Neer Nirmal Pariyojna

TERMS OF REFERENCE

For

EMPANELMENT OF STATE LEVEL CONSULTANT

1. Project Background & Objectives

Background

The MoDWS in partnership with the World Bank has taken up the RWSS Project for Low Income States (RWSSP – LIS) of Assam, Bihar, Jharkand and Uttar Pradesh where there is large gap between the aims of the strategic plan and current situation. The project will follow conjoint, saturation, approach for developing the piped drinking water supply system with household connections, Individual household toilets, facilities in schools and anganwadis, solid & liquid waste management in villages. The guiding principles of this project are to: adopt a decentralized service delivery system, strengthen institutions for enhancing their capacities, follow a district-wide approach, encourage enhanced community participation and contributions, enhance engagement of the private sector, and promote transparent and accountable processes with robust grievance redressal mechanisms at all levels.

Objectives

The project objective of the SLWM component of the overall project is to develop year round completely sanitized environment in the village by treating the Solid and Liquid waste generated thereby sustainably improving the health of citizens and animals owned by them. In order to achieve this, the Solid and Liquid waste management plan and DPR using PRA method has to be carried out and implemented.

Initially, It is proposed to develop 248 Nir Nirmal Project GPs in the first phase. in the state for solid and liquid waste management, In view of Intregrated approach these villages will have safe disposal of Solid & Liquid Waste in SLWM component.

The Specific objective of this assignment is:

"Empanelment of Agency/ Individual in different thematic areas to prepare DPR, impart training and Implementation support to the project staff, community based institutions as well as community cadres on SLWM through Integrated Approach, Institution Building, and Vision Building.

2. Eligibility and Method of selection of consultant

Eligibility-

The consultants shall fulfill following eligibility criteria

- i) He/ She must have experience in preparing SLWM DPR through PRA (Participatry Rural Appraisal) process, proper experiance certificate and references from differnt clients to be attached with Curiculam vitae.
- ii) He/ She shall have knowledge of planning and preparing such projects .

The consultant will be report to Mission director SBM (G)

Method of selection-

He/ She will be identified by the Mission Directorate based on the track record of National standing experience, previous work and involvement of the concerned institutions/organizations in rural sanitation sector. The Consultant will be selected for a period of three years. The lead resource person of the consultant should be an individual having sufficient experience in training in participatry approches. The empanneled consultant will have to apply for a renewal of empannelment after the complition of each year. The selection will on the basis of presentation before a committee chaired by Mission Director .

Terms of contract -

This is a contract between consultant and mission directorate based on job basis as and when required. Mission Director will decide district/block /GP for the job assignment and accordingly consultant will deploy his resources to complete the job.

Consultant shall quote rates for activities to be performed:-

- 1) DPR Prepration per GP basis (fixed).
- 2) Trainning and capacity building per day basis for district resource pool.
- 3) Implementation support per Gram Panchayat Basis (fixed).

The boarding lodging and Out of Pocket expences will be included in the rates quoted aboves. Taxes/Duties/Levies are as applicable.

3. Issues and problem areas

The villages face visible signs of insanitation like open defecation, the liquid waste from the houses and hand pumps stagnate and create pools of water, the composting, dung cake from animal excreta is carried out in open by the side of the roads, the solid waste, is thrown out of the house on the road, the waste water and animal waste find way to nearest pond which spoils the water quality there and create insanitary conditions leading to health problems. The problem of open defecation is being addressed through SBM(G) as integrated component of this project; the issue of solid and liquid waste management is to be addressed.

The part of the project area also have high ground water and flooding problems which are to be considered while developing the project. There are also the issues of animal waste to be treated mostly on Individual household level.

4. Scope of preparation of DPR

Data collection and DPR shall be prepared on the basis of formats prescribed by World Bank attached here with as Annexure - I with this ToR.

All DPR prepration, Training and Implimentation support shall be as per the Technical Manual (can be viewed on website —<u>www.mdws.gov.in</u>) issued by Ministry of Drinking Water and Sanitation, GOI.

a. Drawings

The following drawings shall be attached with the DPR.

• Village base map showing all the aassets including houses, roads, water bodies, the locations where road side drains exist, the areas along the road that are used for animal waste composting or dung cake housing, the existing solid waste dumping place, proposed places of solid waste processing plant,

liquid waste treatment plant etc. Houses where leach pits, compost pits or biogas are to be provided shown in different colour. The proposed open drains / piped drains shall be shown.

- If a open drain system is proposed then proposed drains shall be shown on plan with clear direction of flow.
- •In case of open drain system, the cross sections of the different sizes of drains shall be shown.
- Drawing for different capacity biogas plant shall be included.
- Drawing for the compost pit meant for the animal waste from 2, 3 and 4 large animals and anything additional shall be attached.
- If any common leach pit is provided the drawing of the same shall be given. Similarly the drawing for the leach pits meant for the small and large families shall be given.

b. Cost Estimates

Cost estimates shall be based on the bill of quantities derived from the good for construction drawings coming out of the detail engineering design. The rates shall be adopted from Schedule of Rates of the PWD/RES UP. The bought out non SR items shall be based on the market rates substantiated by the quotations. The detailed specification for procurement of such items shall be given. the total cost of the work can be met from SBM, NNP, 14th finance commision, state finance commision and MNREGA.

c. Institutional Structure for O&M

The suggested institutional requirement for operation of facilities created be given. It can be DSC or Gram panchayat or the community itself. It can also be a private operator or a self help group. Any strong local institution ready to operate and acceptable to community and DSC can come out as feasible option with consensus. Even the users' co-operative society for the end product may also operate the facility.

d. O&M costing and suggestion for user charges

A detailed requirement of O&M shall be spelt out in the DPR for the solid and liquid waste management. It shall include the operation staff, electricity, chemicals, tools and plants, fuel, repair and maintenance, quality testing charges, etc.

The user charges for each household shall be found out for meeting out the O&M expenses after adjusting the revenue from resource recovered.

e. Inclusion in DPR of the data gathered in the process

The data gathered in the process on the basis of which the project is designed shall be included as annexures in DPR. These may be like baseline data of village, documentation of PRA activity, minutes of meetings with village, , quotations taken for non SR items etc.

f. Submission of DPR and selected Technologies to GP/DSC

The DPR shall be presented to GP / DSC, explaining the detail components and costs. The details of O&M requirements, the operating cost and user charges required to be levied shall be explained.

g. Training Programes

- Study materials like training modules, operational manuals and guidelines, communication materials available with SBM(G) is to be referred and accordingly suitable methodology and approaches to be adopted for delivering training
- Participate in ToTs organized by the project as district and block level on respective thematic areas.
- Facilitate training sessions for all kinds of stakeholders like project staff, community institutions and community cadres as per the requirement.

5. Data & Facilities to be provided by the NNP Stae Cell

The Technical consultant, and the Social devlopement expert from NNP Cell and the district officers assigned by NNP State Cell will supervise the assignment and facilitate interactions and exchange of information between UP Panchayati raj department and other Govt. Departments. The project document / study reports/ list of GP's etc. will be made available to the consultants for the assignment wherever necessary.

6. Essential Qualification And Work Experience

The Consultant should have experience in planning, design, implementation and construction Quality Monitoring of Sanitation works and the solid waste management works.

- Must have sound understanding on the structure and management of different community level institutions,
- Must have adequate work experience in his/her specific thematic area.
- Must have delivered training as a trainer on the specified training area.
- Possess strong inter-personal communication skill.
- Has proficiency in Hindi & English language.

Specific Qualifications for Individual:

- Graduate in any discipline
- At least 10 years of experience as a trainer at state / national level.
- As a trainer must have facilitated training/ToTs in Govt. or externally aided projects or for NGOs of national & international repute.

List of Annexure

Annexure I: Priscribed Format By World Bank for DPR Prepration

Annexure II: List of district wise NNP GPs.

Amexure-I

| SOLID WAS | TE DATA | COLLECTION FORMAT FOR S | XXINA |
|-----------|---------|-------------------------|---------------|
| | | COLLECTION FORMAL BURY | 1 1 V V I V I |

| Village: | |
|-----------|--|
| District: | |

a. PRESENT SCENARIO OF SOLID WASTE MANAGEMENT

b. Storage of waste at source

| 1 | Whether households, shops and establishments Keep domestic, trade, institutional bins at the Source of waste generation for storage of waste? (Yes/No) | | | |
|---|--|-----------|--|--|
| 2 | If yes; give some details | ········· | | |
| 3 | Whether households feed food waste to their cattle? (Yes/No) | | | |
| 4 | What % of households throw food waste on streets, open spaces, etc.? (%) | | | |
| 5 | What % of households sell their dry waste such as paper, plastic, bottles etc. to Kabaadiwala? (%) | | | |
| 6 | What % of households throw their dry waste on the streets/naali etc.? (%) | | | |
| 7 | Whether there is a system of segregation of recyclable waste at source? (Yes/No) | | | |
| 8 | If yes, What percentage of households/ shops/ establishments keep separate bins for storage of bio degradable (wet food waste) and dry non biodegradable (recyclable) waste at source? (%) | | | |

c. Primary collection of waste

| 1 | Has panchayat introduced any system of door to door collection for: | | | | | |
|----|---|--|--|--|--|--|
| a) | Food waste (Yes/No) | | | | | |
| b) | Recyclable waste (Yes/No) | | | | | |
| c) | Mixed waste from households, shops and establishments (Yes/No) | | | | | |
| 2 | If yes, give details | | | | | |
| 3 | Whether any private sector/ NGO is involved in solid waste collection (Yes/No) | | | | | |
| 4 | Mention the system of waste collection adopted in the Panchayat for collection of biomedical waste, construction waste? Attach sheet if needed. | | | | | |
| | | | | | | |

d. Managing animal dung

| | d. Managing animal dung | · · · · · · · · · · · · · · · · · · · |
|---|--|---------------------------------------|
| 1 | How many households keep animals at home? (Number) | |
| 2 | How many animal dung storage sites are on in public places or the road side? (number of non-household sites) | |
| 3 | How many animal dung storage sites are in private places? (number of household sites) | |
| 4 | What % of animal dung is used for making fuel cakes? (%) | |
| 5 | What % of animal dung is used as manure? (%) | |
| 6 | At what frequency animal dung stored at public sites is transported to the farm lands? (Number of months) | |

e. Street sweeping

f. Give list of roads/in the village that need to be cleaned by panchayat in the following table:

| toltowing to | ibie: | | | |
|-------------------|-------|------------|--|------------------|
| Name of the Road/ | Ward | Length (L) | Road length swept by | swept by |
| | | | residents (L2) | panchayat (L-L2) |
| | | | | |
| | | | | |
| | | | | |

g. Status of cleaning the streets by panchayat sweepers (mention % of streets that

| | get cleaned up): | | | |
|-------|------------------|--------------|-------------|--------------|
| Daily | Alternate day | Twice a week | Once a week | Occasionally |
| | | | | |

