

असर अभियन्ता
नगर निगम, झोंसी

आर.के. सिंह
सहायक अभियन्ता
झोंसी नगर निगम, झोंसी

मुख्य अभियन्ता
नगर निगम, झोंसी

Sheep

- ❖ The total Sheep contributes around 12.71% of the total livestock population.
- ❖ The total number of Sheep in the country as per 2012 Census is 65 million numbers.

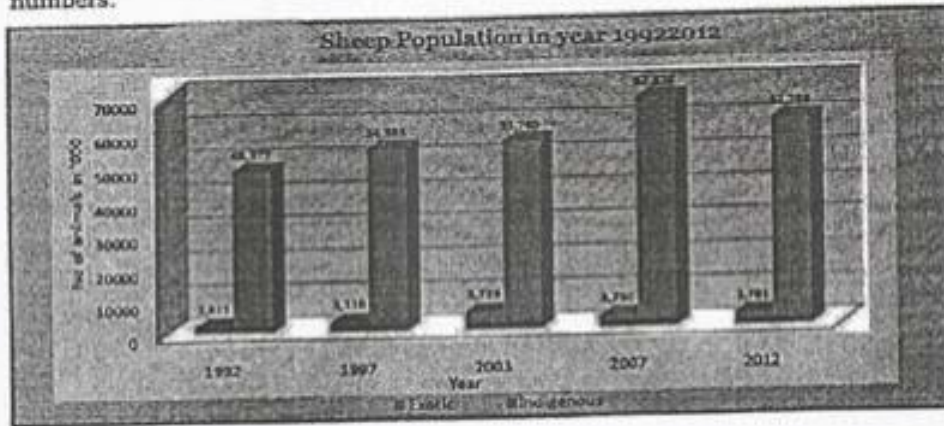


TABLE-5.4.3

POPULATION OF SHEEP AND GOAT (2012)

Sl. No.	Name of the State	Million Nos. Goat	Million Nos. Sheep
1.	Uttar Pradesh	15.58	1.35
2.	Madhya Pradesh	8.01	0.30
3.	Chattisgarh	3.22	0.16
4.	Bihar	12.15	0.23
5.	Jharkhand	6.58	0.58
6.	Rajasthan	21.66	9.07
7.	Uttarakhand	1.36	0.36
	Total	68.56	12.05

Ref: 19th Indian Livestock Census, 2012

The total population of Sheep and Goat in Uttar Pradesh and 6 nearby states from where the animals are likely to be procured amounts to be about 12.05 million nos. and 68.56 million nos individually. Based on average growth rate of 2% per year, the population of Sheep and 3% per year the total population of goat in Uttar Pradesh and with 6 neighboring states is

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अवर अभियन्ता,

नगर निगम, झांसी.

आर० के० सिंह
सहायक अभियन्ता
झांसी नगर निगम, झांसी

अधिकारी अभियन्ता
नगर निगम, झांसी

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नगर निगम, झांसी

expected to reach about 12.78 Million Nos. and 74.91 Million Nos. in the year 2015-16. Therefore procurement of 18000 nos. of Sheep and Goat for the unit would not pose any problem.

3.5 COST OF FEEDSTOCK

(a) Large Animal

Large Animal of weight 200 kg to 300 kg shall be available and carcass weight will be about 150 kg to 200 kg per Large Animal. The Slaughtering Charge is considered to be Rs. 150/- per Large Animal.

(b) Sheep/ Goats

Goats of weight 15kg to 20 kg shall be available and carcass weight will be about 10 kg to 16 kg per goat. Slaughtering Charge is considered to be Rs. 70/- per Sheep/Goat.



Modernization of Existing Slaughter House for NMV at Bhagwantpura.

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अटल अशिरवत,

नगर निगम, झाँसी.

नगर स्वास्थ्य अधिकारी
नगर निगम, झाँसी

अधिसासी अनियन्ता,
नगर निगम, झाँसी.

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नगर निगम, झाँसी

REQUIREMENT AND SPECIFICATION OF UTILITIES

4.1 INTRODUCTION

Electricity, hot water generation, HSD and Municipal supply water are the utility services to be provided for the Large Animal and Small Animal Abattoir, Blood Coagulation Plant & other facilities. Requirement of these services with specification, source/arrangement to generate and delivered cost thereof are discussed in following sections. The Large Animal Abattoir having capacity of 30 heads/day will operate for 5 hours/day for local supply. The Small Animal Abattoir having installed capacity 60 heads/day will be operated for 5 hours/day for local supply. The ETP will be working 24 hrs. per day and 365 days per year.

Based on respective hours and days of working per year, the consumption of utilities and cost thereof are estimated and presented below.

4.2 ELECTRICITY

Electricity is the major utility for the proposed project rather it can also be termed as one of the raw materials because of the extent of consumption and investment. The connected load of various sections as envisaged are given below:

Sl. No.	Section	Connected Load	hrs. /day	days/year
1.	Abattoir for Large Animal	10 KW	5	300
2.	Abattoir for Small Animal	10 KW	5	300
3.	Large Animal Liarage	5 KW	8	300
4.	Small Animal Liarage	5 KW	8	300
5.	ETP (15 KLD)	10 KW	24	365
6.	Pump System	5 KW	5	300
	Blood Coagulation Plant	10 KW	8	300
	Lighting Load of Plant	5 KW	8	365
		Total Connected Load= 60 KW		

Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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असद अशियत नसद.स.स.स.

नगर निगम, डोंरी.

सद्विज्ञापनी वासियन्ता,
नगर विपन, डोंरी.

मुख्य अभियन्ता
नगर निगम, डोंरी

नगर निगम, डोंरी

Based on load factor for equipments and respective operating hours and operating days, the yearly power consumption is estimated at about 187700 KWH. To augment the power at 415 V, 50 c/s, a plant substation of 100 KVA with primary voltage of 11 KV is considered. 1 nos. X 100 KVA rating of 11KV/415V outdoor transformers has been proposed for the plant substation.

As Abattoir system is the heart of the plant and being a service oriented unit, complete back up to the abattoirs and other emergency sections has been considered during normal power supply failure. One DG set power station comprising 1 nos. 100 KVA sets have been considered to supply emergency power during failure of normal power grid.

In order to estimate the running hours of DG sets, on prime facie it is considered that these will run 30% of total hours for electricity to be generated.

The normal power supply shall be arranged from 11 KV grid of UPSEB through suitable conductors and circuit breakers. The DG sets will run in parallel circuit as dedicated feed independently to each system. Therefore, no synchronizing panel has been considered.

The power tariff inclusive of duty and surcharge has been considered as Rs. 7.50 per KWH. That from DG set has been considered as Rs. 9.00 per KWH.

4.3 WATER

Water is another vital utility required for abattoir and meat producing units. Water is consumed in following areas: -

- Washing and showering of animals in lairage
- Washing of equipment and floors regularly
- Washing of utensils/knives etc.
- Washing of carcass
- Water for hot water generation
- Water for hand & foot wash and other cleaning purposes
- Water for drinking and potable purpose

Water of various qualities shall be used for different purposes.

Raw water without any treatment will be used for animals shower water and lairage wash water. Filtered water, to be supplied by NNJ, shall be used for washing of equipment, plant

Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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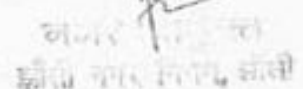
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floor washing and water for hand and foot washing of personnel. Filtered & U.V. sterilized water is meant for utensils / knives washing and potable purpose.

Daily requirement of water by various sections as discussed above is estimated at about 9 KLD. The maximum usable water to be supplied by NNJ for the proposed Plant. The Bore well pump capacity will be around 5 HP (1 Nos).



Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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PLANT DESCRIPTION

5.1 INTRODUCTION

The proposed Modernization of Existing Slaughter House project is subdivided into four (4) major sections. These are (a) Large Animal Abattoir of capacity 30 heads/day for 5 hours of operation, (b) Small Animal Abattoir of capacity of 60 heads/day for 5 hours of operation, (c) Blood Coagulation plant of 1KLD feed to convert blood into Blood Coagulant (d) Custom built Effluent treatment Plant of 15 KLD.

Both Large Animal and Small Animal will be slaughtered for bone-in-Carcasses meat. The process of producing finished product from live animals/goat/sheep is of intrinsic and takes place in series. Generally the steps are defined in following sequence: -

- Step I - Receiving and ante-mortem inspection of animals in open lairage
- Step II - Checked and passed animals are put to covered lairage /holding pen with fasting
- Step III - Forwarding the animals to abattoir through raceway
- Step IV - Abattoir, where slaughtering is carried out
- Step V - Post mortem inspection followed by removal of head, horn, hoof and de hiding
- Step VI - Splitting of the animals' abdomen to remove various organs/viscera/offal.
- Step VII - The products are dispatched by means of Refrigerated Containers.



Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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kept under observation for inspection. The pregnant animals as per law will not be allowed for slaughter. The injured or accidental animals if they are not suffering from diseases will be taken for immediate slaughtering.

All the animals cleared by qualified veterinarian after ante-mortem examination will be admitted to the covered lairage. Animals will be put under fasting for 2 hrs. prior to be processed in the Abattoir.

5.2.4 ABATTOIR

After selection of animal for slaughter they should be moved to slaughter chamber. The animals will be cleaned before it reaches to slaughter chamber. All the dust on the skin will be properly washed.

5.2.5 STUNNING

From the holding pen animal will be lead one by one through a narrow passage to a cradle or restraining trap, so that the animal can be stunned by stunning device.

5.2.6 SLAUGHTERING

Slaughter of animal will be performed by Halal method. The animals will be numbered before reaching to the slaughter chamber and number will be made to skin as well as to muscle. For example, if there are 500 animal brought by 20 individuals slaughter them the no. of animal will be SA-20 or GB-22 or BC-23. Here S, G or B are for sheep, goat or buffalo. A, B & C are the name of individual and 20, 22 or 23 are the numbers of animals. For Halal method the animals shall be positioned in such a way that its head is directed towards the 'Holy Qaba' and a Muslim butcher shall cut the throat with a sharp knife while severing the neck shall be stretched on its back and blood vessels, food pipe and wind pipe all, shall be cut in one stroke. Following this the animal will then be shackled by the hind leg to the overhead continuous runner and shackle conveyor and elevated over the stainless steel bleeding trough on an inclined track.

5.2.7 BLEEDING

After severing the neck the blood may be allowed to flow freely and then collected in an appropriate and hygienic manner. Sufficient time (5-10 minutes) is allowed for complete bleeding. The blood from the bleeding trough will flow into a collection tank under the trough and then be blown by pneumatics to the main blood storage tank. The trough will have two

Modernization of Existing Slaughter House for NM at Bhagwantpura.

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outlets, one for blood and one for wash down, either outlet can be plugged as required. It will also have spurge pipes for wash down purposes.

5.2.8 DE-HEADING AND SEPERATION OF TROTTERS

At the top of the ascent at the end of bleeding trough, the animal will pass through a pair of self closing rubber doors into the slaughter hall. The head will then be removed and deposited into a chute. The skilled worker would properly assess the joints (elbow and hock) of both for and hind legs and with a sharp knife (or hock-cutter) would cut off and separate the trotters.

The trotters shall be collected directly in a chute and conveyed it to cleaning section for onward transmission to respective butchers. The clean head and trotters would be examined (post-mortem) by qualified person along with the carcass and other organs.

5.2.9 SKINNING/DEHIDING

The use of a craft conveyor in a modern automatic slaughter line allows the traditional craft method of skinning to be retained with following added benefits:-

1. Cleaner and better dressed carcasses
2. A less tiring operation for the slaughter which means that the quality of the carcass doesn't deteriorate towards the end of a shift.

