No. J-11017/41/2012-MGNREGA (UN)
Government of India
Ministry of Rural Development
Department of Rural Development
(Mahatma Gandhi NREGA Division)
***

Krishi Bhawan, New Delhi
Dated: 09.02.2018

To,

Principal Secretaries/ Secretaries/ Commissioners
Rural Development
All State/UTs

Sub: - Solid Waste Management (SWM) under MGNREGS

Sir/Madam,

Para 4 (1) IV (i) of Schedule I of the MGNREG Act provides for rural sanitation works under Rural Infrastructure category, wherein solid and liquid waste management works (SLWM) may be undertaken amongst other listed works. Accordingly, works like construction of Individual Household Latrines (IHHLs), soak pits, village drains for disposal of grey water and construction of infrastructures for composting are already being undertaken on a large scale under MGNREGS. Some states have also constructed stabilization ponds and taken up 3/ 5 ponds system for treatment of grey water. The solid waste management also has been taken up in a few states as pilot projects.

2. The Ministry has studied some of the solid waste management models being operated in the States. After detailed deliberations and discussions, the Ministry has found that the West Bengal model appears to be a maturer model and is more aligned to the provisions of the Act. It ensures sustainability of the project as the state has taken into account the various sources of income generation possible through the composting activities as well as by way of collecting user charges, GP funds etc.

3. The salient features of the **West Bengal Model** are as follows –

i. The main objective is to achieve sustainable waste management, which is economically viable, and without detrimental effects to human health or to the environment with user friendly practices.

ii. The DPR of the SWM (enclosed for one project) covers in depth analysis of total waste generated from households, shops, schools, ICDS, hut, marriage halls etc, distance from the SWM unit, transportation and segregation, organic and inorganic (i/c recyclable) waste. The land requirement for compost pits, vermi-compost shed, segregation shed, tri-cycle parking space, cleaning & drying of waste, recycle waste shed, office-cum godown and other staff facilities.

iii. The sources of funds for various activities have been identified as under–

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a) The cost on training and exposure of sanitary workers, supervisors etc and on IEC (advertisements and awareness) initiatives are borne by National Rural Livelihoods Mission (NRLM).

b) **All the durable assets like vermi-compost unit, segregation unit, tri-cycle shed, office room & store room, toilets, bathroom are funded from MGNREGS.** Expenditure on wages and other items of recurring nature are **not** met from MGNREGS.

c) The funds from Mission Nirmal Bangla (MNB) i.e. SBM-G have been utilized for providing e-rikshaw / push cart for door to door collection, brooms, baskets, spades, safety kits, gloves, vaccinations of workers, buckets etc including mMaintenance of e-rickaws for two years.

Further, all the recurring expenditures like wages to sanitary workers (waste collectors and segregators), supervisors and office accessories have been covered under Mission Nirmal Bangla (SBM-G) for two years.

d) The Solid Waste Management work for the GP will become self sustaining by collecting collection charges from households, shops, hut, government institutions, sale of recyclable / reusable waste items and sale of compost / vermi-compost. It has been found that monthly recurring expenses for wages, accessories, medical and miscellaneous expenses will be met out from the earnings of the GP through SWM in the long run.

iv. The space requirement for SWM unit and landfill area may vary from place to place depending upon the number of HHs and other criteria. The land for all these activities will be provided by the concerned Gram Panchayat.

4. The guidelines of SBM (G) provides that SLWM can be taken up by the Gram Panchayat (GP) with financial assistance capped for a GP on the basis of number of households to enable all GPs to implement sustainable SLWM projects viz. maximum of Rs.7 lakh for a GP having up to 150 households, Rs.12 lakh up to 300 households, Rs.15 lakh up to 500 households and Rs.20 lakh for GPs having more than 500 households. Funding for SLWM project under SBM(G) is provided by the Central and State Government in the ratio of 60:40. SLWM projects can be made financially viable by dovetailing funds from other programmes and sources of funding like **MGNREGS,** MPLAD, MLALAD funds, Finance Commission, CSR contribution, Swachh Bharat Kosh, donor funding, etc. Funding from programmes of other Ministries and departments may also be converged. It is clear that SWM can be taken up from SBM funds and that MGNREGS is one of the many possible sources for supporting SLWM efforts of the GP/ community.

5. **In view of above it is recommended to adopt the West Bengal Model for promoting solid waste management initiative in the State/UTs.** Only permissible works that are durable and tangible in nature shall be taken up under MGNREGS for promoting solid waste management.

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It has been found that some states are making payment of wages to sanitary workers and supervisors for collection and segregation of waste through MGNREGS. This is not permissible as per provisions of the Act, given their recurring nature. Therefore, payment of wages for sanitary workers and supervisors for collection of waste and segregation will be discontinued without delay. Alternative arrangements for accessing funds of other relevant schemes for making payment of wages may be put into place.

It is reiterated that wages to sanitary workers and supervisors will be borne from any scheme other than MGNREGS.

Yours faithfully,

9/2/18

Aparajita Sarangi
Joint Secretary (MGNREGA)

COMMUNITY BASED SOLID WASTE MANAGEMENT UNIT

AT

HEMTABAD GRAM PANCHAYAT UNDER

HEMTABAD DEVELOPMENT BLOCK,

UTTAR DINAJPUR.

PROJECT IMPLEMENTING AGENCY

HEMTABAD GRAM PANCHAYAT

HEMTABAD DEVELOPMENT BLOCK,

UTTAR DINAJPUR.