| iii | No of hand carts/ tricycles/ etc. for sweeping with the Panchayat (Number) | i |
|-----|--|---|
| e | Storage of Recyclable Waste at the Village Level: Has the panchayat constructed a shed for storage of dry recyclable waste such as paper, plastic, metal, glass etc.? (Yes/No) | |
| i | If yes, give the size of the shed constructed? Length x Breadth x Height (in Meters) | |
| ii | Give details of how dry waste is given away/sold to recycler | |

f. Transportation of Waste

i. Number, type and age of vehicles utilized for transportation of waste

| | Type of Vehicle | Number | Age (in years) |
|---|-----------------|--------|----------------|
| 1 | | | |
| 2 | | | |
| 3 | | • | |
| 4 | | | |
| 5 | | | |

| 11 | Number of trips made by each type of vehicle in one shift (8 Hours) | Trips | |
|-----|---|-------|--|
| 111 | Quantity of waste transported each day. | Kg | |

g. Processing of Waste

| | g. Processing of waste | |
|-----|---|--|
| ŀ | Whether any processing of solid waste is being done at home, community or | |
| | at village level? (Such as vermi-composting/microbial composting / Bio- | |
| | Methanation/bio-gas)? (Yes/No) | |
| a) | If yes, give details: | |
| | | |
| 11 | Quantity of waste treated each day (Kg.) | |
| tİt | Technology/ technologies adopted | |
| | | |
| v | Area of the processing site/shed.(in sq/m) | |
| V | Whether private sector/NGO is involved in this activity? | |
| a) | If yes, give details | |

h. Disposal of Waste

Whether any solid waste disposal sites (dumpsite)/pits is available with the panchayat Give details as under:

| SI. No. | location site/pit | of | dump | distance from the village boundary | area in sq.mt/acres | Distance from habitation, water body, historical monument, and imp. Religious place (if within 1 km) | Since when in use? (Months) |
|------------|----------------------|----|------|---|------------------------|--|-----------------------------|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |

| H | Whether the waste deposited of at the dumpsite is spread on day to day basis? (Yes/No) | |
|----|---|--|
| in | Whether the waste deposited of at the dumpsite is covered with inert material on day to day basis? (Yes/No) | |

| i. | Disposal | of Dead | Animals |
|----|----------|---------|---------|
| | | | |

| Linu | de a probabilità de la constanti |
|------|---|
| Hov | v does panchayat dispose dead animals? |
| | |
| Whe | ether private sector/NGO/ contractor is involved in this activity? If yes, give details |
| | and provide control, the or solition and the trial activity: If yes, give details |
| | |
| | |
| | |
| | |

FIELD SURVEY TO BE CARRIED OUT

Meetings with Sarpanch, other key Panchayat members and Key informants like teacher etc, would help the surveyor draw up a distribution of households in the GP by economic standing (3 categories high, middle and low income households) and determine the proportion of households in each

Table 1: Distribution of Households

| Economic Category | Number of Households |
|--------------------------|----------------------|
| High Income Households | |
| Middle Income Households | |
| Low Income Households | |
| Total | |
| | |

The surveyor may now select 10 households from high income, middle income and low income households (Total 30 households) for undertaking detailed survey as per table 1 & 2 below:

For estimation of solid Waste generated at household (Table 2A, 2B . .)

Distribute I waste storage bag to each household selected and request the household to store all their bio-degradable (food waste) and non bio-degradable (dry waste such as paper, plastic, bottles) etc they generate in 24 hours in the bag and give it to the waste to the surveyor the next day Weigh the waste collected from each household and keep a records per the format in the Table 2A.

Similarly draw 10% samples from commercial establishments and assess the quantity of waste generated by each category of waste generated as indicated above

Table 2A: Estimates of Quantity of Solid Waste in Sample of Households

| Household | Name of Hond of House | | | | | | | | |
|---------------|----------------------------|-----------|-----------|-----------------------|-------------------|-------|-------|-------------------|--------|
| Number | Maine Of nead of household | Number of | Number | Weight of solid waste | f solid v | vaste | We | Weight of Dung | Jung |
| | | members | of Cattle | general | generated per day | day | gene | generated per Day | er Day |
| | | (N1) | (C1) | - 1 | (Grams) | | | (kg.) | |
| | | | | Day 1 | Day 2 | Day 3 | Day 1 | Day 2 | Day 3 |
| High Income | | | | | | | | | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 9 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 6 | | | | | | | | | |
| 10 | | | | | | | | | |
| Middle Income | e | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | _ | | | | | |
| 20 | | | | | | | | | |
| Low Income | | | | | | | | | |
| | | | | | | | | | |

| Household | Name of Head of Household | Number of | Number | Weight of solid waste | f solid w | aste | We | Weight of Dung | Bur |
|-----------|---------------------------|-----------|-----------|-------------------------------------|-------------------|--------------|--------------|-------------------|-------|
| Number | | members | of Cattle | general | generated per day | lay. | gene | generated per Day | · Day |
| | | (N1) | (C1) | 9) | (Grams) | | | (kg.) | |
| | | | | Day 1 Day 2 Day 3 Day 1 Day 2 Day 3 | Day 2 | Бау 3 | Day 1 | Day 2 | Day 3 |
| | | | | | | | _ | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 52 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |

TABLE 2B: Average of three day measurements to get one-day values for each household (Calculating from Table 2A)

| Name of Head of Household (N1) (C1) Solid waste generated in household daily (kg.) | Name of Head of Household Number of members (N1) (C1) | | | | | | |
|---|--|--------------|---------------------------|------------------------|---|---|------------------------|
| me | me in household daily (kg.) me | Household | Name of Head of Household | Number of members (N1) | ' | Average weight of solid waste generated | Average Weight of Dung |
| me (PES) | | | | | | in household daily | daily (kg.) |
| 1 3 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 | 1 3 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | High Income | | | | (ng.) | |
| 2 3 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 2 2 2 2 2 2 2 2 2 2 | 1 | | | | | |
| 3 4 6 | 3 4 6 <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> | 2 | | | | | |
| 4 | 4 Middle Income Middle Income 10 11 12 13 14 15 18 18 19 19 10 10 10 11 11 11 12 13 14 15 16 17 18 18 19 10 10 10 10 10 10 10 10 10 | 3 | | | | | |
| 5 Cow In come Come In Come | 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 4 | | | | | |
| 6 Middle Income Middle Income 10 | 6 Middle Income Middle Income 10 Middle Income 11 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 18 Middle Income 19 Middle Income 10 Middle Income 11 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 16 Middle Income 17 Middle Income 18 Middle Income 19 Middle Income 10 Middle Income 10 Middle Income 11 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 16 Middle Income 17 Middle Income 18 Middle Income 19 Middle Income 10 Middle Income 10 Middle Income 11 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 16 Middle Income 17 Middle Income 18 Middle Income 19 Middle Income 10 Middle Income 10 Middle Income 10 Middle Income 11 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 16 Middle Income 17 Middle Income 18 Middle Income 18 Middle Income 19 Middle Income 10 Middle Income 10 Middle Income 10 Middle Income 11 Middle Income 11 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 16 Middle Income 17 Middle Income 18 Middle Income 18 Middle Income 19 Middle Income 10 Middle Income 10 Middle Income 10 Middle Income 11 Middle Income 11 Middle Income 12 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 16 Middle Income 17 Middle Income 18 Middle Income 19 Middle Income 10 Middle Income 10 Middle Income 10 Middle Income 11 Middle Income 11 Middle Income 12 Middle Income 12 Middle Income 13 Middle Income 14 Middle Income 15 Middle Income 16 Middle Income 17 Middle Income 18 Middle Income | 5 | | | | | |
| 3 8 9 10 Middle Income 11 12 13 14 15 16 17 18 19 20 20 20 | 3 10 10 10 In Image: Income in Image: In Imag | 9 | | | | | |
| 8 10 Middle Income 11 12 13 14 15 16 17 18 19 20 20 | 9 10 Middle Income 11 12 13 14 15 16 17 18 19 20 20 20 20 21 22 24 25 26 | 7 | | | | | |
| 9 Middle Income 10 | 10 Middle Income 11 12 13 14 15 16 17 18 19 20 20 21 20 21 | 8 | | | | | |
| 10 Middle Income 11 12 13 14 15 16 17 18 19 10 20 20 21 21 | 10 Middle Income 11 12 13 14 15 16 17 18 19 20 20 30 20 21 22 24 25 26 27 28 30 30 40 50 6 7 7 8 9 10 10 10 11 12 13 14 15 16 17 18 19 10 10 11 12 13 14 15 16 17 18 19 10 10 10 10 10 10 10 10 10 10 10 | 6 | | | | | |
| Middle Income 11 11 12 13 14 14 14 15 16 16 17 17 18 19 10 20 20 21 21 | Widdle Income Widdle Income 11 12 13 14 14 15 16 17 17 18 19 20 00w Income 20 21 21 | 10 | | | | | |
| 11 12 13 14 15 16 17 18 20 0w Income 21 | 11 12 13 14 15 16 17 18 19 20 20 20 21 | Middle Incom | 6 | | | | |
| 12 (1) (1 | 12 13 14 14 15 15 15 16 17 17 17 17 17 18 18 19 10 <td< td=""><td>11</td><td></td><td></td><td></td><td></td><td></td></td<> | 11 | | | | | |
| 13 14 15 16 17 18 19 20 ow Income 21 | 13 (14) (14) (15) (17) (17) (18) (17) (18) (19) < | 12 | | | | | |
| 14 15 (1) | 14 15 16 | 13 | | | | | |
| 15 | 15 (1) (1 | 14 | | | | | |
| 16 17 18 19 19 19 19 19 19 19 | 16 17 | 15 | | | | | |
| 17 18 19 20 Ow Income | 17 18 19 20 Sow Income 21 | 16 | | | | | |
| 18 19 20 20 20 20 21 21 | 18 19 20 20 21 21 21 21 21 21 | 17 | | | | | |
| 20 cow Income 21 | 20 cow Income 21 | 18 | | | | | |
| 20 cow Income 21 | 20 cow Income 21 | 19 | | | | | |
| ow Income | ow Income | 20 | | | | | |
| 21 | 21 | ow Income | | | | | |
| | | 21 | | | | | |

| Household | Name of Head of Household | Number of members | Number of Cattle | Average weight of | Average Weight of Dung |
|-----------|---------------------------|-------------------|------------------|-----------------------------|------------------------|
| Number | | (N1) | (C1) | solid waste generated | generated in household |
| | | | | in household daily (kg.) | daily (kg.) |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
| 26 | | | | | |
| 27 | - | | | | |
| 28 | | | | | |
| 29 | | | | | |
| 30 | | | | | |
| | | | | | |