Skinning or flay is highly skilled operation. The skinning should be carried out without inflicting any cuts or damages to the skin, slight damages by skin cuts or bruises would depreciate its value and usefulness, to a great extent. The skinning operation should also be carried out in such a way that the carcass is not damaged.

The quality of meat is mainly dependant on the meat surface and appearance, with subcutaneous tissue (fascia), fat, connective tissue etc. Left over of the skin tissue over on the carcass or damaging layers of meat surface would render the carcass to be judged as inferior quality. Skinning operation should start from hock point. To carryout de hiding an online de hiding machine will be operated to accomplish the de hiding of the animals.

After skinning process, each skin would immediately be collected and removed to the skin section, where following treatment should be done:-

a. Washing

Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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- b. Cleaning
- c. De fatting
- d. De fleshing
- e. Salting if advocated

Every carcass after removal of skin would be washed thoroughly with a suitable jet hose with adjustable hose pressure on the meat surface.

5.2.10 DRESSING LINE

At the end of the craft conveyor the carcass will be gambrel led and lifted by elevator into the dressing line. Dressing is an important operation in the whole of slaughter process. Once the carcass is thoroughly washed after de-hiding operation, it is transferred to dressing area along the overhead rails. Carcass is cut open along the midline in abdomen and internal organs are carefully separated from the body attachments and taken out without soiling or contaminating the carcass or other visceral organs like ingesta, urine, blood, dung, etc.

The end portion of rectum, (large intestine) the anal structure would be carefully cut out and separated. In special cases a ligature must be tied. Abdominal cavity opened by cutting along midline. The whole intestine loop with stomach is separated out from the peritoneal attachment. Bladder and other uro-genital organs removed and separately collected. Further, intestinal-mesenteric-loop and stomach would be taken out, separating along with their attachments, without inflicting any cuts either in the intestine or in the stomach, and then the same would be transferred to tri party and gut units for further processing.

Next, thoracic cavity would be opened through diaphragm and the organs like liver, heart, lungs, etc. are removed along with their attachments. Damages, cuts or tearing or detaching pleural or peritoneal cover (of body cavities) would be avoided. Thoracic organs (pluck) would be washed and lined up for P.M. inspection along with carcass and the head.

5.2.11 WASHING

All the thoracic organs and carcass are flushed with chlorinated water through a hose and the carcass is moved forward and the pluck is put on hooks along with the head of the respective animal's kidney, however remains in the carcass.



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5.2.12 POST MORTEM INSPECTION

Qualified Veterinarian or trained meat inspector would carry out the post mortem inspection of the carcass meat and of all the organs, in accordance with the procedure laid-down and conforming to the code of inspection. The carcass meat would be inspected for wholesomeness, free from diseases, lesions, maturity, age, sex, species, and for proper bleeding, discoloration, grade, quality and conformation, etc.

General skeletal, systemic and specific lymph-glands to be examined as per procedure. Specific muscles and organs to be palpated and incised where necessary, for the detection of lesions or infestation (of parasites) etc. Depending upon the type and extend of affections, part or whole carcass or the organs would be rejected or condemned. Condemned parts would be dealt with as per regulation. Wholesome parts are judged fit for consumption, would be passed on further.

A record of the statement of findings along with judgment, stating causes for the judgment is to be maintained by the meat inspector.

5.2.13 OFFAL HANDLING

Offal handling is an important part because a substantial weight of Large Animal is discharged during de hiding and evisceration. The foot rail and sit -stand stool are designed in such a way that workers can vary their position while working and workflow system are redesign as that the masses are automatically transferred from the end of the viscera table to respective offal conveyer.

5.2.14 STAMPING

The wholesome carcass-meat and the organs and parts thereof would be stamped with the specific Meat Inspection stamps provided for, with the specific ink. Stamping mark or impressions would be applied properly and legibly at the specific region or parts of the carcass-meat and organs, as per stamping process in vogue or as per International Meat Industry Concept, practice and procedure followed would be as laid down in the code of regulations in this regard.

5.2.15 WEIGHTMENT

The record of weight of carcass would be maintained for the benefit of the butchers or the administration as the case may be, for statistical purpose.

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5.2.16 LABORATORY ANALYSIS

Fully and well equipped laboratory would be operated for various tests and analytical work and the findings and results would be properly maintained for future reference and other informative uses. Meat and meat products are generally examined to assess the state of freshness, the conditions under which meat is processed, shelf-life and the presence of pathogens. Meat is examined for standard plate count; coli form count, psychotrophs, staphylococcal counts and the presence of pathogens such as Salmonella etc.

The following tests are suggested: -

Test	Medium	Incubation temperature and time
Standard Plate count	Plate count agar	30°C for 48-72 hrs.
Coli form Plate count	Violet red biled agar	37°C for 18-24
Staphylococcal count	Baird-Parkar medium	37°C for 24-48 hrs.
Enterobacteriaceac Count	Violet red bile glucose agar	37°C for 18-24 hrs.

5.3 SMALL ANIMAL LINE

5.3.1 ARRIVAL AND INSPECTION

Trucks/tempo bringing live sheep and goats from the farms are carefully scheduled to ensure steady supply, with movement commencing very early in the morning till the relatively cooler hours of the day. Here Sheep and goat are held before slaughtering for 24 hours and no feed is provided to them to keep the internal system clear.

Before taking the animals to slaughter house, Anti mortem inspection of animals is done to check the diseased and unhealthy animal form slaughtering. The animals are inspected from various angles such as presence of all the body parts, normal salivation and digestive system.

After inspections animals become ready for stunning.



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5.3.2 STUNNING

The modern mechanical of stunning is by shooting, consisting of two forms:

- Use of a captive bolt pistol which delivers a force (concussion) into the head of the animal to make it unconscious.
- Use of a penetrating free-bullet gun of firearm. Compression stunners with or without penetrating heads, using air (not cartridges) are also employed in immobilizing animal. Older method in which a knocking or striking hammer was wielded on the head of the animal is now disallowed in humane practices in some countries, but in extreme and needy cases the hammer can be used to stun small ruminants by a quick blow at the back of the neck.

The simplest mechanism consists of electrodes or probes built in the form of tongs with insulated handles and applied between the ear and eye of the animal for 1-4 seconds. About 5-7 seconds must elapse before the animal starts bleeding. The level of voltage used for sheep and goats is between 60 and 70 volts/AC 50-60 cycles.

In strict Halal practice, stunning is ruled out since technically it puts the animal in a state of unconsciousness before bleeding. Nevertheless some Islamic communities accept electrical stunning as cattle, for instance, are known to recover from this application and lead normal lives-an indication that they still remain alive after stunning. Other Islamic groups in parts of Africa and Asia employ the hammer method of stunning.

5.3.3 SHACKLING AND BLEEDING

Stunned animal are then positioned for shackling. A vertical or hanging position is achieved by shackling below the hock of one hind leg and hoisting the animal (head down) to a convenient height. Alternatively, Animals are placed horizontally on a concrete slab or a sturdy plastic pallet for bleeding.

The actual bleeding operation is made by sticking or inserting the sticking knife through the neck behind the jaw bone and below the first neck bone. The objective is to sever the blood vessels of the neck and let the blood ooze out. If the knife is inserted is at a lower position than indicated, then the esophagus might be cut and the viscera may get contaminated.

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The bleeding should be complete within the usual time for the animal and it is 2 minutes in case of sheep and goat. Insufficient bleeding and slow death could mean that the separation of the neck vessels is incomplete or specifically the arteries leading to the head have been missed, having only cut the veins during sticking.

Hoist bleeding is more hygienic and is recommended. It also facilitates collection of blood for further use.

5.3.4 SKINNING AND DEHIDING

Legging: In removing the skin, initial cutting of the skin is done around the leg to expose and loosen the tendon of the hock and using as a means of hanging the carcass. This process is called legging.

Pelting: A second step called pelting (after the term pelt normally applied to the skins of lambs and other wool or fur-bearing animals) involves the removal of the entire skin and preparation of the animal body for evisceration. Tropical sheep and goats have hair not wool on their bodies, thus the term skinning is more appropriate for them. Skinning, like stunning, can be done either in the horizontal or hanging position, the former being more suited to small slaughterhouses and the latter for larger premises with bigger orders and with facilities or equipment for railing the individual carcasses one after another.

• Hoist Skinning

With the animal body in the hoist position, using the skinning knife, legging is commenced at the back of the free (unsuspended) leg by removing the skin around the hock and working towards the toes. This exposes the tendon on the back leg and the smooth joint just above the toe. The foot is cut off at this joint and the tendon gets loosened. The animal is then hung on a hook to suspend the leg. The process is repeated for the other leg while the cuts are continued on the inside of both legs towards the naval region.

The next step involves removal of body skin. First an opening is made in the front legs, cutting towards the jaw and continuing over the brisket to the naval. Using the knife, the brisket is skinned, but from this stage onwards, the knife is normally not used further. This is to protect the 'fell', a fine membrane occurring between the skin and the carcass which helps to improve the appearance of the carcass and reduce surface shrinkage.



• **Horizontal Skinning**

The animal is placed on its back on a flat raised surface, such as sturdy plastic pallet or a concrete slab. Cutting and fisting then begin at the forelegs, working toward the belly and sides of the animal, ending at the hind legs. The tendon between the hock and the toes is exposed and loosened. At this point, feet, bung and head are cut at the designated points

5.3.5 **EVISCARATION**

With the external structures like skin, feet and head removed, the next step is to cut open the animal body to dislodge the contents and produce the carcass. To avoid contamination of the carcass through accidental cuts or punctures of the stomach and intestines, simple but well-directed steps are followed. For this, it is important that the carcass remains or is placed in the hanging position.

The first step in evisceration is to cut around the tied bung or rectum and free it completely from all attachments and drop it in the pelvic cavity.

The breastbone is cut or chopped along the midline up to its tip. Another cut is made from the cod or udder using the skinning knife down the midline into the breast cut. By practice, the pelvis (or lower part of the abdomen) is left uncut.

Then the body cavity is entered to separate the urethra connections from the kidneys. While the intestines are loosened up further, the stomach and intestinal mass are pushed slightly out of the midline opening. (In some countries, the kidneys and spleen are often left in the sheep carcass.). At this stage, liver is held out and detached of its connecting tissues then pulled out together with the freed contents of the abdominal cavity and dropped into an intestinal mass truck. The gall-bladder is cut from the liver, taking care not to spill its bitter contents onto the carcass and spoil the taste of the meat.

The final stage in evisceration is the removal of the contents of the chest cavity. By cutting the thin muscle sheet or diaphragm separating this cavity from the belly, the pluck (i.e. heart, lungs, trachea and esophagus) can be pulled out as a unit. The fore shanks (i.e. the upper and lower arms) are fastened together using a tendon or a thick rubber band to plump the shoulders. The carcass is then washed and railed to the inspection bay.

5.3.6 **POSTMORTEM INSPECTION**

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Aside from the carcass, parts of the animal body which are assembled for inspection are the tongue, head, and pluck, liver and intestinal mass. The carcass is held still in the suspended position. However, the visceral organs including the head and tongue are placed on hooks in a separate bay while the stomach and intestines remain in the truck. Each carcass is identified with its set of organs for inspection.

Inspection is normally carried out by professional veterinarians but some parts of the world trained public health inspectors are employed. Their duty is to examine the slaughter products for evidence of disease and abnormality and eliminate them from the public meat supply.