C

Table 2C: Average values for three days and for Household Category

| member (N1) per Cattle (C1) per generated in household dail, household (kg.) | member (N1) per Cattle (C1) per generated in household daily household household (kg.) | Category Total (for all samples) | Average Number of | mber of Average Number of | Average weight of solid waste | Average Weight of Dung |
|--|--|----------------------------------|-------------------|---------------------------|-------------------------------|------------------------|
| household household (kg.) | . household household (kg.) | | membe (N1) per | Cattle (C1) per | generated in household daily | generated in household |
| IS | SI | - | | household | (kg.) | |
| Middle Income Households Low Income Households | Middle Income Households Low Income Households | High Income Households | | | | |
| Low Income Households | Low Income Households | Middle Income Households | | | | |
| | | Low Income Households | | | | |

Table 3A: Estimates of Components of Solid Waste in Sample of Households:

Waste Composition: Waste collected from group of 10 households from each category (high income, middle income and low income category) should be mixed and thereafter bio-degradable (food waste), recyclable (paper, plastic, metal, glass) and inserts (ash, dust) are separated and weighed. Record the waste component generated Table 3A.1 (Day 1)

| Anımal Waste (kg) | | | | |
|--|------------------------|--------------------------|-----------------------|--|
| Inserts (street sweepings, ash) (Gram) | | | | |
| Glass (Gram) | | | | |
| Plastic (Gram) Metal (Gram) Glass (Gram) | | | | |
| Plastic (Gram) | | | | |
| Paper (Gram) | | | | |
| all Food Waste (Gram) | | | | |
| Category Total (for all samples) | High Income Households | Middle Income Households | Low Income Households | |

Table 3A.2 (Day 2)

| Anımal Waste (kg) | | | | |
|---|------------------------|--------------------------|-----------------------|--|
| Plastic (Gram) Metal (Gram) Glass (Gram) Inserts (street sweepings, ash) (Gram) | | | | |
| Glass (Gram) | | | | |
| Metal (Gram) | | | | |
| Plastic (Gram) | | | | |
| Paper (Gram) | | | | |
| Food Waste (Gram) | | | | |
| Category Total (for all Food Waste samples) (Gram) | High Income Households | Middle Income Households | Low Income Households | |

Table 3A.3 (Day 3)

| Anımal Waste (kg) | | | |
|---|------------------------|--------------------------|-----------------------|
| Paper (Gram) Plastic (Gram) Metal (Gram) Glass (Gram) (Gram) (Gram) | | | |
| Glass (Gram) | | | |
| Metal (Gram) | | | |
| Plastic (Gram) | | | |
| Paper (Gram) | | | |
| Food Waste (Gram) | | | |
| Category Total (for all Food Waste samples) (Gram) | High Income Households | Middle Income Households | Low Income Households |

WASTE GENERATED BY THE VILLAGE

Table 3A. Average (Day 1+2+3)

Calculate the average value for each cell by averaging the values in that cell for day 1, 2 and 3. For example, add the values in the Food waste- High income cell for day 1, day 2 and day 3 and divide by 3.

| is and a min and a min arrive of a. | | | | | | | |
|---|----------------------|--------------|----------------|---|--------------|---|-------------------|
| Category Total (for all Food Waste samples) | Food Waste (Gram) | Paper (Gram) | Plastic (Gram) | Paper (Gram) Plastic (Gram) Metal (Gram) Glass (Gram) | Glass (Gram) | Inserts (street sweepings. ash) (Gram) | Animal Waste (kg) |
| High Income Households | | | | | | | |
| Middle Income Households | | - | | | | | |
| Low Income Households | , | | | | | | |
| | | | | | | | |

(

Note: prepare similar details for commercial/institutional waste samples and add the quantities in the quantities derived from household waste generation assessment.

Table 3B.1: Summary table showing waste generated by total household in each category

| Category Total Food (for all Waste samples) (Gram) | Food Waste (Gram) | Paper (Gram) | Paper Plastic Metal Glass (Gram) (Gram) (Gram) | Metal (Gram) | Glass (Gram) | Total Food waste generated (Gram) | Total paper N aste Generation (Gram) | Total plastic Waste (Gram) | Total metal waste (Gram) | Total glass waste (Gram) | \sh | Total Ash generated per (ategory | Total Vnimal Dung generated per Category |
|--|-------------------------|-----------------|---|-----------------|-----------------|---|---|---|--|---|---|---|---|
| | 4 | В | Ú | Q | Ē | F= (A-N X Number of Household in each category) | G=(B-N \ Number of Household in each category) | H = (C-NN Number of Household in each category) | l = (D-\ \ \ \underset{umber} of Househo Id in each category | = (E-\)\under \under | Vsh contained Per household K | L = (K x Jotal number of household s per category | M = (J- Number of Samples) I otal number of households, per category |
| High Income | | | | | | | | | | | | | |
| Middle Income | | | | | | | | | | | | | |
| Low Income | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | |

SOLID & LIQUID WASTE MANAGEMENT SURVEY

| ICT | |
|---------------------|----------------------|
| KDISTRICT | DATE OF SURVEY |
| GRAM PANCHAYATBLOCK | NAME OF THE SURVEYOR |
| GRAÍ | NAME |

DATE OF SURVEY

GENERAL INFO PartA

General Instructions for the Surveyors

- Give numbers / names to lanes & habitats (bastis) of the GP
- Draw separate maps of Individual lanes or habitats (basti) showing details such as houses, drains, grey water outlets, black water outlets, spaces availabl for ındıvıdual as well as community leach pits, wıdth & length of internal roads, garbage sites etc. Also attach a photograph of each lane / habitat.
 - In case of any doubt / difficulty in filling the format please contact

Houses &Population

- Number of Households.
- Current population

Children

Female:

Public Institutions

Educational Institutions (Mention number & also whether Govt or private under each category)

Middle

Secondary Other

> Health Institutions (mention numbers) Anganwadis

Private dispensaries Govt. Hospitals

Govt. Dispensaries

Other Institutions (Give name & nature of institutions)

Commercial Places

Meat / Fish Markets

Hotels / Restaurants

Vegetable Shops

| Intern | Internal Roads | | | | |
|----------|----------------|---|---|-------------|------------------------|
| \vdash | Concre | Concrete Road (km) | Width of Road (Mtrs) | •• | |
| 2 | Pucca | Puçça Road (km) | Width of Road (Mtrs.) | | |
| μ | Kutcha | Kutcha Road (km) | Width of Road (Mtrs) | •• | |
| Gener | al info a | General info about Water Supply &Water Availability | | | |
| i | Availa | Availability of Water Ample/Adequate/Inadequate/Scarce | equate/Scarce | | |
| 2 | People | Peoples attitude towards water & water use | | | |
| | a) | Water is used judiciously & with precautions | · Yes/No | | |
| | <u>b</u>) | Water is used excessively & carelessly | · Yes/No | | |
| | c) | Are any measures taken by GP to control | : Yes/No | | |
| | | בערבייטואר איסורו חיבי וו ארי אוומר ווורמימורי : | | | |
| Cattle | popular | Cattle population in the GP & people's perception | | | |
| سو | Percei | Percentage of households having cattle | % | | |
| 2 | Avera | Average number of cattle per household | | | |
| Ψ | Do pe | Do people regard cattle dung as resource ? | • | | |
| | In wh | In what nature ? | | | |
| Resou | irces ava | Resources available in the GP | | | |
| <u>س</u> | Huma | Human resources available | | | |
| | a) | Paid Safaiwalas (give numbers) | | | |
| • | ь) | Youth club (with number of members) | , and the same of | members | |
| | c) | Self Help Groups (give numbers) Yes/No, Number of Men Group , Members: | mber of Men Group | ; members: | Number of Women Group: |
| | d) | Number of Mahila Mandals | Number of members (total) | ers (total) | |
| | e) | Any other groups. | | | |
| | | | | | |

2

Land available for community treatment systems

Liquid waste (give location and measurements – indicate on the map) Solid waste (give location and measurements – indicate on the map)

<u>а)</u>

NAME OF THE SURVEYOR **GRAM PANCHAYAT** SOLID & LIQUID WASTE MANAGEMENT SURVEY DATE OF SURVEY DISTRICT

Part B LIQUID WASTE

1) Water Supply

- Availability of Water (select one) Ample/Adequate/Inadequate/Scarce
- Sources of Water Supply
- Govt (PHED) water supply
- Number of Govt. (PHED) submersibles
- Hours of Supply
- 1 Morning number of hours
- Evening number of hours
- III Common Overhead tank for GP Public Hand Pumps

<u>b</u>

- 1. No of public hand pumps
- How many are working?
 Private Water Supply

C

- No of private submersibles in Houses
- Capacity of pump (HP) (take general average)
- Hours of pumping (take general average)
- General water table in the GP (depth at which water is struck in tube wells)

<u>a</u>

Soil Type

2

- Soil Type (tick the appropriate option)
- Permeable (sandy) soaks water readily :
-) Impermeable (does not soak water)

- Soil with murum in it
- Rocky (Paththar)
- If yes at what depth rock is struck (feet)
- Water logged conditions (select one) No water logging /Seasonal water logging (rainy season) / Permanent water
- Important Note : If you are unable to get correct description of soil type, follow the procedure given below & decide the soil type
- Dig a test pit (approximately 1ft diameter &2ft depth)
- Fill it with water upto the brim
- Record observations next day (24 hrs) as below (tick one)
- fully absorbed (permeable soil)
- partially absorbed (semi-permeable soil)
- not absorbed (impermeable soil)

Liquid Waste Generation

 $\underline{\omega}$

Under this section the surveyor team has to collect information on

- Quantity of Liquid waste (Grey as well as bla , water if any) generated from individual households
- Quantity of Liquid waste (Grey as well as black water if any) generated from institutions such as schools, Anganwadi etc
- Quantity of Liquid waste (Grey as well as black water if any) generated from commercial places such as hotels, hospitals, shops
- Present practices followed at the above places for disposal / management of Liquid waste

etc

- 4 2, 0 Space available for management of Liquid waste at individual households / institutions / commercial places
- Space available at community level / or GP level for management of Liquid waste.
- Please fill up the information in following tables by visiting the above places & by interviewing available persons & also by observations.
- Please study the various simple formulas in different columns & how to use them. In Table L1 the first row is filled as a sample to guide

Table L1: Quantity of Grey Water and Black Water in Sample of Households

| | | 5 | 4 | w | 2 | F | | | | 2 | 4 | ω | 2 | | | 00 | | | No St |
|---|---------------------------------------|---|---|---|---|---|---------------|--|---|---|---|---|---|--|-------------|-------------------------|-----------------------------------|---------------------------------------|---|
| Wastewater discharge (middle income in litres/day | Average grey water discharge (litres) | | | | | | Middle Income | Wastewater discharge (high income) in litres/day | Average grey water discharge (litres) = | | | | | | High Income | Sample | | | of Household |
| scharge (r | ater disc | | | | | | ncome | charge (I | ater disc | | | | | | ome | 3 | | | Adults (N1) |
| niddle inc | harge (litre | | | | | | | igh incom | narge (litre | | | | | | | 2 | | | No of children (N2) |
| ome in lit | 35) | | | | | | | e) in litr | :S) = | | | | | | | * | | PHED | Source of water supply (Yes/No) |
| :res/da | | | | | | | | es/day | | | | | | | | 2 | | Own sourc | e of upply |
| Ψ | | | | | | | | | | | | | | | | 200 (A) | (litres) | Overhe ad tank capacit | |
| | | | | | | | | | | | | | | | | 200 (A) 100 (B) 300 (C) | B B | Drums Total Capacit storage y capacit | Storage |
| | | | | | | | | | | | | | | | | 300 (C) | y C=A+ B | Total storage capacit | |
| | | | | | | | | | | | | | | | | 350 (D) | D= (N1+N2) x 70 | Water consume d daily | Consump tion of water |
| | | | | | | | | | | | | | | | | 350x0.8= 280 | D x 0 8 | Grey | Quantity of Greywat ei (litre) |
| | | | | | | | | | | | | | | | | Y | | Drain (Yes/N o) | |
| | | | | | | | | | | | | | | | | 2 | house (Yes/N o) | () | Wastewater to |
| | | | | | | | | | | | | | | | | 2 | 0) | Soak pit (Yes/N | 01 |
| | | | | | | | | | | | | | | | | 1 | outlet to soak pit - E | | Number |
| | | | | | | | | | | | | | _ | | | ۲ | outlet to drain - F | Septic tank with | of toil |
| | | | | | | | - | | _ | | | | | | | 1 | tunk without outlet) - G | Holdin g tank (septic | Number of torlets connected to |
| | | | | _ | | | | 1 | | | | | | | | t | · | Leac | rted to |
| | | | | | | | | | | | | | | | | (3+2)x 10= 50 | h pits (NI+ - H N2) χ | With | |
| | | | | | | | | | | | | | | | | ; | | Without | If Type of Totlet is F, estimate quantity of black water (in litres) |

4 ω Name of Head No of of Household adults (N1) Low Income No of Source of children water supply (N2) (Yes/No) PHED Own Overhe Drums Total Water sourc ad tank Capacit storage consume capacit y capacit d daily Gr (litres) - J - Water S - A B C=A+ D= D D Storage Consump! Quantity hon of Walter water = D x 0 8 ei (litre) (יונה) אי שנ Drain Open Soak Sep. (Yes/N space pit tank outside (Yes/N with touse o) Open Soak Sep. (Yes/N with touse o) Open Soak Sep. (Yes/N open tank open september of the space of the Wastewater to Septic Septic Holdin tank g tank with with septic Leac flush flush outlet tank to without -H N2) x x5 Number of toilets connected to quantity of black If Type of Toilet is F, estimate water (in litres)

Average grey water discharge (litres)

Wastewater discharge (low income) in litres/day = 24,650

Table L2 : Quantity of Greywater from Public Water points such as public hand pumps, wells, stand posts etc

| | | | • | | | | | | Sr No |
|---|--|--|---|--------|--------------------|----------------------|-------------------------------------|-----------------|---|
| | | | | | | | | | Sr No Location |
| | | | | - | | | | point + | water |
| | | | | | | | | Yes/No | Platform |
| | | | | | | worst | / bad / | | Condition of |
| | | | | | | liters | generated per day in No arrangement | of waste water | Condition of Approximate quantity Present arrangement |
| | | | | garden | soak pit / kitchen | /drain only /drain + | No arrangement | for waste water | Present arrangement |
| - | | | | | Yes / No | plantation | water for | use of waste | Space nearby for Space |
| | | | | | | Yes / No | leach pit | nearby for | Space |

Note * Under type mention name of the place such as Hand pump / Open Well / Public stand post / Cattle washing place / Cattle trough

Table L3: Quantity of Greywater from Institutions (School, Anganwadi, Hospital, Other)

| | | | | | | | | | | | | | No. |
|--|---------|---------|--------|------------|---------------|-------------|-----------|----------|----------|-----------|-------------|---------------|-------------------|
| | | | | | | | | | | | | | Name of institute |
| | | | | | | | | | | | | 0081 | Private/ |
| | | | | | stored Water | / dund | Tap/Hand | | | | Water | diliking | Source for |
| | | | | | | | | | | | | for hand wash | Arrangement |
| | | | | | | | Α | | (litres) | per day | consumed | water | Qty. of fresh |
| | | | | | | | B=A x 0.8 | (litres) | per day | generated | water | Waste | Qty. of |
| | gardell | Kitchen | Links, | soak nit / | /drain only / | arrangement | No | | | waste | for liquid | arrangement | Present |
| | | | | | | | | | | (Yes/No) | arrangement | make own | Willing to |
| | | | | | | | | | (Yes/No) | services | for | to pay | Willing |

Table L4: Quantity of Greywater from Shops / Restaurants / Hotels /

| wastewater generated per day (litres) B=A x 0.8 | | arrangement for liquid waste | arrangement for liquid waste |
|---|--|------------------------------------|------------------------------------|
| | | arrangement for liquid waste | arrangement for liquid waste |

NOLE Under Category mention type of shop such as Grocery / stationary / medical / food shop/ bakery/ general / hotel / restaurants

4) Common information / data for the entire GP on Liquid Waste & its Management

- What type of drains exists in the GP^{γ} (Tick at appropriate option)
- 2. How many houses are connected to drainage (Tick at appropriate option) $100\,\%$
- Where do the drains lead to? (Tick at appropriate option) Johad

ω.

Dhamaka Toilet Type of toilets in the GP (please mention number of households from the available records)

4

Space Available

5

| Type of Dynasty | |
|--|-----------------|
| Abe of Floberty | Number of Units |
| Houses with space for individual leach pit (approximate space 30 – 35 sq. ft) | |
| Houses with no space for leach pit | |
| Open space near houses in or out of the lane or in street for community leach pit (approximate space | |
| 250 – 400 sq. Ft per community leach pit). Mention number of streets/lanes in the entire GP with | - |
| space available | |
| Houses with cattle and space for biogas plant(approximate space 400 sq. ft) | |
| Houses with cattle and with no space for biogas plant | |
| Institutions (schools, Anganwadis etc) with space for leach pit | |
| Institutions (schools, Anganwadis etc) with no space at all | |
| Hotels / restaurants / shops with space for leach pit | |
| No of public water points where waste water management is essential | |
| No. of public water points where space for plantation is available | |
| No of public water points where space for leach pit is available | |
| | |

5) According to the Surveyor Team

(Please study the observations in all the above columns, also study the records on houses, toilets etc before filling the columns below)

No. of individual leach pits for Grey water required in the GP No. of individual leach pits for Black water required in the GP

No of community leach pits for Grey water required in the GP

No. of community leach pits for Black water required in the GP :

5.5 No. of kitchen gardens possible in the GP

No. of plantation sites possible in the GP

If leach pits, community leach pits, kitchen gardens are not

Feasible, approximate area required for waste stabilization

Ponds & availability of the same.

Any other information about Liquid Waste & its management not covered in the above format

6)

PART – 3

COST ESTIMATES FOR SLWM

| Village: | , Block: | , District: | |
|------------------------|-------------------|----------------------|--|
| COST ES | STIMATES FOR LIQU | JID WASTE MANAGEMENT | |
| (A) Fixed costs (Capex | :) | | |

(A.1) Grey water management (Household)

| Lane | | | Technolog | y proposed | * |
|---|--------------------------------------|----------------|------------------|---------------------------------|--|
| | Number of Individual leach pit | 1 | of nity leach | Number of Kitchen Garden* | Number of Waste stabilization pond |
| | | Up to 10 HH | 11 to 20 HH | | No. of houses = Total no. of houses- no. of houses covered by other technologies |
| Lane 1 Lane 2 | | | | | other technologies |
| | | | | | |
| Total (sum of all rows above) [T] Unit cost [C] | 5,500 | 30,000 | 40,000 | 0 | 0 |
| Total cost [T x C] | 3,300 | 30,000 | 40,000 | 0 | 0 |

^{*} For kitchen garden support will be given in the form of training & technical facilitation

(A 2) Black Water management (Household)

| Lane | Technology proposed . | | | | |
|-----------------------------------|--------------------------------------|-----------------------|---------------------|---|--|
| | Number of Individual leach pit | Numbe Commu pit | r of inity leach | Number of DEWATS | Number of Waste stabilization pond |
| | · | Up to 10 HH | 11 to 20 1111 | | No. of houses = Total no. of houses- no. of houses covered by other technologies |
| Lane 1 | | | | | teemologies |
| | | | | | |
| T. () () () | | | | | |
| Total (sum of all rows above) [T] | | | | | |
| Unit cost [C] | 5,500 | 30,000 | 40.000 | 111111111111111111111111111111111111111 | |
| Total cost [T x C] | | | | | |

(A.3) Grey water management (Institutional)

| Institution | Technology proposed | | |
|-----------------------------------|-----------------------------------|----------------------------------|--|
| | Number of Individual leach pit | Number of Gardening / plantation | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| Total (sum of all rows above) [T] | | | |
| Unit cost [C] | 10,000 | | |
| Total cost [T x C] | | | |

Note: # No. of institutions = Total no. of institutions - no. of institutions covered by other technologies

^{*} For garden / plantation financial support will be given in the form of training & technical facilitation

(B) Recurring costs (Opex)

(B.1) For community leach pit

| Sr. No. | Particulars | No. of man days required | Unit cost (Minimu m wage, Rs.) | Total cost |
|------------|--|-----------------------------------|---|------------|
| I | Cleaning of silt chambers Chambers to be cleaned every three weeks I person can clean 5 chambers in a day Mandays required = | | - | |
| 2 | (No. of chambers / 5) x 18 Cleaning of Leach pit Leach pits to be cleaned once in a year 1 person can clean 1 leach pit in one day Mandays required= No. of leach pits | | | |
| 3 | Removal of occasional blockages in pipelines Approx 10 days per annum Total | | | |

(B.2) For waste stabilization pond

| Sr. No. | Particulars | No. of man days required | Unit cost | Total cost |
|------------|--|--------------------------|-----------|------------|
| 1 | Cleaning of screens To be cleaned every day 15 Man days per annum | 15 | | |
| 2 | Spraying of ponds for mosquito control To be done once in a week 26 Man days per annum | 26 | | |
| 3 | Removal of occasional blockages in pipelines Approx 10 man days per annum | 10 | | |
| 4 | Desludging of ponds To be done once in a year | | | |
| | Total | | | |

C. SUMMARY

| Sr | Particulars | Total cost |
|-----|--|------------|
| No. | | |
| 1 | (A.1) Fixed cost | |
| | 1. Grey water management for Household | |
| 2 | (A.2) Fixed cost | |
| | 1 Black water management for Household | |
| 3 | (A 3) l'ixed cost | |
| | 1. Grey water management for Institutions | |
| 4 | (B.1) Recurring costs for community leach pits | |
| | for 1 year | |
| 5 | (B.2) Recurring costs for waste stabilization | |
| | pond for 1 year | |
| | | |
| | | |
| | Total | |
| | | |