5.3.7 OFFAL HANDLING

Offal handling is an important part because a substantial weight of sheep's and goat are discharged during de hiding and evisceration. The foot rail and sit -stand stool are designed in such a way that workers can vary their position while working and workflow system are redesign as that the masses are automatically transferred from the end of the viscera table to respective offal conveyor.

5.3.8 STAMPING

The wholesome carcass-meat and the organs and parts thereof would be stamped with the specific Meat Inspection stamps provided for, with the specific ink. Stamping mark or impressions would be applied properly and legibly at the specific region or parts of the carcass-meat and organs, as per stamping process in vogue or as per International Meat Industry Concept, practice and procedure followed would be as laid down in the code of regulations in this regard.

5.3.9 WEIGHTMENT

The record of weight of carcass would be maintained for the benefit of the butchers or the administration as the case may be, for statistical purpose.



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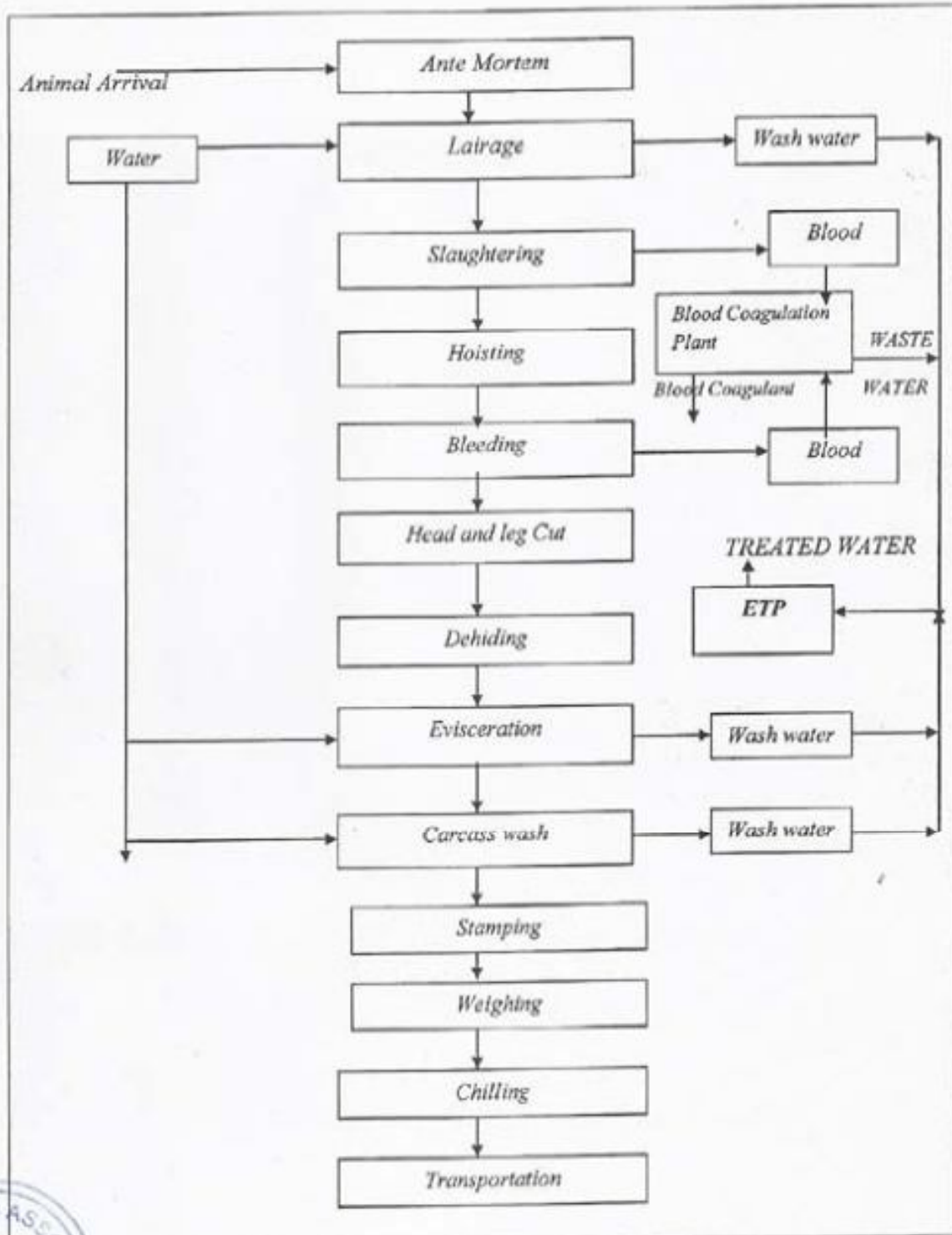
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A Typical flow diagram of Plant Operation



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5.4 BLOOD COAGULATION PLANT:

Capacity: 1 KLD

Process Description with Flow Chart.

The Coagulation Process of Blood as envisaged is given below:

- The major blood from Halal point and bleeding area of the slaughter house to be stored in a sump tank. There will be mixing devise in the tank to keep the blood homogeneous. The above raw blood is to be transferred to a Coagulation process.
- The above blood will be transferred through pump from blood collection tank/sump tank to a coagulator through a mixing tank fitted with agitators where high pressure steam through a boiler will be injected to create cyclonic motion for cooking the blood.
- The coagulator will cook the blood at minimum 120°C when coagulum will be formed and the coagulum will then be taken to a vibrating screen chamber. The water from the vibrating screen chamber will be discharged to ETP which will be having around 500mg/ltr. BOD concentration and temperature around 80°C. The coagulum / cooked blood cells from the vibrating screen will then be discharged to a collection tank.



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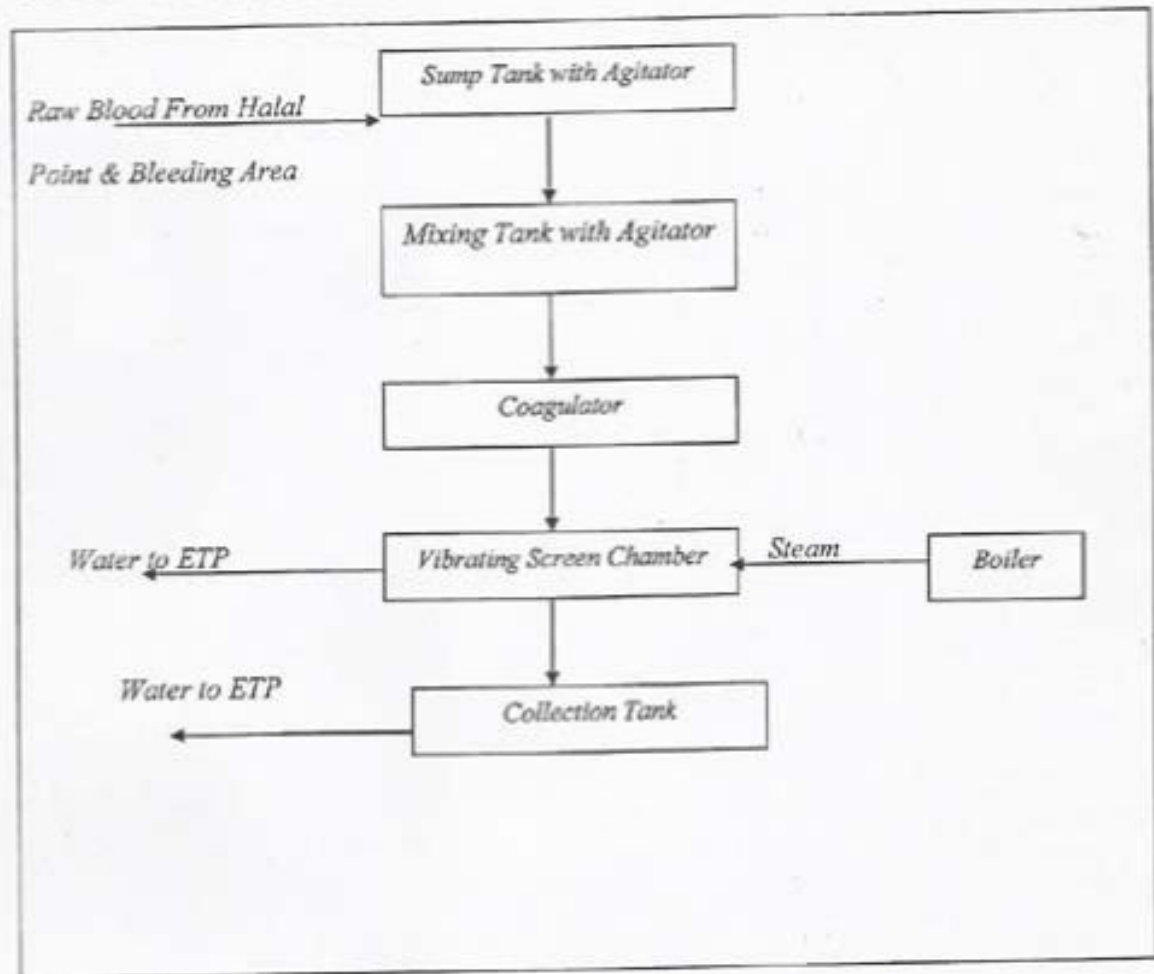
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TYPICAL FLOW DIAGRAM OF PROPOSED BLOOD COAGULATION PLANT



5.5 EFFLUENT TREATMENT PLANT

Water Quality as every technologist knows, lies at the center of Industrial activity and at the heart of life. The effluent when left untreated from industry which plays havoc with ground water. Consequently water treatment Plants developed to manage water in a better way ensuring both customer and ecology profit. This process take into account a complex set of field conditions and propose water management approaches that make economical and technical sense.

This ETP shall be designed for handling 15 KLD of effluent generated from the Abattoir. Area required to construct this plant is approx 48 SQM. Biological system of treatment is envisaged with double Aeration & Double Clarification Stages.

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The effluent after treatment can be discharged into sewer line or can be used for irrigation purpose. Solids separated should finally be collected on sludge drying bed after using sand filter and can be utilized as manure.

5.5.1 BASIS

Flow capacity

Total daily flow 15 KLD

Average hourly flow 2.0 M³/Hr

Peak hourly flow 5 M³/Hr

Raw Effluent characteristic

5.5.2 TYPICAL PARAMETERS OF RAW EFFLUENT

PH-----7.1

BOD : 2500 mg/lit

COD : 4000 mg/lit

Oil & grease : 50 mg/lit

Total Suspended Solids : 1200.00 mg/lit

5.5.3 PARAMETERS OF TREATED EFFLUENT

PH----- 5.5-7.0

BOD : 100.00 mg/lit

COD : 250 mg/lit

Oil & grease : 10 mg/lit

Total Suspended Solids : 100.0 mg/lit

5.5.4 REUSE OF TREATED EFFLUENT

The treated Effluent shall be disposed off suitably. It should meet the above stringent standards.

5.5.5 AVAILABILITY OF AREA

Sufficient area (48 SQM) is made available for the construction of the Effluent Treatment Plant.

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5.6 TREATMENT CONCEPT

The treatment should be decided keeping in mind the raw Effluent quality and desired treatment Effluent quality.

As can be seen from the design parameters, the untreated effluent BOD is 2500 mg / Liter. The desired treated effluent BOD is less than 100 mg/Liter. It is not possible to reduce the BOD to the desire level without going in for two-stage aeration & clarification.

The Effluent produced in the slaughter house first shall be divided in two channels. These channels should be separated by two gates. Then effluent should go to the Screen Chamber.

The Effluent produced first should pass through a screen chamber for the removal of large floatable and particles. Here, the solid particles etc. should be trapped and removed manually. Two chambers should be provided for screenings. The screening removal should be manual. This facility provided so that while one is being cleaned, the other can be used. The effluent then should flows to the Oils & Grease trap.

In the Oil & Grease Trap, the gravity-based trap is proposed to separate oils & greases from the effluent. The animal fats should be trapped here. To help the grease to rise on top, mild diffused aeration should be incorporated. The effluent should go to Equalization Tank

In the Equalization Tank, the quantity and quality fluctuation should be absorbed here. Since the effluent is highly biodegradable almost 24 hours storage in the tank should be considered, diffused aeration should be incorporated to prevent septic conditions and to keep the suspended matters in suspension. The Effluent should be pumped to the Primary settling tank.

The primary settling tank removal of suspended solid should be done by gravity settling. This should be achieved by providing adequate retention time in a quiescent state. Settling rate should be enhanced by addition of flocculent, a flocculation zone should also be provided after flocculent mixing and before sedimentation. Then effluent should be transferred to dissolved air flotation system. Here again suspended solids and oil & grease should be removed from the effluent. Outcome of this unit should be pumped to aeration tank - 1.

In the Aeration Tank - 1 the BOD/COD load reduction should take place. In this tank the bacterial culture should be added as returned activated sludge. There should be sufficient incorporation of air by floating/fix surface aerator. For balanced growth of microorganisms

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suitably.

From sludge sumps about 50% of sludge is re circulated to aeration tanks. Only excess sludge is sent to the Sludge Drying Beds.

The Sludge Drying Beds further concentrate the sludge and converts it into sludge cakes. The sludge cakes are removed and are ideal for use in land filling material as well as manure.

The filtrate water is transferred to the equalization tank.



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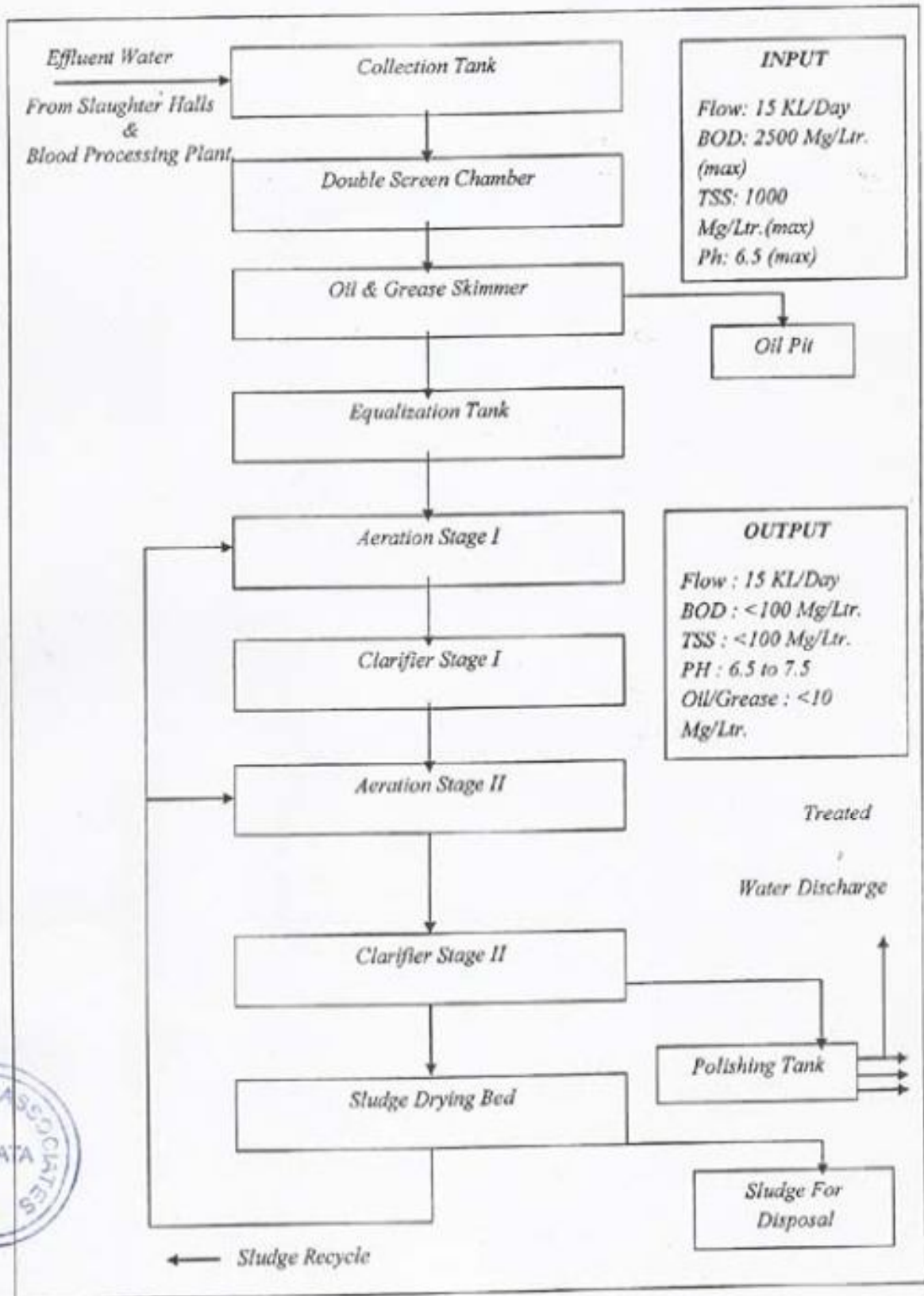
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A typical flow diagram of ETP is attached below.



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5.7 LIST OF EQUIPMENTS

COMPLETE SLAUGHTER HOUSE EQUIPMENTS & MACHINERIES

Slaughter Line and Slaughter Hall Machineries Complete

Capacity -30 Nos. Large animals per day

Sl No	Items	Quantity
1	Killing Box(manual type)	1 no
2	Bleeding grating (trough)- SS-304	1 no
3	Electric hoist-0.5 Ton cap	2 nos
4	Shackles hooks (SS-304)	50 nos
5	Bleeding Rail (manual - 12 mtr	1 set
6	Hooks return line(manual)-12 mtr	1 set
7	Fixed dressing Platform (Railings of SS 304)- 4.5 mtr length	2 nos
8	Fixed de-hiding platform(railings of SS-304) -4.5 mtr length	2 nos
9	Dressing rail (Manual)-12 mtr	1 lot
10	Dressing Hooks(SS-304)	50 nos.
11	Stoppers (SS-304)	5 nos.
12	Brisket cutter (Electric)(Imported)	1 no
13	Brisket Cutter Platform (Railing of SS-304)	1 no
14	Despatch Rail(manual)-9 mtr	1 lot
15	Trolley (galvanized-wheel type)(SS-304)	5 nos.
16	Hand wash Basin with electric knife sterilizers (SS304)	4 nos.
17	Electrical control panel(MCCB/MCB) for slaughter house	1 no
18	High Pressure Jet pumps	1 no
19	Hose rack with Hose	1 no
20	Insect Killer(Pesto flash)	1 lot
21	Cleaning tables (SS-304)	1 no
22	Hot & Cold Water pipe Line	1 set
23	Electrical Cable works	1 set
24	Support Steel Structure	1 set
	Sub Total	

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धरम विपिन, झाँसी.

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Slaughter Line and Slaughter Hall Machineries Complete

Capacity -60 Nos. Small animals per day

SL No	Items	Quantity
1	Killing Box(manual type)	1 no
2	Bleeding grating (trough)- SS-304	1 no
3	Electric hoist-0.5 Ton cap	2 no
4	Shackles hooks (SS-304)	50 nos
5	Bleeding Rail (manual - 12 mtr	1 set
6	Hooks return line(manual)-12 mtr	1 set
7	Fixed dressing Platform (Railings of SS 304)- 4.5 mtr length	2 no
8	Fixed de-hiding platform(railings of SS-304) -4.5 mtr length	2 no
9	Dressing rail (Manual)-12 mtr	1 lot
10	Dressing Hooks(SS-304)	100 nos.
11	Stoppers (SS-304)	5 nos.
12	Despatch Rail(manual)-9 mtr	1 lot
13	Trolley (galvanized-wheel type)(SS-304)	5 nos.
14	Hand wash Basin with electric knife sterilizers (SS304)	4 nos.
15	Electrical control panel(MCCB/MCB) for slaughter house	1 no
16	High Pressure Jet pumps	1 no
17	Hose rack with Hose	1 no
18	Insect Killer(Pesto flash)	1 lot
19	Cleaning tables (SS-304)	1 no
20	Hot and Cold Water pipe Line	1 set
21	Electrical Cable works	1 set
22	Support Steel Structure	1 set
	Sub Total	



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COMMON EQUIPMENTS/WORKS

Sl No.	Items	Quantity
1	ETP-15 KLD a. Bar Screen b. Solid Separator c. Grease Trap d. Aerator tank and motors e. Clarification tank & motors f. Sludge circulation pump g. Sludge drying beds h. sludge pumps i. Chlorine pump j. Blower	1 set
2	Silent D G Set(100 KVA)	1 no
3	Exhaust fans, tube lights and other electrical fittings	1 set
4	Blood Coagulation Plant (capacity: 1000 Ltr/day) 1. PROGRESSIVE FEED PUMP FOR BLOOD 2. S.S.BLOOD TANK 3. VIBRATING SCREEN FOR BLOOD 4. BLOOD COAGULATER 5. DRYER (1t/Batch) 6. PIPE & FITTINGS 7. ELECTRIC PANNAL	1 set
5	Gumboots, Aprons, caps, face Mask 9 made of cloth	25 set
6	Service connection (S.C.) charges payable to UPSEB where running load is less than 100 KVA	1 Job
7	Permanent electrification which includes internal and external electrification.	1 Job
8	Small transportation vehicle	1 No
9	Drainage System	1 Job
10	Pressurized Potable Water Pipe Lines & Pumps for All Working Stations	1 Job



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LARGE ANIMAL CIVIL WORK (AS PER DRAWING)

S.NO.	DESCRIPTION	AREA
1	Covered Liarage	42 M ²
2	Slaughter Hall	160M ²
3	Dirty Area	40 M ²
4	Utility Block	16 M ²

SMALL ANIMAL CIVIL WORK (AS PER DRAWING)

S.NO.	DESCRIPTION	AREA
1	Covered Liarage	30 M ²
2	Slaughter Hall	120 M ²
3	Dirty Area	30 M ²
4	Utility Block	12 M ²

COMMON AREAS

1	Doctor Room (2 nos.)	25 M ²
2	Electrical & Machine Room (2 nos.)	25 M ²
3	Blood Coagulation Plant	32 M ²
4	ETP	48 M ²
5	Internal Road	406M ²



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CHAPTER - VI

REQUIREMENT OF CIVIL WORKS AND TECHNOLOGICAL STRUCTURES

6.1 INTRODUCTION

The product of the plant will be used for consumption of local market in Jhansi Municipal Corporation Area and surroundings. The standards to be used while designing the plant are the Codex Alimentarius, the EU standards and USDA standards. Therefore a lot of cares are essential in civil and construction aspects to protect the above mentioned standards from the design stage itself. Broad guidelines for general layout and designing of the buildings are discussed hereunder.

6.2 LAYOUT

The Layout of the plant has been prepared based on Plot Dimensions as worked out from the land map provided by NNJ. The plot area is found to be quite adequate and an optimum layout of buildings/structures with internal roads have been developed and enclosed.