COST ESTIMATION FOR SWM

| A. Door to door collection | |
|--|----------|
| • Need of part time waste collectors @1 person per 1000 population If population is less than 6000 | |
| Cost of manpower: No of part time workers X Rs.5000 or 50% Of minimum wage | Rs. |
| • Need of tricycle: No of part time workers+1 spare | |
| Cost of tricycle: No of tricycles required X Rs.15000 | Rs. |
| Need of covered tractors or covered LCV for door to door collecting waste if village population exceeds 6000 Village population/6000= Cost of tractors/LCV | |
| Number of tractors/LCV X RS 700000 | Rs. |
| B. Street sweeping | |
| • Streets and their length that need to be swept by panchayat each day | |
| • No of part time street sweepers required @1 per 1000 population | |
| • Cost of street sweepers: No of street sweepers – 1 already existing | Rs. |
| required X Rs.5000 (panchayat has one sweeper | <u> </u> |

• No of handcarts required for street sweepers @1 per sweeper

cost of handcarts: no of handcarts X Rs. 10000

1 tri-cycle existing

C. 1. Secondary storage of street waste if the village is large say above 5000 or the distance to be travelled exceeds 1 km from the collection area

| Area of the village: | Sq.km |
|--|------------|
| Distance of waste disposal site from the collection area | Km |
| Number of 0.5cu.m capacity secondary storage containers Required @8 per sq.km village area | |
| Cost of secondary storage containers Number of containers X Rs 12500 | Rs. |
| C.2. Need of a shed to store segregated recyclable Material for 1 month till it is passed on to Recyclers @ Rs 25000 per 1000 population | Rs |
| D. Transportation of street waste if containers are placed tractor | ·with |
| Container lifting device required. | - VY I CAI |
| Number of containers/10 | |
| Cost of container lifting device: | |
| No of device X 700000 | Rs |
| Number of part drivers required @1 per vehicle | |
| Cost of part time drivers: | |
| • No of part time drivers x Rs.7500 (or 50 % of minimum wage) |) Rs |
| • Number of part labor required @2 per 1 vehicle | |
| Cost of part time labor | |
| • No of labor X Rs. 5000 | |

E. Processing of waste

If panchayat is required to collect bio-degradable Waste from the door step:

 Quantity of bio-degradable waste collected from Households, shops and establishments each day

Kg

Number of vermi pits required as per the following table:

| SR. No | Village population | Quantity of organic waste to be composted daily (kg) | Number of vermi pits proposed to meet 90 day need |
|-----------|-----------------------|--|---|
| 1 | 500 | Upto 25 | 1 |
| 2 | 1000 | 25-50 | 2 |
| 3 | 1500 | 50-75 | 3 |
| 4 | 2000 | 75-100 | 4 |

Add I additional pit per 25 additional kg of food waste

Note: Per capita biodegradable waste per day $-50-75\,$ g.

Dimension of vermi pit $5\,$ (L) $m \times 1.5\,$ (W) $m \times 0.6-.7\,$ (D) m.

Cost of making vermi pits:

• Number of vermi pits proposed x Rs 7000

Rs.

Cost of making bio-methanation plants if chosen
 Instead of vermi composting (Based on following table)
 (5 x 30,000)

| Rs. | | |
|-----|--|--|

To support 5 model projects on 75% support basis

| Details | 50 kg/day |
|--------------------------------|-----------|
| Capital cost of a biogas plant | 40,000 |
| (INR) | |

| 1 part time semi skilled worker per 5000 population or part thereof | |
|---|-----------------|
| 2 cost of part time semi skilled workers | |
| No of part time worker x 6000 | Rs |
| Need to convert cow dung pits to vermi pits | |
| Need to support farmers/cattle breeders for | |
| Converting their animal dung storage pit | |
| vermi compost pit @Rs. 2000/- per household/ | |
| manure pit fo purchasing earthworms and | |
| erecting a small thatched roof on the vermi pit | |
| using their own labor: | |
| Number of cow dung pits that need to be | |
| converted X 2000 (Number* x 2000) | |
| *total number of househols with cattle – households with biogas | plants (5 |
| demonstration) = number of households to be provided support | for vermi pits. |
| | |
| | |
| Need of digging a pit for disposal of residual waste to | o last for 2 |
| | |
| years at a time. 10 ft x 10 ft x 3 ft | Rs. |

Summary of cost for SWM

| Sl. No. | Activity | Manpower required (Number) | Amount required for manpower per year (Rs.) | Amount Required for tools, equipment, bins, vehicles, shed, vermi pit/bio- methanation plan etc. (Rs.) | Support to waste generators for bio gas or composting (Rs.) |
|---------|-----------------------------|----------------------------------|--|--|---|
| 1 | Door to door collection | | | | |
| 2 | Street sweeping | | | | |
| 3 | Secondary storage | | | | |
| 4 | Shed for recyclables | | (| | |
| 5 | Transportation | | | | |
| 6 | Processing | | | | |
| 7 | Support to vermi composting | | | | |
| 8 | Support to bio methanation | | | | |
| 7 | Pit for disposal | | | | |
| | Total | | | | |
| | Grand Total | | | | |

Signature of Surpanch/pardhan/panchayat secretary

Date:

PROFORMA FOR ACTION PLAN AND PROJECT REPORT

A. BASIC INFORMATION

| 1 | Name of Gram Panchayat | 2 | : | Block | |
|---|------------------------|---|---|-------|---------|
| 3 | District | 4 | - | State | Haryana |

B. POPULATION AND AREA

| | Male Population (2017) | 2 | Female Population (2017) |
|---|-------------------------|---|--------------------------|
| 3 | Child Population (2017) | 4 | Total Population (2017) |
| 5 | Number of Households | 6 | Area of GP (sq. km.) |

C. INSTITUTIONS

| S. No. | Institutions | Number |
|---------|-----------------------|--------|
| Govern | ment | |
| 1. | Schools | |
| 2. | Anganwadi | |
| 3. | Primary Health Centre | |
| 4. | Hospital/Clinic | |
| 5. | Offices | |
| 6. | Market | |
| 7. | Others (specify) | |
| Private | | |
| 1. | Schools | |
| 2. | Hospital/Clinic | |
| 3. | Offices | |
| 4. | Shops | |
| 5. | Others (specify) | |

D. INTERNAL ROADS

| S. No. | Type of road | Length (km) |
|--------|-------------------|-------------|
| 1. | Concrete road | |
| 2. | Pucca road | |
| 3. | Kutcha road | |
| 4. | Total road length | |

E. WATER SUPPLY

| Λ. | Govt. (PHED) water supply | | , |
|-----|---|------|---------------------------------|
| i. | Number of submersible pumps | | |
| ii | Total Hours of supply | | |
| a. | Morning – number of hours | b. | Evening – number of hours |
| B. | Public Taps | | |
| i. | Number of Public Taps | 11. | Number of working Public Taps |
| C. | Public hand pumps | | |
| i. | Number of hand pumps | iı. | Number of working hand pumps |
| D. | Private Submersible pumps | | |
| i. | Number of houses with submersible pumps | | |
| ii. | Capacity (take average) | iii. | Hours of pumping (take average) |

F. SOIL / WATER TABLE

| S. | Type Description | Yes/No | S. | Type Description | Yes/No | |
|-----|---|--------|-----|---|--------|--|
| No. | | | No. | | | |
| 1 | Permeable (sandy) soil (soaks water readily) | | 2 | Impermeable (does not soak water) | | |
| 3 | Soil with murum in it | | 4 | Rocky (pathar; if yes at what depth rock is struck) | | |
| 5 | If Rocky (Pathar) at what depth is rock struck (feet) | | | | | |
| 6 | Depth at which water is struck in tubewells (in feet) | | | | | |

G. SOLID WASTE GENERATION

a. HOUSEHOLD WASTE

| S. | Waste type | Total | | Present Dis | posal Practice | |
|-----|---------------|---|---|--|---|--|
| No. | | Quantity of waste generated Daily in GP (Kg)) | Proportion of Households utilizing food waste for feeding to animals (%) | Proportion of Households giving away their food waste to other households with animals (%) | Proportion of Households depositing food waste in Khurdi/Pits (%) | Proportion of Households disposing food waste in the open spaces (%) |
| A | Biodegradable | | | | ' | |
| 1 | Food waste | | | | | |
| В | Recyclable | | Proportion | of Households s | selling to Kabad | iwala (in %) |
| 2 | Paper | | | | | |
| 3 | Plastic | | | | | |
| 4 | Glass | | | | | |
| 5 | Metal | | | | | |
| С | Others | | Proportion of Households depositing in Khurdi (%) Proportion of Households disposing in the open (%) | | | |
| 6 | Ash | | | | | |
| 7 | Street . | | | | | |
| | sweepings | | | | | |

b. ANIMAL DUNG

| S. No. | Description | Number |
|--------|---|----------------|
| 1 | Number of households in GP | |
| 2 | Number of households with cattle (Buffalo + Cow) | |
| 3 | Average number of cattle per Household (Calculate for only households with Cattle) | |
| 4 | Total quantity of animal dung (kg) | |
| 5 | Disposal practices | Proportion (%) |
| a | Proportion of Dung used as Fuel (%) | |
| b | Proportion of Dung used as manure (%) | |
| i | Proportion of households storing dung in household premises or in their own open land | |
| ii | Proportion of households storing dung on the streets or in public premises | |

II. LIQUID WASTE GENERATION

| Description | Quantity Daily (in Liters) |
|--|--|
| | ` |
| n Households | |
| Total Quantity of grey water (litres/day) in GP | |
| Total Quantity of black water (litres/day) in GP | |
| n Institutions | |
| Total Quantity of grey water (litres/day) in GP | |
| Total Quantity of black water (litres/day) in GP | |
| | Total Quantity of grey water (litres/day) in GP Total Quantity of black water (litres/day) in GP Institutions Total Quantity of grey water (litres/day) in GP |

I. ESTIMATED CAPITAL EXPENDITURE FOR SOLID WASTE MANAGEMENT

| S.No. | Description | Unit Cost (A) in Rs. | Number of Units (B) in numbers | Total Cost (Rs.) (A x B) |
|-------|--|---------------------------------------|---|-----------------------------|
| 1 | Door to door waste collection & Street sweeping | L | nambers | |
| а | Vehicles for collection (Tricycles) | 15,000 | | |
| b | Vehicles for collection (LCV/Tractor) | 700,000 | | |
| С | Handcarts for collection of sweepings | 10,000 | | |
| D | Number of secondary storage containers | 12,500 | | |
| Е | Number of container lifting devices | 7,00,000 | | |
| 2 | Household Food waste | · · · · · · · · · · · · · · · · · · · | <u> </u> | |
| a | Number of vermi-pits to treat domestic food waste | 7,000 | | |
| 3 | Animal Dung | | <u> </u> | |
| а | Converting Khurdis to vermi-pits | 2,000 | | |
| b | Biogas plants at household | 30,000* | | |
| 4 | Recyclable waste | | | |
| a | Shed for segregation, storage and sale of recyclables (for 1,000 population) | 25,000 | l per 200 households | |
| 5 | Inerts (residual waste that cannot be sold plus un | treatable was | ste) | |
| а | Pit for burying inerts | 2,000 | 1 per 200 households | |
| 6 | Total Capital Cost (Rs.) | | | |