The plant boundary will have two (2) numbers of main gates with 3 M wide internal road. One Gate (Entry) termed as BLACK GATE, through which trucks/vehicles carrying animals and other industrial inputs like LDO, HSD / Chemicals will enter the plant premises. The second gate (Exit) termed as WHITE GATE, which is away from the black gates, shall be used for movement of finished products carrying transports and entry for office staff and visitors.

The layout of the modern abattoir will be such that the raw materials i.e. animals are received at one end and the finished products are dispatched from other end of the building.

The surroundings of the buildings and sheds will be paved by PCC to avoid growth of vegetation, etc.

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While placing the abattoir, it is kept in mind that the Ritual Killing Box orientation will be such that the head of the animals are placed towards Geographically West Direction prior to slaughter to protect the religious belief of the butchers.

6.3 BUILDINGS / SHEDS

During detailed design and engineering following factors shall be taken in to account.

The entire plant building will be built using grid of RCC columns, using insulated roof and brick walls. The floor should have a slope of 0.5% leading into floor gutters which will require to be built in all the process. Finished floor surface is best achieved with Kota stone. For using meat processing machinery of global standards in the building, the clear height in the processing plant area from finished floor level to eave's level should be 5M or more. Except where the insulated performed panels used, the walls will be glazed up to around 2.5M and have plastic emulsion paint above the glazing. Avoid the use of paper lining, cloth, wood and asbestos in construction of process area. The plinth level shall be constructed up to height of floor of refrigerated container truck for ease of loading.

The construction standards do not permit the existence of underground gutters in the process area or refrigeration area. All gutters need to be open with steel grid covers in sections of 1 meter or so convenient lengths. These are removable, for easy cleaning. All gutters are either of 300mm width and slope at 0.5% towards the offal pit.

6.4 EFFLUENT TREATMENT PLANT (ETP) AREA

The meat processing requires large quantity of water, which is finally sent to ETP for treatment and part/reuse in gardening/discharge. An area of about 48 sq. m. is earmarked at one corner of the plot to set up the ETP. Water streams from various sections of the plant are sent to ETP through underground piping. The ETP plant is mainly consisting of civil construction of basins, reservoirs, thickeners and lagoons.

6.5 BLOOD COAGULATION PLANT

The Blood Coagulation Plant is proposed to be constructed using steel columns, pre-coated corrugated sheet roofing and side cladding with glass glazing. The flow shall be constructed as anti-skidding type using Ironite components. The head room of the building/shed is to be maintained as 5 M.

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6.6 OFFSITE BUILDINGS

Various offsite buildings as per economics are proposed to be constructed of RCC columns, steel truss with galvanized corrugated sheet. The panel room shall be constructed of RCC column, brick wall and RCC roof.

6.7 NON FACTORY BUILDINGS

Non factory buildings include, gate office, toilets/change room are to be constructed of RCC columns, brick wall and RCC roof. The dimensions are worked out based on preliminary engineering done.



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PROJECT BENEFITS SWOT ANALYSIS

7.1 PROJECT BENEFITS:

The benefits of the proposed Modernization of Existing Slaughter House Project are as under:

7.1.1 Financial benefits

- To the farmer-producer who will receive a better price for his animals from the local butchers and other meat exporters as the proposed facility will generate demand for livestock. As the income improves, the farmer will take interest in rearing of animals for more body weights and body conformation. This will also encourage the farmer to take to improved breeding, feeding, animal health control measures and ram-lamb or goat-kid fattening schemes for which bank loans are available.
- The consumer of meat will get a better quality wholesome meat and meat products and an assured supply of the product.

7.1.2 Employment generation

- The direct employment generation of skilled and unskilled manpower in the proposed project will be about 24.
- The backward linkage established through the project will generate large employment (indirect) in rural area through involvement and participation of more animal producers. It will also increase income and employment for a large number of service providers for transport of animals, feed, fodder, animal products, animal byproducts etc.

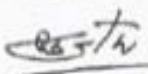
7.1.3 Social benefits

Overall improvement in rural income through the project will have positive socio-economic effects on improving literacy, capacity building and decision making ability of the rural backward community rearing sheep and goats, buffalo and more particularly the rural women who are normally engaged in livestock rearing.

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


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7.1.4 Environmental benefits

At present, the animals are mostly slaughtered in unhygienic and unsanitary conditions. Animal wastes are not disposed off properly, thereby causing a serious threat to the environment and causing air and water pollution. These pollution problem will be overcome by establishing a modern abattoir where ETP along with Blood Plant are to be provided and all precautions are to be taken to prevent environment pollution.

This Plant has been conceived with **Zero Discharge Concepts** where all polluting elements will be handled by the following means:

- **Effluent Treatment Plant** : Waste water from main Plant complex will be treated as per CPCB norms.
- **Blood Coagulation Plant** : Collected blood after slaughtering of Animals will be Coagulated.

7.2 SWOT ANALYSIS

7.2.1 Strengths:

- The Promoter of the Project - Nagar Nigam Jhansi, Jhansi is having very good strength and background for the project.
- Good domestic demand for meat from sheep/ goat as well as Large Animal.
- Nearness of the project to the one of the Industrial Areas of Jhansi.
- Availability of large number of farmer-producers and livestock in Uttar Pradesh, particularly in districts adjoining the project location.
- Large number of existing private meat processors and exporters in Uttar Pradesh.

7.2.2 Weaknesses:

- The farmer producers have very small sheep/goat and buffalo units. They lack financial resources and have no suitable outlet to sell their animals. Unless they get proper help, the overall benefits of the project will not be available to them.

7.2.3 Opportunities

- India is having largest livestock population. There is vast scope to utilize and further develop these resources as per the requirement of the project.
- The domestic and export demand for meat is increasing. Meat produced under clean and hygienic conditions has a special preference and priority by consumers.

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- In India, skilled labour is cheaper than in other developed countries.
- There is a very large untapped potential in India in utilizing the animal-wastes into useful and high quality by-products. This opportunity needs to be exploited.
- The farmers who rear the livestock are poor and in rural areas. This project can provide immense opportunity for increasing employment and income for these farmers and has several social and environmental benefits.

7.2.4 Threats

- If the project is not managed professionally, it can pose a serious threat to the project.
- Any objection from local people to start the project on the proposed site can withheld the construction and progress of the scheme.

7.3 OUTSTANDING ISSUES

The important issues to be considered for success of the project are as under:

- Proper training should be provided to the abattoir staff for day to day monitoring and regularize management of the project.
- Ensuring Quality of meat/ meat products to cater and meet the demands of the domestic market.
- Proper disposal of effluents from the abattoir to prevent environmental pollution and possible public outrage.



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SELECTION OF SITE

8.1 INTRODUCTION

The proposed Modernization of Existing Slaughter House project will be installed in the 990 Sq.m plot of free hold land by NNJ at Bhagwantpura, Jhansi, Uttar Pradesh. All the major factors, which are essential towards selection of a most suitable site for setting up similar project, are analyzed with respect to the existing location and taken in to consideration. The factors are close proximity to NH/SH and Railways for procurement of raw materials, accessibility of local market/proximity and availability of socio-Industrial infrastructures, which is one of the most important criteria in setting up of this type of industry.

The above points/factors as regards the selected site are discussed here.

8.2 PROXIMITY TO RAW MATERIALS

The raw materials of the proposed project are live animals and the daily requirements by the Plant is meant for service purpose are to the extent of 30 nos. of Large Animals and 60 nos. of Small Animals. In order to run the units smoothly, at any point of time, there should be a regular supply of animals from the local butchers and farmers. Therefore to ensure the regular inflow of animals to the plant, the site must have close proximity to areas having higher density of animals. In Chapter-III - Availability of Raw Materials, it is estimated that as regards availability of buffaloes (based on 2012 census), assuming 2% growth rate, in Uttar Pradesh State only in the year 2015-2016 stands at more than 51.18 million nos. and that of considering adjoining 6 states is about 162.42 million nos. For the Sheep and Goat the figure will be 1.37 million nos. and 16.04 million nos. respectively only for Uttar Pradesh State and for adjoining 6 states it will be 12.78 million nos. for sheep and 74.91 million no. for goat in consideration of growth rate of 3% for goat and 2% for sheep. The site is not much far from these adjoining states and well connected by state Highway so that animals are not required to be transported from far away.



Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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8.3 PROXIMITY TO MARKET

The products from the Slaughtering plant will be supplied to local markets of Nagar Nigam Jhansi area and surroundings. The products are chilled, fresh one and required to be transported to these markets as quick as possible. Therefore close proximity of NH/Roadways is most vital to achieve faster movement by means of refrigerated containers. The products from the proposed unit will be transported from Plant through State Highway. The product from service slaughtering for local consumption are required to be transported quickly as fresh meat.

8.4 AVAILABILITY OF SOCIO-INDUSTRIAL INFRASTRUCTURE

Since the site is located very adjacent to National Highway and other state roadways all socio-industrial infrastructures are readily available at the selected site. Therefore travel and stay of personnel connected with plant as well as plant and equipment suppliers; there would not be any difficulties.

As the site is located within municipality limits of a big city as well as industrial towns, availability of skilled workers are also assured.



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MAN POWER SCHEDULE

9.1 INTRODUCTION

The proposed project is a manpower intensive unit, requires direct involvement of manpower. Because of its type the selection of proper manpower is a critical factor towards successful operation, maintenance and dispatch of the products. A detailed manpower schedule has been prepared based on hands on experience with similar plants.

Both the Large Animal as well as Small Animal Slaughter House will operate for 5 hrs for service purpose. It is proposed to run all the plants for 300 days a year and the manpower allocation is planned accordingly.

In addition to staff/workers under project's master roll, some essential operations in the abattoir will involve skilled laborers in specialized trade to be obtained from Labor Contractors. These include butchers, slaughtering process workers and cleaning workers.

The proposed Modern Slaughter House Plant will have total employment of 24 heads under its master roll. Out of which Administrative staffs are 10 heads, Production and Maintenance staffs are 14 heads. The Contractor's laborers are estimated as 12 heads. The details regarding departments, grades and numbers thereof are tabulated below.

The total manpower requirement of the unit has been thus estimated as 36 out of which contractors' labors are about 12 and 24 are under direct master roll.



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9.2 MANPOWER IN ADMINISTRATIVE SECTION

SLNo.	Designation	Nos.
1	Manager	1
2	Accountant	1
3	Security Guards	4
4	Refrigerated Van driver	4
	Total	10

9.3 MANPOWER IN PRODUCTION AND MAINTENANCE SECTION

SLNo.	Designation	Nos.
1	Veterinarian – Lairage	2
2	Supervisor – Abattoir	2
3	Veterinarian – Abattoir	2
4	Supervisor – Dispatch	2
5	Operator- Blood	1
6	Electrician	1
7	Mech. Engineer - Abattoir Operation	1
8	ETP – Operator	1
9	Helper (General)	1
10	DG Set operator	1
	Total	14

The salaries of the above staff are worked out and presented in the Form VI – Project Economics. The salaries considered against individual are at par with similar units running in India. The Gross Salaries are estimated.

Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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9.4 LABOURERS TO BE OBTAINED FROM LABOUR CONTRACTORS

Sl.No.	Particulars	No. of Manpower
1	Animal slaughtering / dressing – Large	3
2	Animal slaughtering / dressing – Small	3
3	Plant cleaning	2
4	Lairage cleaning	2
5	General Cleaning (drainage, roads, garden, toilets, Adm. Building)	2
Total		12

The payments to be made for the above are estimated and considered in the Project Economics. It is assumed that the rate will be revised upward after every 3 years.