^{*} Note: 75% of the cost of biogas (Rs. 40,000) unit will be paid from the project. The beneficiary is expected to contribute 25% of the cost (Rs. 10,000)

REFERENCE TABLE FOR ESTIMATING TOOLS/FOURMENT

| S. No. | Equipment | Norm for estimation |
|--------|---|---|
| 1 | Handcart for collection of sweepings | If GP population < 6000, 1 handcart per 200 households plus 1 spare |
| 2 | Tricycle for household waste collection | If GP population < 6000, 1 tricycle per 200 households plus 1 spare |
| 3 | Tractor/LCV | If GP population > 6000, 1 Tractor/LCV per 6 000 population |
| 4 | Secondary storage containers | if the village is large (population above 6000) or the distance to be travelled exceeds 1 km from the collection area, then 0 5cu.m capacity secondary storage containers required @8 per sq.km |
| 5 | Secondary storage container lifting devices | I device for every 10 secondary storage containers, |
| 6 | Vermi-pits for composting biodegradable waste | Dimension of vermi pit 5 (L) m x 1.5 (W) m x 0.67 (D) m Number of pits to be estimated from Table below |

| S. No. | Equipment | Norm for estimation | | | |
|--------|---|--|---|--|--|
| | | Quantity of organic waste to be composted daily (kg) | Number of vermi pits proposed to meet 90 day need | | |
| | | Upto 25 | l | | |
| | | 25-50 | 2 | | |
| | | 50-75 | 3 | | |
| 1 | | 75-100 | 4 | | |
| | • | Add I additional pit per 25 additional kg of | food waste | | |
| 7 | Shed for segregation, storage and sale of recyclables | I shed of dimension 8 ft. x 10 ft x 7 ft. heigh 200 households; 80 sq. ft for every 200 households | | | |
| 8 | Converting Khurdis to vermi-pits | Each household/farmer khurdi to be converted | | | |
| 9 | Pit for burying residual waste | Pit of dimension 10 ft x 10 ft x 3 ft = 300 cubic feet per 200 households | | | |

J. ESTIMATED CAPITAL EXPENDITURE FOR LIQUID WASTE MANAGEMENT

| S. | MANAGEMENT Description | Unit Cost | Number of | Total Cost |
|-----|---|-----------|-------------|--------------|
| No. | • | (Rs.) [A] | units in | (Rs.) [AxB] |
| | | | numbers [B] | (200) [1202] |
| 1 | Grey water management - Household | | | |
| a | Household leach pit | | | |
| - | | 5,500 | | |
| b | Community leach pit (1 serving up to 10 | | | |
| | houses) | 30,000 | | |
| С | Kitchen garden | - | | |
| d | Waste stabilization ponds | | | |
| 2 | Grey water management – Institutions | | | |
| a | Household leach pit | | | |
| | | 5,500 | | |
| ь | Community leach pit | | | |
| | | 30,000 | | |
| С | Kitchen garden | - | | |
| d | Waste stabilization ponds | | | |
| 3 | Black water management – Households | | | |
| a | Household leach pit | | | |
| | | 5,500 | | |
| b | Community leach pit | | | |
| | W-standal III at I | 30,000 | | |
| С | Waste stabilization ponds | | | |
| 4 | Black water management – Institutions | | | |
| a | Leach pit | | | |
| | | 5,500 | | |
| - 1 | Total Carital Cost (D-) | | | |
| 5 | Total Capital Cost (Rs.) | | | |

REFERENCE TABLE FOR ESTIMATING LABOUR REQUIREMENT

| S. No. | Maintenance detail | Norm | Estimation of persondays/year |
|-----------|--|--|-------------------------------|
| 1 | Community Leach pit | | |
| а | Cleaning of silt chambers | Chambers to be cleaned every three weeks; 1 e 18 times a year 1 person can clean 5 chambers in a day | (Number of chambers – 5) λ |
| b | Cleaning of Leach pit | Leach pit to be cleaned once a year I person can clean one leach pit in a day. | Number of leach pits |
| С | Removal of occasional blockages in pipelines | Assume 10 days per annum | 10 days per annum |
| 2 | Waste Stabilisation Pond | | |
| а | Cleaning of screens | To be cleaned daily - one hour of work | 15 person days per annum |
| b | Spraying of ponds for mosquito control | To be done once in a week; half a day work | 26 person days per annum |
| С | Removal of occasional blockages in pipelines | Assume 10 days per annum | 10 person days per annum |
| d | Desludging of Pond | About 2 days work with JCB and labour | |

K. ESTIMATED ANNUAL OPERATING COST

a. Solid Waste management

| S. No. | Description | Number of Personnel | Monthly Salary/Wages (Rs.) [A] | Annual Salary/wage (Rs) [A x 12] |
|-----------|--|------------------------|--------------------------------------|---|
| 1 | Personnel for door to door waste collection @ 1 part time person per 1000 population | | | *************************************** |
| 2 | Personnel for street sweeping @ 1 sweeper per 1000 population | | | |
| 3 | Personnel for waste processing @ 1 part time semi-skilled person per 5000 population | | | |
| | Total Annual Operating Cost for SWM | | | |

b. Liquid Waste Management

| S. No. | Description | Number of person days [A] | Daily wage rate for personnel (Rs.) [B] | Annual Salary/wage (Rs) [A x B] |
|-----------|--|---------------------------|--|---------------------------------------|
| 1 | Community leach pit | | | .1 |
| а | Cleaning silt chamber | | | |
| b | Cleaning leach pit | | | |
| С | Removal of blockages in the pipe line | | | |
| 2 | Waste stabilization ponds | | | |
| а | Cleaning of screens | | | |
| b | Spraying of ponds for mosquito control | | | |
| С | Removal of blockages in the pipeline | | | |
| d | Desludging of ponds | | | |
| 3 | Total Annual Operating Cost for LWM | | | |

L. SUMMARY OF CAPITAL AND OPERATING EXPENDITURE ESTIMATES

| S.No. | Description | Cost (Rs) |
|----------|-------------------------|-----------|
| Capital | | |
| 1 | Solid waste management | |
| 2. | Liquid waste management | |
| | Total | |
| Annual (| Operating cost | |
| 1. | Solid waste management | |
| 2 | Liquid waste management | |
| | Total | |

| LIST OF NNP GP's | | | | |
|------------------|---------------|-----------|-----------|---------------------------|
| S.No. | State | District | Block | GP |
| 1 | UTTAR PRADESH | ALLAHABAD | BAHRIA | MAILHA |
| 2 | UTTAR PRADESH | ALLAHABAD | BAHRIA | SARAI LILI URF BARCHANPUR |
| 3 | UTTAR PRADESH | ALLAHABAD | BAHRIA | JAMUA |
| 4 | UTTAR PRADESH | ALLAHABAD | BAHRIA | CHAIMALPUR |
| 5 | UTTAR PRADESH | ALLAHABAD | JASRA | KHATAGIA |
| 6 | UTTAR PRADESH | ALLAHABAD | СНАКА | DHANUHA |
| 7 | UTTAR PRADESH | ALLAHABAD | СНАКА | PALPUR |
| 8 | UTTAR PRADESH | ALLAHABAD | СНАКА | BARAMAR |
| 9 | UTTAR PRADESH | ALLAHABAD | СНАКА | BASWAR |
| 10 | UTTAR PRADESH | ALLAHABAD | СНАКА | SARANGAPUR |
| 11 | UTTAR PRADESH | ALLAHABAD | KARCHHANA | KAPTHUWA |
| 12 | UTTAR PRADESH | ALLAHABAD | KARCHHANA | CHANAINI |
| 13 | UTTAR PRADESH | ALLAHABAD | PRATAPPUR | CHAK PUREMIYAN |
| 14 | UTTAR PRADESH | ALLAHABAD | PRATAPPUR | PINDAUNA |
| 15 | UTTAR PRADESH | ALLAHABAD | PRATAPPUR | BAZATI |
| 16 | UTTAR PRADESH | ALLAHABAD | PRATAPPUR | MUHIDDINPUR |
| 17 | UTTAR PRADESH | ALLAHABAD | PRATAPPUR | SARAI HARIRAM |
| 18 | UTTAR PRADESH | ALLAHABAD | DHANUPUR | DIGHAUTA |
| 19 | UTTAR PRADESH | ALLAHABAD | DHANUPUR | DHOWAHA |
| 20 | UTTAR PRADESH | ALLAHABAD | DHANUPUR | BHAGAUTTIPUR |
| 21 | UTTAR PRADESH | ALLAHABAD | DHANUPUR | внооі |
| 22 | UTTAR PRADESH | ALLAHABAD | DHANUPUR | BANKAT |
| 23 | UTTAR PRADESH | ALLAHABAD | SAIDABAD | AMORA |
| 24 | UTTAR PRADESH | ALLAHABAD | SAIDABAD | BARAUNA |
| 25 | UTTAR PRADESH | ALLAHABAD | MEJA | DELAUNHA |
| 26 | UTTAR PRADESH | ALLAHABAD | MEJA | BHATAUTI |
| 27 | UTTAR PRADESH | ALLAHABAD | URUWAN | AMILIYA KALA |
| 28 | UTTAR PRADESH | ALLAHABAD | URUWAN | KATHAULI |
| 29 | UTTAR PRADESH | ALLAHABAD | URUWAN | KUNWAR PATTI |
| 30 | UTTAR PRADESH | ALLAHABAD | URUWAN | PAKARI SEVAR UPARHAR |
| 31 | UTTAR PRADESH | ALLAHABAD | URUWAN | MONAI |
| 32 | UTTAR PRADESH | ALLAHABAD | MANDA | MOHWARI KALA |
| 33 | UTTAR PRADESH | BAHRAICH | BALAHA | SILETANGANJ |
| 34 | UTTAR PRADESH | BAHRAICH | BALAHA | RAJAPUR KALAN |
| 35 | UTTAR PRADESH | BAHRAICH | SHIVPUR | BAUNDI |
| 36 | UTTAR PRADESH | BAHRAICH | RISIA | LAUKI |
| 37 | UTTAR PRADESH | BAHRAICH | RISIA | BHOPATPUR CHAUKI |
| 38 | UTTAR PRADESH | BAHRAICH | CHITAURA | MOHAMMAD NAGAR |
| 39 | UTTAR PRADESH | BAHRAICH | CHITAURA | NAGRAURA |
| 40 | UTTAR PRADESH | BAHRAICH | CHITAURA | DEEHA |