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PROJECT IMPLEMENTATION SCHEDULE

The project construction activities will be taken up in phase wise to keep the existing slaughter house running at a moderate level. The complete project schedule is estimated as 18 months from the zero date, when clearance is obtained from the competent authority to set up the project. The first phase of the project shall be completed by 10 months period, while the second phase is estimated to take about 5 months after the first phase is over. The final phase of the project will be completed by another 3 months time from the end of second phase.

The Phase wise distributions as proposed are provided below (Refer the Plant layout Drawing):

PHASE- I

- 1 Lairage for Small Animal.
- 2 Slaughtering hall for Small Animal.
- 3 Lairage for Large Animal.
- 4 Slaughtering Hall for Large Animal.
- 5 Utility Block

PHASE- II

- 1 Effluent Treatment Plant
- 2 Blood Plant Building
- 3 Service road.
- 4 Installation of Electrical Equipment

PHASE- III

- 1 Other Non Factory Buildings and construction.
- 2 Administrative Building.

Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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The above activities under each phase shall be taken up in a manner so that minimum hindrance takes place to existing activities of the slaughter house.

Bar charts are prepared for all the three (3) phases simultaneously covering all major activities and enclosed as Project Implementation Schedule. The duration of activities like delivery of plant & equipment are considered based on the quotations/offers received from the plant & equipment suppliers.

The site development activities of the proposed project will not be a major one as because the existing installation is already a developed site. Construction of approach road and internal road, repair of Boundary wall, landscaping etc are continuous process and will spread over major part of the schedule.

As regards construction of civil works & buildings, the activity is of maximum duration. The total Plant area is about 990 square meters, out of which the main plant area is about 890 square meters, i.e., more than 89% of the total area.

The durations of procurement activity of plant and equipment are estimated with due consideration on detailed design and engineering, preparation of tender enquiry, floating of tender, clarifications to vendors, selection and placement of orders and delivery of the items.

The delivery period of Indigenous suppliers are estimated on the basis of consultant experience on similar items and offers received from the suppliers.

The time required for erection & installation of Plant & Equipments have been estimated based on the type of equipment and experience of the consultant under normal operating condition.

The promoter of the project has to recruit personnel for project work and operation & maintenance of the plant in different phases.

Towards pre commissioning test & checks and commissioning of individual plant, adequate time period has been provided.

The Activity wise duration as estimated are given below:-

Modernization of Existing Slaughter House for NNI at Bhagwantpura.

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SL.NO...	CONSTRUCTION ACTIVITIES	DURATION
PHASE - I		(Months)
1.	Lairage for Small Animal	3
2.	Slaughtering hall for Small Animal	7
3.	Lairage for Large Animal	3
4.	Slaughtering Hall for Large Animal	8
5.	Utility Block	3
PHASE -II		
1.	Blood Plant Building	5
2.	ETP Civil construction	5
3.	Service Road	2
PHASE -III		
1.	Administrative Block	3
2.	Other Non-Factory Buildings	2

SL.No.	PROCUREMENT/ERECTION/COMMISSIONING	DURATION
		(Months)
1.	Procurement of Small Animal Lines	6
2.	Procurement of Large Animal Line	8
3.	Procurement of Blood Coagulation Plant & Eqpt.	6
4.	Procurement of Electrical Substation Eqpt.	4
5.	Procurement of other Electrical Items	4
6.	Procurement of Balance Offsite Eqpt.	5
7.	Erection of Small Animal Slaughtering Line	4
8.	Erection of Large Animal Slaughtering Line	6
9.	Erection of Electrical Equipment	8
10.	Erection of Offsite Equipments & Electricals	8
11.	Pre-Commissioning Checks & Test	3
12.	Commissioning of Off-site & Main Plant	2

Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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অধিভাষী আমদানী
নগর নিগম, স্বাস্থ্য

স্বাস্থ্য অধিদপ্তর
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Some of the activities as listed above under each phase of the project shall be carried out simultaneously to achieve the target dates of completion. The enclosed Bar Chart/Schedule is a preliminary one and Micro scheduling shall be carried out during project implementation stage. Mobilization of manpower and project fund in proper sequence & schedule are vital factors to maintain the progress of the project in right direction.

The project implementation schedule has been shown in bar chart as following.



Modernization of Existing Slaughter House for NNJ at Bhagwantpura.

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PROJECT IMPLEMENTATION SCHEDULE
 PROJECT : MODERNIZATION OF EXISTING SLAUGHTER HOUSE AT BHAGWANTPURA, JHANSI FOR NNJ.

S.No.	ACTIVITIES	D U R A T I O N (IN MONTHS)																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Site development like Leveling, Fencing, Etc	█																	
2	Civil Construction of Abattoir Buildings, lairage etc.		█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
3	Civil Construction of Blood Coagulation Plant																		
4	Civil Construction of Off-Site Buildings																		
5	Civil Construction of internal road & other Civil Works																		
6	Delivery of Plant & Eqpt for Abattoirs																		
7	Delivery of Plant & Eqpt for Blood Coagulation Plant																		
8	Delivery of Eqpt for Off site & ETP Plant																		
9	Erection of Main Plant & Equipment																		
10	Erection of Offsite Plants with Piping & Electricals																		
11	Supply & Energisation of Electrical panel																		
12	Pre-Commissioning Test Checks & Trial Run																		
13	Commissioning of Plant with Performance Trial Run																		



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PROJECT ECONOMICS

11.1 BASIS AND ASSUMPTIONS

The project economics presented here for establishment of Modernization of Existing Abattoir for Nagar Nigam Jhansi, Jhansi, Uttar Pradesh. It includes the estimate of Estimate of Civil Cost, Cost of Raw Materials & Utilities, Project Cost, Means of Finance, Cost of Production, Total Revenue Earning and Profitability analysis.

The complete project shall be implemented in 18 months time starting from zero date, the date of receipt of Sanction/Clearance of the project from competent authority. Various basis and assumptions considered for working out the Project Economics are provided below:

A) Installed Capacity of the Plant :

Large Animal Slaughtering Line: Capacity of 30 heads/day for 5 hours operation.

Small Animal Slaughtering Line: Capacity of 60 heads/day for 5 hours operation.

Effluent Treatment plant : 15 KL/ day

Electrical substation : 100 KVA, 11KV/415V

DG Set Supply System (Emergency Power): 100KVA X 1, 415V.

B) Source of Procurement of Plant & Equipment :

The Main Plant and Equipment for both the slaughtering lines are considered to be sourced from reputed Indian Plant Manufacturers/ Suppliers.

D) Means of Finance:

Towards financing the project Rs. 564.92 Lacs is expected to be granted by MOFPI and the rest of the expenses will be financed by the Project Implementing Agency (NNJ).

All calculations are considered on commencement of commercial production and the gestation period is considered at the bare minimum of 15 months period.

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Revenue prices have been considered most conservatively analyzing the current market rates. Moreover the effect of increasing prices over the years is not taken into account.

11.2 PROJECT COST

The project cost including Pre- Operative expenses of Rs.127.73 Lacs and contingency of Rs. 21.24 Lacs has been estimated as Rs. 1129.83 Lacs. The various elements of project cost are discussed below.

11.2.1 LAND & SITE DEVELOPMENT

The total area of the land is about 990 square meter the cost of the landscaping will be Rs.5.00 lacs. Construction of boundary with two gates at a cost of Rs. 10.00 Lacs and cost of Demolition and Roofing will be Rs. 50.00 lacs. So total cost for this purpose Land & Site development will be Rs. 65.00 Lacs.

11.2.2 BUILDINGS AND CIVIL WORKS

The civil construction involves construction of foundations, flooring, brick wall, RCC roof and other offsite, administrative and non-factory buildings. The details of civil construction are provided. The sizes of the buildings in meat processing complex are worked out based on the information received from the equipment/machinery suppliers and past experience of the project consultants for similar project. The cost of structures, corrugated roof and erection thereof has been estimated based on unit rates applicable to similar type of construction. The total built up area is estimated as 1385 Sq.M. The total cost of civil works has been estimated as Rs. 223.48 Lacs.

11.2.3 MAIN PLANT & EQUIPMENT

The cost of plants and equipment of abattoirs and that of Coagulation plant has been proposed to be installed have been estimated based on quotations received from reputed manufacturers. The details of the cost are given. The cost of supply is estimated based on similar projects.

The cost of packing & forwarding, taxes and duties and that of freight and transit insurance have been considered in estimating the delivered cost of the equipments. The cost of foundation and erection and stores & spares has been estimated separately.

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The total cost for main plant and equipment in erected condition along with stores and spares have been estimated as Rs 412.68 Lacs.

11.2.4 PROJECT MANAGEMENT AND CONSULTANCY (PMC) SERVICES

The fees to be paid for PMC services @ 5 % of the Fixed Capital Cost including Service tax. The fees to be paid for PMC services towards basic Engineering preparation of Layout, RFQ/ RFP documentation etc for finalization of turnkey Contractor. Complete with Bid Process Management & periodic supervision & Monitoring of the Project for its implementation within schedule & budget.

11.2.5 MISCELLANEOUS FIXED ASSETS

The miscellaneous fixed assets are various offsite/utilities and other fixed assets required to be set up for the project other than buildings and main plant & equipment. It consists furniture, office equipment/machinery, electrical substation equipment (DP structure, switchgear unit, transformers, cables etc.), DG sets and control panel, lighting, cables, deep tube wells, hot water unit, refrigerated vans, pump and piping, fire fighting, drainage system, CCTV camera, hygiene equipments, quality control laboratory. The total cost against Miscellaneous Fixed Assets has been estimated as Rs.233.00 Lacs.

11.2.6 PRE-OPERATIVE EXPENSES

It includes Cost of Establishment (Rs. 20.00 lacs), Cost of Preparation of DPR and preliminary engineering (Rs. 5.62 lacs including ST), Cost of Insurance (Rs. 8.69 Lacs) With Cost of Escalation of 10% of fixed assets (Rs. 93.42 lacs). All total it costs Rs. 127.73 Lacs.

11.2.6.1 ESTABLISHMENT

Various pre-operative expenses to be incurred from the inception of the project to commissioning stage have been estimated and considered here. The establishment cost is the expenses to be incurred for paying salaries to project personnel and security staff during project implementation schedule. Based on 18 months project schedule and Rs. 1.11 Lacs per month, an amount of Rs.20.00 Lacs has been allocated for this head.

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11.2.6.2 CONTINGENCY

Contingency @ 2% of Fixed Cost has been provided to cover unpredictable price escalation, currency exchange rate variation or any other changes for the cost of fixed assets.

11.3 MEANS OF FINANCE

The means of finance for funding the proposed project is proposed considering the grant from MOFPI, Govt. of India. The breakup of sources of fund is as below:

Total project cost : Rs. 1129.83 lacs

NNJ Contribution : Rs. 564.92 lacs

Grant from MoFPI, GOI : Rs. 564.92 lacs

11.4 OPERATING RESULTS**11.4.1 SCHEDULE OF PRODUCTION**

The project implementation schedule of plant is estimated to be 18 months from the zero date.

Estimates of cost of production, sales realization and salaries & wages are presented respectively.

11.4.2 ESTIMATE OF COST OF PRODUCTION

The estimate of cost of production is presented as per standard pro forma.

Raw Materials: The cost of feedstock for the proposed plant is not considered as the Plant will be for Service slaughtering purpose. The live stocks will be procured to the plant by the individual licensee butchers of local market. From the Plant they will have the service of modernize and hygienic slaughtered and fresh meat carcasses. By the means of plant's refrigerated vans the meat carcasses for local market will be delivered to individual butchers or meat sellers.

Electricity is the main input for the proposed project. The plant will receive power at 11 KV from UPSEB power grid and same will be transformed to 415V in plant substation. The average unit rate of electricity to be obtained from UPSEB is considered as Rs. 7.50/KWH and that from DG sets at Rs.9.00/KWH. For estimating the cost towards electricity, 30% of total power requirement is considered to be generated by DG sets.

Total salary and wages for factory staff and labour contractors are also considered here.

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वयर बिस्व, झांसी.

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Other plant overhead of repair and maintenance cost plus cost of insurance is considered also.

In this Total Cost of Production head Rs. 35.11 lacs per annum has been considered. It is presented in FORM-V.

11.4.3 TOTAL REVENUE EARNING

The annual sales from products and by-products have been calculated as Rs. 48.48 lacs per annum. It is presented in FORM-VII.

11.4.4 TOTAL PROFIT

The total profit has been calculated as the difference between the annual revenue earning and total cost of production.

Project economics are analyzed in form format as follows:



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FORM-I
PARTICULARS OF BUILDINGS & CIVIL WORKS

SL.NO.	TITLE	TYPE OF CONSTRUCTION	AREA OF EACH FLR Sq.M	NOS.OF FLOOR	TOTAL AREA Sq. M	RATE Rs./Sq.M	TOTAL COST
A.	Land Development						65.00
B.	FACTORY BUILDINGS & ROADS	RCC	406		406	6000.00	24.36
1	Internal Roads						
2	Lairage for Large Animals	Elevated PCC base with corrugation & MS pipe railings/corridors, GI Sheet Roof	42	1	42	9000.00	3.78
3	Lairage for Small Animals	Do	30	1	30	9000.00	2.70
4	Slaughter Hall for Large Animals	RCC Foundations, Structural Columns, Pre-fab Truss, Pre coated Sheet Roof, Panel Wall, Anti-Skid Flooring	160	1	160	24300.00	38.88
5	Slaughter Hall for Small Animals	RCC Foundations, Structural Columns, Pre-fab Truss, Pre coated Sheet Roof, Panel Wall, Anti-Skid Flooring	120	1	120	24300.00	29.16
6	Dirty Area Building - Large Animals	Do	40	1	40	24300.00	9.72
7	Dirty Area Building - Small Animals	Do	30	1	30	24300.00	7.29
8	Utility Block for Workers & Staff	RCC Columns, RCC Roof, Brick walls with Ceramic tiles & Kota Stone flooring	16	2	32	24300.00	7.78
9	Doctor's Room	Do	17	1	17	24300.00	4.13
10	Vel. Room	Do	12.5	1	12.5	24300.00	3.04
11	Raceway			2	890	150000	3.00
		SUB TOTAL(B)			890		133.83

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झांसी नगर निगम, झांसी

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व्यवस्थापक, झांसी.

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नगर निगम, झांसी

नगर आयुक्त
झांसी नगर निगम, झांसी

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SL.NO.	TITLE	TYPE OF CONSTRUCTION	AREA OF EACH FLR Sq.M	NOS.OF FLOOR	TOTAL AREA Sq. M	RATE Rs./Sq.M	TOTAL COST
C.	FACTORY BUILDING FOR AUXILIARY SERVICES Electrical Machinery Area	RCC Columns, RCC Roof, Brick walls & Kota Stone flooring	25	1	25	24300.00	6.08
1	Blood Coagulation Plant Building	DO	32	1	32	18900.00	6.05
2	Under Ground Water Tank (Cu. Mtr.)	DO	209	1	209	12000.00	24.00
3	ETP civil construction (Cu. Mtr)	DO	48	1	48	18900.00	9.07
		SUB TOTAL (C)			305		45.20

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बंगलूर नगर निगम, बंगलूर

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शहर निगम, बंगलूर.

गुरुर्य अभियन्ता
नगर निगम, बंगलूर

SL.NO.	TITLE	TYPE OF CONSTRUCTION	AREA OF EACH FLR Sq.M	NOS.OF FLOOR	TOTAL AREA Sq. M	RATE Rs./Sq.M	TOTAL COST
D.	QUALITY CONTROL LAB. QC Lab - Common	RCC Col, brick wall, RCC Roof, kota stone floor, glazed windows	18	1	18	24300.00	4.37
E.	ADMINISTRATIVE OFFICE	DO	60	1	60	24300.00	14.58
F.	Gate Office (Security Room)	RCC Col, brick wall, JPS floors, RCC Roof, glazed windows	12	1	12	10000.00	1.20
G.	4 Nos. Modern Meat Shops	RCC Columns, RCC Roof, Brick Walls & Kota Stone Flooring	25	4	100	24300.00	24.30
		GRAND TOTAL (A+B+C+D+E+F+G)			1385		288.48

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FORM-II

DETAILS OF MAIN PLANT & EQUIPMENT

SL. No.	PARTICULARS	SOURCE OF SUPPLY	BASIC COST (Rs. In Lacs)	Installed COST. (Rs. In Lacs)
A	ABATTOIRS			
1	Machinerles for Large Animal Slaughtering Line (Cap.: 1 LineX50 Heads/day.)	Indigenous	119.95	161.93
2	Machinerles for Small Animal Slaughtering Line (Including Chiller) (Cap.: 1 LineX100 Heads/Day.)	Indigenous	92.70	125.15
	TOTAL FOR SLAUGHTERING		212.65	287.08
B.	Effluent Treatment Plant (ETP) (Capacity : 15 KLD)	Indigenous	45.00	60.75
C.	Blood Coagulation Plant (Capacity 1KLD)	Indigenous	36.04	48.65
D.	4 Nos. Modern Meat Shops Equipments	Indigenous	12.00	16.20
	GRAND TOTAL (A + B + C+D)		305.69	412.68



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FORM-III
ESTIMATE OF COST OF PROJECT

Rs. In Lacs

SL.NO.	PARTICULARS	RS. COST	TOTAL COST
A.	LAND & SITE DEVELOPMENT		
1	Landscaping	5.00	5.00
2	Demolition Cost and Roofing	50.00	50.00
3	Construction of boundary Wall with 2nos. Gates	10.00	10.00
SUB TOTAL (A)		65.00	65.00

B	COST OF CIVIL WORKS/BUILDINGS & ROADS		
1	Cost of Main Factory Building & Internal Roads	133.83	133.83
2	Cost of Factory Buildings For Auxilliary Services	45.20	45.20
3	Cost of Quality Control Laboratory	4.37	4.37
4	Cost of Administrative Office	14.58	14.58
5	Gate Offices (Security Room)	1.20	1.20
6	4 Nos. Modern Meat Shops	24.30	24.30
SUB TOTAL (B)		223.48	223.48

C	COST OF MAIN PLANT & EQUIPMENTS		
1	Cost of Large Animal Slaughtering Equipments	161.93	161.93
2	Cost of Small Animal Slaughtering Equipments	125.15	125.15
3	Cost of ETP	60.75	60.75
4	Cost of Blood Coagulation Plant & Equipment	48.65	48.65
5	4 Nos. Modern Meat Shops Equipments	16.20	16.20
SUB TOTAL (C)		412.68	412.68

D	FEES TO PMC		
	Fees for PMC Work @ 5 % of fixed assets	46.71	46.71
SUB/TOTAL (D)		46.71	46.71

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E	COST OF OTHER EQUIPMENT		
1	Office Furnitures & Equipments	10.00	10.00
2	ELECTRICALS(Installed Cost)	70.00	70.00
i	Diesel Generating Set 100KVA 1 nos with panels		
ii	Cost of Service connection charges		
iii	Cost of permanent electrification which includes internal and external electrification		
iv	Lightings /fans etc.		
3	H. Water Generators (Erected)	20.00	20.00
4	Pumps and Piping	5.00	5.00
5	Potable Water & Distribution System	20.00	20.00
6	Hygiene Equipments	15.00	15.00
7	Laboratory Q/A Equipments	5.00	5.00
8	Fire fighting equipments	10.00	10.00
9	Drainage System	15.00	15.00
10	Security (CCTV Camera)	3.00	3.00
11	Cost of Refrigerated Vans(4 Nos)	60.00	60.00
SUB TOTAL (E)		233.00	233.00

F	Pre-Operative Expenses		
i.	Cost of Preparation of DPR and Preliminary Engineering	5.00	5.62
ii.	Escalation @10% of fixed assets	93.42	93.42
iii.	Cost of Establishment	20.00	20.00
iv.	Total Insurance @1%	8.69	8.69
SUB TOTAL (F)		127.11	127.73
G	Contingencies @ 2%	21.24	21.24
SUB TOTAL (F+G)		148.35	148.96

TOTAL PROJECT COST (A+B+C+D+E+F+G)

1129.83

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FORM- IV

MEANS OF FINANCE

PROJECT COST

Rs.

1129.83 Lacs

		Rs. in Lacs	
SL.No	PARTICULARS	IN RUPEES	TOTAL
A	Equity		
1	Promoter's Contribution (NNJ)	564.92	564.92
2	Grant from MOFPI	564.92	564.92
TOTAL		1129.83	1129.83



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FORM-V
COST OF PRODUCTION DETAILS

PLANT CAPACITY: Large Animal : 30 Heads / Day.
Small Animal : 60 Heads / Day.
Working Days: 300 Days / Year (Close on
Grazetted Holidays & Govt. Holidays of Uttar Pradesh)

SL. No.	PARTICULARS	SOURCE OF SUPPLY	REQUIREMENT PER YEAR (LACS NOS)	UNIT COST (In Rs.)	TOTAL COST Rs. Lacs/Yr
A	RAW MATERIALS As it is service slaughter house so no raw material cost is considered				
B	UTILITIES				
1	Electricity(KWH)	UPSEB	131390.00	7.50	9.85
		D.G.SET	56310.00	9.00	5.07
	TOTAL ELECTRICITY		187700.00		14.92
2	Water (Cu.M)	Bore Well	2700	1.00	0.03
	SUB TOTAL (B)				14.95
C	ESTIMATED MANPOWER COST				
	Direct Employees (24 nos.)				11.76
	Contract Labourers (12 nos.)				5.40
	SUB TOTAL				17.16
D	OTHER EXPENDITURE FOR MAINTAINCE PURPOSE (Considering Rs. 1000.00 per Day)			300000	3.00
	TOTAL				35.11

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FORM-VI
ESTIMATE OF SALARIES AND WAGES

S.No.	DESIGNATION	NOS.	GROSS/MONTH EACH (Rs)	GROSS/MONTH TOTAL (Rs)	GROSS/YEAR TOTAL (Rs. In Lacs)
A.	Administrative Section				
1	Manager	1	20000.00	20000.00	2.40
2	Security Staff	4	6000.00	24000.00	2.88
3	Refrigerated Van Driver	4	7000.00	28000.00	3.36
4	Accountant	1	12000.00	12000.00	1.44
	TOTAL (A)	10		84000.00	10.08

S.No.	DESIGNATION	NOS.	GROSS/MONTH EACH (Rs)	GROSS/MONTH TOTAL (Rs)	GROSS/YEAR TOTAL (Rs. In Lacs)
B.	Production/Maintenance Section				
1	Supervisor- Abattoir	2	9000.00	18000.00	2.16
2	Supervisor- Dispatch	2	9000.00	18000.00	2.16
3	Veterinarian-Liirage	2	12000.00	24000.00	2.88
4	Veterinarian-Abattoir	2	12000.00	24000.00	2.88
5	DG Set Operator	1	6000.00	6000.00	0.72
6	Operator-Blood Coagulation	1	8000.00	8000.00	0.96
7	Electrician	1	8000.00	8000.00	0.96
8	Mechanical Engineer- Abattoir	1	8000.00	8000.00	0.96
9	ETP Operator	1	8000.00	8000.00	0.96
10	Helper (General Shift)	1	6000.00	6000.00	0.72
	TOTAL(B)	14		14000.00	1.68
	GRAND TOTAL	24		98000.00	11.76