| 41 | UTTAR PRADESH | BAHRAICH | CHITAURA | ASHOKA |
|----|--------------------------------|-------------|----------------|---------------------------|
| 42 | UTTAR PRADESH | | | |
| 43 | UTTAR PRADESH | BAHRAICH | MAHASI | ASMANPUR |
| 45 | UTTAR PRADESH | BAHRAICH | MAHASI | KAPURPUR RAJAPUR KALAN |
| | | | | |
| 44 | UTTAR PRADESH UTTAR PRADESH | BAHRAICH | TAJWAPUR | KAUDAHA |
| 46 | UTTAR PRADESH | | TAJWAPUR | NAUSHAHARA |
| | | BAHRAICH | TAJWAPUR | CHETARA |
| 47 | UTTAR PRADESH | BAHRAICH | HUZOORPUR | KARMULLAPUR |
| | UTTAR PRADESH | BAHRAICH | HUZOORPUR | ADIL PUR |
| 49 | UTTAR PRADESH | BAHRAICH | KAISARGANJ | KUNDASAR |
| | UTTAR PRADESH | BAHRAICH | KAISARGANJ | GULHARIYAGHAZIPUR |
| 50 | UTTAR PRADESH | BAHRAICH | JARWAL | KURSANDA |
| 51 | UTTAR PRADESH | BAHRAICH | JARWAL | PURAINI |
| 52 | UTTAR PRADESH | BAHRAICH | PRAYAGPUR | LAL PUR |
| 53 | UTTAR PRADESH | BAHRAICH | VISHESHWARGANJ | BALA PAR |
| 54 | UTTAR PRADESH | BAHRAICH | VISHESHWARGANJ | JHURI KUNIYA |
| | UTTAR PRADESH | BAHRAICH | VISHESHWARGANJ | LAKKHARAMPUR |
| 55 | UTTAR PRADESH | GONDA | RUPAIDEEH | LONAWA DARGAH |
| 56 | UTTAR PRADESH | GONDA | ITIATHOK | KARUWA PARA |
| 57 | UTTAR PRADESH | GONDA | ITIATHOK | PUREHARA |
| 58 | UTTAR PRADESH | GONDA | ITIATHOK | BIHURI |
| 59 | UTTAR PRADESH | GONDA | ITIATHOK | SRI NAGAR |
| 60 | UTTAR PRADESH | GONDA | ITIATHOK | KARAMDEEH KALAN |
| 61 | UTTAR PRADESH | GONDA | ITIATHOK | AHIRAULIA |
| 62 | UTTAR PRADESH | GONDA | MUJEHANA | MADHAV GANJ |
| 63 | UTTAR PRADESH | GONDA | KATRA BAZAR | KOTIYA MADARA |
| 64 | UTTAR PRADESH | GONDA | HALDHARMAU | PARSA GODRI |
| 65 | UTTAR PRADESH | GONDA | COLONELGANJ | PARA |
| 66 | UTTAR PRADESH | GONDA | COLONELGANJ | BHANBHUWA |
| 67 | UTTAR PRADESH | GONDA | PARASPUR | GOGIYA |
| 68 | UTTAR PRADESH | GONDA | PARASPUR | SARAIYAN NANHU |
| 69 | UTTAR PRADESH | GONDA | PARASPUR | SALPUR DHAUTAL |
| 70 | UTTAR PRADESH | GONDA | BELSAR | DHANIA PATTI |
| 71 | UTTAR PRADESH | GONDA | BELSAR | AILIPARSOULI |
| 72 | UTTAR PRADESH | GONDA | TARABGANJ | DHODHEPUR |
| 73 | UTTAR PRADESH | GONDA | TARABGANJ | BANGAWN |
| 74 | UTTAR PRADESH | GONDA | WAZIRGANJ | CHETPUR |
| 75 | UTTAR PRADESH | GONDA | WAZIRGANJ | BANGHUSARA |
| 76 | UTTAR PRADESH | GONDA | WAZIRGANJ | NAGWA |
| 77 | UTTAR PRADESH | GONDA | WAZIRGANJ | DUMARIYA DEEH |
| 78 | UTTAR PRADESH | GONDA | WAZIRGANJ | PARSAPUR MEHRAUR |
| 79 | UTTAR PRADESH | GONDA | WAZIRGANJ | MOHANPUR |

| , | | | |
|---------------|--|---|--|
| UTTAR PRADESH | GONDA | WAZIRGANJ | RAMPUR KHARHATA |
| UTTAR PRADESH | GONDA | WAZIRGANJ | DALLAPUR |
| UTTAR PRADESH | GONDA | MANKAPUR | DATAULI |
| UTTAR PRADESH | GONDA | MANKAPUR | GYANIPUR RAMPRASAD |
| UTTAR PRADESH | GONDA | MANKAPUR | KUDASAN |
| UTTAR PRADESH | GONDA | MANKAPUR | MACHHALI GAON NANKAR |
| UTTAR PRADESH | GONDA | MANKAPUR | MISHRAULIYA KALAN |
| UTTAR PRADESH | GONDA | MANKAPUR | LAMATI UPARAHAVA |
| UTTAR PRADESH | GONDA | MANKAPUR | PACHPUTI JAGTAPUR |
| UTTAR PRADESH | GONDA | BABHANJOT | ALAUDDINPUR |
| UTTAR PRADESH | GONDA | СННАРІА | BASDEVPUR |
| UTTAR PRADESH | GONDA | СННАРІА | PAYAR KHAS |
| UTTAR PRADESH | GONDA | СННАРІА | BAKHRAULI |
| UTTAR PRADESH | GONDA | СННАРІА | SADKARPUR |
| UTTAR PRADESH | GONDA | СННАРІА | RANIJOT |
| UTTAR PRADESH | BASTI | RAMNAGAR | NARKHORIA |
| UTTAR PRADESH | BASTI | RAMNAGAR | MOHAMMAD |
| UTTAR PRADESH | BASTI | RAMNAGAR | BHIWANPAR |
| UTTAR PRADESH | BASTI | RAMNAGAR | BAROKHAR |
| UTTAR PRADESH | BASTI | SALTAUA GOPAL PU | SISWARI |
| UTTAR PRADESH | BASTI | SALTAUA GOPAL PU | CHHANWATIA |
| UTTAR PRADESH | BASTI | PARAS RAMPUR | JAGANNATHPUR |
| UTTAR PRADESH | BASTI | PARAS RAMPUR | KOHRAYAN |
| UTTAR PRADESH | BASTI | PARAS RAMPUR | SIKANDARPUR |
| UTTAR PRADESH | BASTI | PARAS RAMPUR | CHAURI |
| UTTAR PRADESH | BASTI | VIKRAM JOT | VIKRAMJOT |
| UTTAR PRADESH | BASTI | VIKRAM JOT | DHIRAULI BABU |
| UTTAR PRADESH | BASTI | DUBAULIYA | ASHOKPUR |
| UTTAR PRADESH | BASTI | DUBAULIYA | DUBAULIYA |
| UTTAR PRADESH | BASTI | RUDAULI | MAHUAR |
| UTTAR PRADESH | BASTI | SAU GHAT | NARIYAW |
| UTTAR PRADESH | BASTI | SAU GHAT | MAHUDAR |
| UTTAR PRADESH | BASTI | SAU GHAT | HATWA SHUKUL |
| UTTAR PRADESH | BASTI | BANKATI | BODAWAL |
| UTTAR PRADESH | BASTI | BANKATI | BARDAND |
| UTTAR PRADESH | BASTI | BAHADURPUR | BELY |
| | BASTI | BAHADURPUR | PIPRA KHASH |
| UTTAR PRADESH | BASTI | KUDARAHA | GANA |
| UTTAR PRADESH | BASTI | KUDARAHA | CHHARDAHI |
| UTTAR PRADESH | BASTI | KUDARAHA | JIBHIYAO |
| UTTAR PRADESH | BASTI | KUDARAHA | KUDRAHA |
| | · · · · · · · · · · · · · · · · · · · | KUDARAHA | BASEYA KALLA |
| | UTTAR PRADESH UTTAR PRADESH GONDA UTTAR PRADESH BASTI UTTAR PRADESH GONDA MANKAPUR UTTAR PRADESH GONDA CHHAPIA UTTAR PRADESH BASTI RAMNAGAR UTTAR PRADESH BASTI RAMNAGAR UTTAR PRADESH BASTI RAMNAGAR UTTAR PRADESH BASTI RAMNAGAR UTTAR PRADESH BASTI SALTAUA GOPAL PU UTTAR PRADESH BASTI SALTAUA GOPAL PU UTTAR PRADESH BASTI PARAS RAMPUR UTTAR PRADESH BA |