Particulars	Nos.	Av. Daily Wage (Rs.)	Total/Month (Rs.)	Total/Year (Rs. In Lacs)
Contractors Labourers	12	150.00	45000.00	5.40

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FORM-VII
REVENUE EARNING DETAILS FROM PRODUCTION AND OTHER CHARGES

Rs. in Lacs

Sl. No.	PARTICULARS	SLAUGHTERING		UNIT RATE Service Ch. (Rs.)	REVENUE EARNING	
		PER DAY NOS	PER YEAR NOS		PER DAY	PER YEAR
1	From Large Animal Lines	39	9000	150.00	0.05	13.50
2	From Small Animal Lines	60	18000	70.00	0.04	12.60
	Total from Service Slaughtering				0.09	26.10
Sl. No.	PARTICULARS	PER DAY		UNIT RATE Selling Ch. (Rs.)	REVENUE EARNING	
		PER DAY	PER YEAR		PER DAY	PER YEAR
3	Charge for Modern Meat Shop	4	1460	300.00	0.01	4.38
4	Charge/ Small Animal for roofer vans	60	18000	50.00	0.03	9.00
5	Charge/ Large Animal for roofer vans	30	9000	100.00	0.03	9.00
	Total from By-Products & Other Charges				0.07	22.38
	TOTAL REVENUE EARNINGS (PER YEAR)				0.16	48.48



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FORM-VIII

Expected Earning & profitability for Rated capacity production

Sl. No.	PARTICULARS	Basis Per Day Rs. In Lacs	Basis Per Year Rs. In Lacs
A	COST OF PRODUCTION	0.12	35.11
B	TOTAL SALES REALISATION	0.16	48.48
C	INCOME FROM PRODUCTION	0.04	13.37

Total Profit (Rs. In Lacs):

13.37 Lacs per year

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Annexure A

Application format- scheme of modernization of Abattoirs

A		Promoter
1.	Name	Nagar Nigam Jhansi
	Type of Organization	Local Body under Government of Uttar Pradesh
	Name & Description of Authorized Signatory	Municipal Commissioner
	Address	Nagar Nigam Jhansi, Jhansi- 284001, (U.P.)
	Phone No.	0510-2332097
	Fax No.	
	E-Mail	nagarayukta@jnnjhansi.com
2.	Details of consortium partner, if Applicable.	NA
B		Project Description
1.	Name of the project:	Modernization of Existing Slaughter House at Bhagwantpura, Jhansi
2.	Mode of the project: Own / PPP / BOT / BOOT / JV / FDI	Own
3.	Location of the project:	Bhagwantpura, Jhansi
4.	Name & address of Project Implementation Agency (PIA)	Nagar Nigam Jhansi
5.	Land:	
i.	Area (in Acres):	990 sq . m land
ii.	Whether in possession of implementing agency? (Submit documentary evidence towards proof of Ownership from appropriate authority of State Government.)	Yes, Copy of Land acquisition document is enclosed.
iii.	Whether permitted for industrial use? (Submit documentary evidence from appropriate authority)	Yes, Already existing slaughter house.

2

6.	Capacity of the project:	Existing	Proposed	Total
i.	Slaughter capacity (Heads per Day)			
a.	Small Animals (Sheep/Goat)		60 Animals/Day	60 Animals/Day
	Large Animals		30 Animals/Day	30 Animals/day
ii.	Rendering capacity (MT per day) (Dry rendering Plant)		NA	NA
iii.	Meat products processing capacity (MT per day)		NA	NA
iv.	Chilling capacity (MT per day)		NA	NA
v.	Freezing capacity (MT per day)		NA	NA
vi.	Packing capacity (MT per day)		NA	NA
vii.	ETP (KI/day)		15 KLD	15 KLD
viii.	Blood Coagulation Plant		1 KLD	1 KLD
7. Project Cost				
i.	Site Development		Rs. 65.00 lacs	
ii.	Buildings & Civil Work		Rs. 223.48 Lacs	
iii.	Main Plant and Other Assets		Rs. 412.68 Lacs	
iv.	Cost of Other Equipments		Rs. 233.00 Lacs	
v.	Contingencies		Rs. 21.24 Lacs	
vi.	Pre-Operative Expenses		Rs.127.73 Lacs	
Vii	PMC Services		Rs. 46.71 Lacs	
Total Project Cost			Rs. 1129.83 lacs	
8. Means of Finances: (Rs. In Lakhs)				
i.	Promoters equity			
ii.	State share		564.92 Lacs	
iii.	Term loan		-----	
iv.	Private investors' equity		-----	
v	MoFPI Assistance		Rs. 564.92 Lacs	

Total

Rs. 1129.83 lacs

		Rs. In Lakhs
9.	Cost of Indigenous plant & Machineries: (Submit quotations along with details of Capacity- specifications- Basic cost Component wise)	Rs. 412.68 Lacs
10.	Cost of Imported plant & Machineries: (Submit quotations along with details of Capacity – Specifications – Basic cost Component wise)	NA
11.	Total no of Model outlets proposed to be established (Total cost with detailed specification to be furnished)	4 nos.
		40.50 Lacs
12.	Total No. of Reefer vans to be purchased: (Submit quotations along with details of Capacity –specification – Basic cost Component wise)	4 Nos.
		Rs. 60.00 Lacs
13.	Types of products proposed to be processed: Chilled/Frozen/semi cooked/cooked (Furnish details of meat products to be processed Along with their process flow charts)	Meat carcasses to be produced.
14.	Financial Benchmarks:	
a.	Debt: Equity Ratio	NA
b.	Break Even Point	at capacity utilization: NA
		at sales realization: NA
c.	Debt Service coverage Ratio	Minimum: NA
		Maximum: NA
		Average: NA
d.	Internal Rate of Return	PBT: NA
		PAT: NA
e.	Estimated annual turnover (Rs. In Lakhs)	Rs. 13.37 Lacs
C	Backward and Forward Linkages:	
1.	Existing livestock markets in the vicinity of Project (Details with distance in KM to be furnished)	Local Butchers will procure their animal from the local Livestock market at Jhansi.
2.	Other sources of livestock (Specify Location & Distance).	
3.	Mode of transport to be used to bring animals in the Project	The live animals will be transported by trucks from long distance area and few animals will

		come on foot from nearby area.		
4.	Marketing Strategy for supply of meat & meat products Of project.	It is a service slaughter house.		
5.	Arrangement proposed for marketing of skin, hides and other By-products.			
D. Employment Generation:				
1.	Direct	Available	Required	
	Operation & Maintenance		14	
	Managerial & Finance		10	
	Total		24	
2.	Indirect	Available	Required	
	Contract labour		12	
	Farmers		-----	
	Transporters		-----	
	Ancillary industries		-----	
	Quality assurance		-----	
	exporters		-----	
E. Project Preparedness:				
		Status		
		Completed/ NA	Under Process	Yet to start
1.	Registration of firm/project	NA		
2.	CST/ VAT Registration	NA		
3.	Professional Tax & Income Tax Registration	NA		
4.	Import/ Export License	NA		
5.	PF/ ESI Registration	NA		
6.	Consent to establish from Pollution Control Board			√
7.	Environmental Clearance			√
8.	Airport Authority Clearance	NA		
9.	NOC of Local Authority	The owner is Nagar Nigam Jhansi who is the Local Authority		
10.	Factory Inspector approval	NA		
11.	Boiler inspector approval	NA		
12.	Electrical Inspector approval	NA		
13.	SSI/IEM license	NA		
14.	MFPO License	NA		
15.	Sanction of Power			√
16.	Permission for lifting of water			√
17.	Approval of land	NA		
18.	Approval of Industrial security			√


& Fire Department			
*if completed copies of the same to be enclosed, if under process copies of applications submitted to various authorities to be submitted.			

F.	Enclosures	Yes	No	NA
a.	Detailed Project Report completed in all respect	√		
b.	Detailed note on Bidding procedure adopted (in PPP Mode)			√
c.	Land acquisition details	√		
d.	Sketch plans & Blue prints of civil works along with details of estimated cost of technical & non-technical civil work duly certified by Chartered Engineer (Civil)			
e.	Details of Plant & Machineries design, Engineering flow chart along with estimated cost of Plant and Machineries (Component wise) duly certified by the Chartered Engineer (Mechanical)			
f.	Copies of various Clearances/ approvals as mentioned in Sr. No E			
g.	Copy of Term loan sanction letter and Bank appraisal report.			√
h.	An affidavit in compliance with GFR 209 (1)			

Certified that the information given above is true to the best of my knowledge and enclosures submitted are duly verified in accordance to the guidelines of Ministry of food Processing Industries. The proposal may be considered (for financial assistance to the project).

Date: - 31.03.2015

Place: - JHANSI

Signature of Promoter: 
Name: मगर आसुक्त
Designation: झाँसी नगर निगम, धी

Annexure-B

Format for Recommendation of proposals by Secretary, UD for financial Assistance to Modern Abattoir.

F. NO.

Date:

From:-

The secretary/Principal Secretary
Department of Urban Development
Government of Uttar Pradesh

Address

To,

The Jt. Secretary,
Ministry of food processing Industries
Panchsheel Bhavan,
August Kranti Marg, New Delhi-11049

Subject: Recommendation of the Proposal for Modernization of Existing Slaughter House at Bhagwantpura, Jhansi for financial assistance under 'Modernization of Abattoir Scheme'.

Sir,

Please find enclosed proposal for Modernization of Existing Slaughter House at Bhagwantpura, Jhansi for financial assistance under the scheme of Modernization of Abattoirs. The Project proposal has approved by the Government of Uttar Pradesh for Modernization of Existing Slaughter House at Bhagwantpura, Jhansi for Nagar Nigam Jhansi.

The necessary clearance /Licences are obtained for the project.
The details of the project are summarized as below.

I.	Project Cost:	Rs. in Laes
i	Site Development	Rs. 65.00 Laes
ii	Building and Civil Work	Rs.223.48 Laes
iii	Main Plant & Equipment	Rs. 412.68 Laes
iv	Cost of Other Equipments	Rs.233.00 Laes
v	Contingencies	Rs.21.24 Laes
vi	Pre-Operative Expenses	Rs.127.73 Laes
vii	PMC Services	Rs. 46.71 Laes
	Total Project Cost	Rs. 1129.83 laes

2.	Means of Finance	Rs. in Lakhs
i.	Promoters equity	
ii	State Share	Rs.564.92 Lacs
iii	Term loan	Nil
iv	Private investor equity	Nil
v	MFPI Assistance	Rs.564.92 Lacs
	Total Project Cost	Rs. 1129.83 lacs
3	Implementation Schedule with tentative dates	
i	Submission of Proposal to Secretary(UD)	
ii	Recommendation of Proposal by Secretary (UD)	
iii	Completion of Civil Work	8 Month from the date of beginning.
iv	Placing Order of Main Plant and Equipment:	4 Month after completion of Civil Work.
v	Receipt of Plant and Machineries:	4 Month after date of ordering.
4	Name of Bank in which dedicated account has been maintained by the Implementing Agency:	
5	Recommendation-	

Signature

Secretary (UD)

Govt. of.....