| 122 | UTTAR PRADESH | GORAKHPUR | CAMPIERGANJ | INDARPUR |
|-----|---------------|------------|-----------------|--------------------------|
| 123 | UTTAR PRADESH | GORAKHPUR | CAMPIERGANJ | KAREEMNAGAR |
| 124 | UTTAR PRADESH | GORAKHPUR | JANGAL KAUDIA | BHAURAMAL |
| 125 | UTTAR PRADESH | GORAKHPUR | PALI | BHARPAHI |
| 126 | UTTAR PRADESH | GORAKHPUR | SAHJANAWA | REODA |
| 127 | UTTAR PRADESH | GORAKHPUR | SAHJANAWA | PIPARAHEMA |
| 128 | UTTAR PRADESH | GORAKHPUR | SAHJANAWA | JHAKAHEE |
| 129 | UTTAR PRADESH | GORAKHPUR | PIPRAULI | KHAIRIA URF BHITI |
| 130 | UTTAR PRADESH | GORAKHPUR | CHARGAWAN | PARMESHWARPUR |
| 131 | UTTAR PRADESH | GORAKHPUR | CHARGAWAN | JANGL DHOOSAR |
| 132 | UTTAR PRADESH | GORAKHPUR | CHARGAWAN | JANGL TINKONIA NO2 |
| 133 | UTTAR PRADESH | GORAKHPUR | CHARGAWAN | JANGL HAKEEM NO2 |
| 134 | UTTAR PRADESH | GORAKHPUR | ВНАТНАТ | KARMAHA BUZURG |
| 135 | UTTAR PRADESH | GORAKHPUR | ВНАТНАТ | ASARPHPUR |
| 136 | UTTAR PRADESH | GORAKHPUR | ВНАТНАТ | AURANGABAD |
| 137 | UTTAR PRADESH | GORAKHPUR | ВНАТНАТ | BAILO |
| 138 | UTTAR PRADESH | GORAKHPUR | PIPRAICH | PIPARHI |
| 139 | UTTAR PRADESH | GORAKHPUR | PIPRAICH | BAHRAMPUR |
| 140 | UTTAR PRADESH | GORAKHPUR | SARDARNAGAR | MAHUWA BUJURG |
| 141 | UTTAR PRADESH | GORAKHPUR | SARDARNAGAR | KEWLA CHAK |
| 142 | UTTAR PRADESH | GORAKHPUR | SARDARNAGAR | SHATRUGHAN PUR |
| 143 | UTTAR PRADESH | GORAKHPUR | SARDARNAGAR | CHAK DEIA |
| 144 | UTTAR PRADESH | GORAKHPUR | SARDARNAGAR | SURSAR DEURI |
| 145 | UTTAR PRADESH | GORAKHPUR | KHORABAR | AMAIA |
| 146 | UTTAR PRADESH | GORAKHPUR | BRAHMPUR | ARAJI JAGDISH PUR |
| 147 | UTTAR PRADESH | GORAKHPUR | BRAHMPUR | DUMRAILA |
| 148 | UTTAR PRADESH | GORAKHPUR | BRAHMPUR | RAGHO PATTI PADRI |
| 149 | UTTAR PRADESH | GORAKHPUR | BRAHMPUR | NADUA GYANPAR |
| 150 | UTTAR PRADESH | GORAKHPUR | URUWA | MADARKHAS |
| 151 | UTTAR PRADESH | GORAKHPUR | BANSGAON | MAHASIN KHAS |
| 152 | UTTAR PRADESH | GORAKHPUR | KHAJNI | HARIHAR PUR |
| 153 | UTTAR PRADESH | KUSHINAGAR | KHADDA | KHERI |
| 154 | UTTAR PRADESH | KUSHINAGAR | NEBUA NAURANGIA | LUXMIPUR URF KURMI PATTI |
| 155 | UTTAR PRADESH | KUSHINAGAR | VISHUNPURA | RUARI |
| 156 | UTTAR PRADESH | KUSHINAGAR | VISHUNPURA | KANTHI CHHAPRA |
| 157 | UTTAR PRADESH | KUSHINAGAR | VISHUNPURA | CHIRGORA |
| 158 | UTTAR PRADESH | KUSHINAGAR | KAPTAINGANJ | MUNDERA |
| 159 | UTTAR PRADESH | KUSHINAGAR | KAPTAINGANJ | SHEKHPURWA |
| 160 | UTTAR PRADESH | KUSHINAGAR | KAPTAINGANJ | SOMALI |
| 161 | UTTAR PRADESH | KUSHINAGAR | RAMKOLA | TEKUATAR |
| 162 | UTTAR PRADESH | KUSHINAGAR | SUKRAULI | PADARI |
| 163 | UTTAR PRADESH | KUSHINAGAR | НАТА | RAMPUR MAHARATH |

| | <u> </u> | | | |
|-----|---------------|------------|--------------|--------------------|
| 164 | UTTAR PRADESH | KUSHINAGAR | НАТА | KURAHAWA |
| 165 | UTTAR PRADESH | KUSHINAGAR | KASAYA | MAINPUR |
| 166 | UTTAR PRADESH | KUSHINAGAR | KASAYA | MANGAL PUR |
| 167 | UTTAR PRADESH | KUSHINAGAR | TAMKUHIRAJ | MAHUA BUJURG |
| 168 | UTTAR PRADESH | KUSHINAGAR | TAMKUHIRAJ | PAGARA PADRI |
| 169 | UTTAR PRADESH | KUSHINAGAR | TAMKUHIRAJ | PANDEY MUNNI PATTI |
| 170 | UTTAR PRADESH | KUSHINAGAR | SEORAHI | TARYA LACHHIRAM |
| 171 | UTTAR PRADESH | DEORIA | PATHAR DEWA | RAM NAGAR |
| 172 | UTTAR PRADESH | DEORIA | DESAI DEORIA | BHUJAULI |
| 173 | UTTAR PRADESH | DEORIA | DESAI DEORIA | SAHODARPATTI |
| 174 | UTTAR PRADESH | DEORIA | GAURI BAZAR | LAXMIPUR |
| 175 | UTTAR PRADESH | DEORIA | GAURI BAZAR | LAVKANI |
| 176 | UTTAR PRADESH | DEORIA | BAITALPUR | KOILGARHA |
| 177 | UTTAR PRADESH | DEORIA | RUDRAPUR | TARA SARA KHAS |
| 178 | UTTAR PRADESH | DEORIA | RUDRAPUR | BELWA DUBAULI |
| 179 | UTTAR PRADESH | DEORIA | RUDRAPUR | HARHA |
| 180 | UTTAR PRADESH | DEORIA | BHALUANI | FATEHPUR |
| 181 | UTTAR PRADESH | DEORIA | BARHAJ | MAHEN BABU |
| 182 | UTTAR PRADESH | DEORIA | BHAGALPUR | MAIL BAZAR |
| 183 | UTTAR PRADESH | DEORIA | SALEMPUR | BARDIHA DALPAT |
| 184 | UTTAR PRADESH | DEORIA | LAR | BOURDIH |
| 185 | UTTAR PRADESH | DEORIA | LAR | RAUTPAR AMETHIA |
| 186 | UTTAR PRADESH | DEORIA | LAR | DUMARI. |
| 187 | UTTAR PRADESH | DEORIA | BHATPAR RANI | LAKHOPAR |
| 188 | UTTAR PRADESH | BALLIA | SIAR | CHANDAYAR WALIPUR |
| 189 | UTTAR PRADESH | BALLIA | SIAR | BUDDHIPUR |
| 190 | UTTAR PRADESH | BALLIA | NAGRA | KHANWAR NAVADA |
| 191 | UTTAR PRADESH | BALLIA | NAGRA | KASOUNDER |
| 192 | UTTAR PRADESH | BALLIA | NAGRA | SISWAR KALA |
| 193 | UTTAR PRADESH | BALLIA | NAGRA | KHARUAON |
| 194 | UTTAR PRADESH | BALLIA | RASRA | ATHILA |
| 195 | UTTAR PRADESH | BALLIA | RASRA | SHAH MOHAMMADPUR |
| 196 | UTTAR PRADESH | BALLIA | RASRA | SARAY BHARATI |
| 197 | UTTAR PRADESH | BALLIA | RASRA | BASTI |
| 198 | UTTAR PRADESH | BALLIA | RASRA | PRADHANPUR |
| 199 | UTTAR PRADESH | BALLIA | CHILKAHAR | AUNDI |
| 200 | UTTAR PRADESH | BALLIA | CHILKAHAR | NAGPURA |
| 201 | UTTAR PRADESH | BALLIA | CHILKAHAR | HAJOULI |
| 202 | UTTAR PRADESH | BALLIA | CHILKAHAR | BELSARA |
| 203 | UTTAR PRADESH | BALLIA | CHILKAHAR | SALEMPUR |
| 204 | UTTAR PRADESH | BALLIA | GARWAR | MITHAWAR |
| 205 | UTTAR PRADESH | BALLIA | GARWAR | SARAYA |

| <i></i> | | | | |
|---------|---------------|-----------|--------------|-------------------------|
| 206 | UTTAR PRADESH | BALLIA | GARWAR | BAHADURPUR |
| 207 | UTTAR PRADESH | BALLIA | GARWAR | KHARAHATAR |
| 208 | UTTAR PRADESH | BALLIA | SOHANV | NASIRPUR MUTKLE RAMGARH |
| 209 | UTTAR PRADESH | BALLIA | HANUMANGANJ | SHREEPUR |
| 210 | UTTAR PRADESH | BALLIA | HANUMANGANJ | BRAHMAINE |
| 211 | UTTAR PRADESH | BALLIA | DUBHAR | BASARIKPUR |
| 212 | UTTAR PRADESH | BALLIA | DUBHAR | OJHAWALIA |
| 213 | UTTAR PRADESH | BALLIA | DUBHAR | GAGIAPUR |
| 214 | UTTAR PRADESH | BALLIA | DUBHAR | SALEMPUR |
| 215 | UTTAR PRADESH | BALLIA | BELHARI | MADADIH |
| 216 | UTTAR PRADESH | BALLIA | BERUARBARI | SHIVPUR TALUKA SUKHPURA |
| 217 | UTTAR PRADESH | GHAZIPUR | JAKHANIA | ALIPUR MADRA |
| 218 | UTTAR PRADESH | GHAZIPUR | JAKHANIA | PUNIKSA |
| 219 | UTTAR PRADESH | GHAZIPUR | MANIHARI | SARAULI URF PAHETIYA |
| 220 | UTTAR PRADESH | GHAZIPUR | MANIHARI | HALLA |
| 221 | UTTAR PRADESH | GHAZIPUR | SADAT | AKBERPUR |
| 222 | UTTAR PRADESH | GHAZIPUR | SADAT | BHIMAPAR |
| 223 | UTTAR PRADESH | GHAZIPUR | MARDAH | GAIN |
| 224 | UTTAR PRADESH | GHAZIPUR | MARDAH | BIJAURA |
| 225 | UTTAR PRADESH | GHAZIPUR | MARDAH | BOERI |
| 226 | UTTAR PRADESH | GHAZIPUR | GHAZIPUR | PARAA |
| 227 | UTTAR PRADESH | GHAZIPUR | KARANDA | SABUAN |
| 228 | UTTAR PRADESH | GHAZIPUR | KASIMABAD | MUHAMMADPUR KUSUM |
| 229 | UTTAR PRADESH | GHAZIPUR | KASIMABAD | SHAHABUDDINPUR |
| 230 | UTTAR PRADESH | GHAZIPUR | KASIMABAD | RAMGARH |
| 231 | UTTAR PRADESH | GHAZIPUR | KASIMABAD | SHAKARPUR KALAN |
| 232 | UTTAR PRADESH | GHAZIPUR | KASIMABAD | NASIRUDDINPUR |
| 233 | UTTAR PRADESH | GHAZIPUR | KASIMABAD | KHETABPUR |
| 234 | UTTAR PRADESH | GHAZIPUR | VARACHAKWAR | ASAWAR |
| 235 | UTTAR PRADESH | GHAZIPUR | VARACHAKWAR | KATARIYA |
| 236 | UTTAR PRADESH | GHAZIPUR | VARACHAKWAR | PAHARPUR T. BARACHAWAR |
| 237 | UTTAR PRADESH | GHAZIPUR | VARACHAKWAR | TAJPUR |
| 238 | UTTAR PRADESH | GHAZIPUR | MOHAMMADABAD | NONAHRA |
| 239 | UTTAR PRADESH | GHAZIPUR | BHANWARKOL | PAKHANPURAA |
| 240 | UTTAR PRADESH | GHAZIPUR | BHANWARKOL | BIRPUR |
| 241 | UTTAR PRADESH | GHAZIPUR | BHANWARKOL | MAHENDER |
| 242 | UTTAR PRADESH | GHAZIPUR | BHADAURA | GORSARA |
| 243 | UTTAR PRADESH | GHAZIPUR | BHADAURA | HARKARNPUR |
| 244 | UTTAR PRADESH | GHAZIPUR | BHADAURA | DILDARNAGAR |
| 245 | UTTAR PRADESH | ALLAHABAD | СНАКА | BELWAT |