HEMTABAD GRAM PANCHAYET
HEMTABAD DEVELOPMENT BLOCK, UTTAR DINAJPUR
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HEMTABAD GRAM PANCHAYET
HEMTABAD DEVELOPMENT BLOCK, UTTAR DINAJPUR
COMMUNITY BASED SOLID WASTE MANAGEMENT UNIT

INTRODUCTION

Hemtabad Gram Panchayet is adjacent to the Hemtabad Development Block which lies South corner of Hemtabad Development Block in the jurisdiction of Raiganj Sub-Division of Uttar Dinajpur District and occupying an area of 3975.38 Hectres enclosed by Kamalabari (II) Gram Panchayet on the West under Raiganj Dev. Block, Bishnapur & Chainagar Gram Panchayet on the North under Hemtabad Dev. Block, Bangalbari Gram Panchayet on the East-south under Hemtabad Dev. Block, Barua Gram Panchayet on the South under Raiganj Dev. Block, Bhander Gram Panchayet on the East under Kaliyaganj Dev. Block. State Highway SH-10 passes through the heart of the Panchayet. The river Kulik and the Cannel Kahaloi flows through this Gram Panchayet area. In Hemtabad Gram Panchayet, there are 23 nos Mouja, 21 nos Gram Sanshad and 23 nos village as per Gram Panchayet Record. Raiganj Sub-Divisonal Head Quater is 8 km and District Head Quater is also 8 km apart from this Gram Panchayet. The total population is nearly 37952 Nos. Bengali is the main language but a sizeable number of Urdu and Adibashi speaking people lives in this GP. The main cultivation of villagers is Paddy, Jute, Wheat, Musters seeds, and Maize. The famous Paddy of Uttar Dinajpur named as "Tulai Panji" is also cultivated here.

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BASIC INFRASTRUCTURE

PROJECT IMPLEMENTING AGENCY :-

Hemtabad Gram Panchayet under guidance of Hemtabad Development Block.

NAME & DETAILS OF THE SITE :-

Name of GP	: Hemtabad
Sansad	: Paschim Kashimpur
Mouza	: Kashimpur
J.L. No	: 79
Plot No	: 419 & 4120
Total Area	: 46 Satak

GRASS ROOT LEVEL IMPLEMENTING AGENCY :-

Women / Men Self Helf Groups of Hemtabad Gram Panchayet.

TECHNICAL SUPPORT, TRAINING AND MONITORING :-

a) P&RD Department, Government of West Bengal.
b) State Sanitation Cell (HRD Cell).
c) DRDC Uttar Dinajpur.
d) District Sanitation Cell.
e) Hemtabad Development Block.
f) MGNREGS

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TARGET SANSHAD :

a) Paschim+Madhya Kashimpur
b) Purba Kashimpur
c) Sonabandh
d) Hemtabad Uttar
e) Hemtabad Dakshin
f) Kantore Chhoto
g) Kanotore Boro
h) Araji Kashimpur
i) Baraibari

TARGET BENIFICIARIES :-

Households of the Five Gram Sanshad area / Market Shops / Primary Schools / SSK / ICDS / Hut & Bazar and workers involved Women / Men Self Help Groups in this Project.

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OBJECTIVES & ACTIVITIES

OBJECTIVE :-

a) To keep the area neat & clean and pollution free.
b) To achive sustainable waste management, which is economically viable, and without detrimental effects to human health or to the environment.
c) To demon-stare complete resource recovery from inorganic waste (through re-using, re-cycling etc.) and organic waste (composting/vermin composting) by involving Women/Men/Self Help Group & NGO, RSM etc.
d) User friendly practice.

ACTIVITIES TO BE UNDERTAKEN :-

This project is fully concentrated in residence, shops, Govt. buildings and hut & bazaar in Gram Panchayet under Hemtabad Development Block and also to Hemtabad Municipality.if they agree.

So, first of all we have to create awareness about source segregation, type of Organic & Inorganic waste, current waste disposal system to keep the village clean among the villagers, shopkeepers and Schools by the following ways.

a) To make the source segregation more effective we will aware people to dump Organic & Inorganic waste in the earmarked container (Red & Green) in their houses which will be supplied to them by the Implementing Agency.

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b) Garbage collection will be done every morning in a day (7.00 A.M to 9.00 A.M or as suitable to be fixed at local level) from household and residents / commercial shops (including Sundays and all Holidays) through Tricycle by trained workers.

c) Finally the waste will be brought to "Community Based Waste Management Unit" for the secondary segregation and for the future progress for income generation by producing vermi compost to make the project self sustain.

Everyday activities in the unit are waste collection, segregation. composting and cleaning etc.

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GRAM PANCHAYET AT A GLANCE

1. How much is the total population and area of Gram Panchayet ?
   Ans. 38775 Nos approx and area is 3975.38 hectre

2. Total number of houses within Gram Panchayet ?
   Ans. 7668 nos approx.

3. Total number of Gram Sansads within Gram Panchayet ?
   Ans. 21 nos

4. Is there any public toilet within the Gram Panchayet area ? If so, how many & what type ?
   Ans. Yes. One Number of Community Toillet.

5. How is the present condition of drinking water supply / drinking water in the Gram Panchayet area ?
   Ans. Ordinary Hand Pump, Mark-II Tube well.

6. What is the main livelihood of the people residing in the Gram Panchayet ? Ans. Aggriculture.

7. How many Haats, Markets, Market Complex have in the Gram Panchayet area ?
   Ans. 02 Nos Hat and 01 Nos market including 01 Nos Market Complex.

8. Temporary Haat/Market, if any- number, how many days in a week they attend ?
   Ans. 02 Nos Hat attends once in a week & the other attends regular.

9. How many religious places are there in the Gram Panchayet ?
   Ans. Mandir-27 nos, Masque-48 Nos, Church-0 Nos.

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10. How many Community Hall are there in the Gram Panchayet ?
Ans. Nil.

11. How many Hotels are there in the Gram Panchayet ?
Ans. 12 Nos.

12. Total number of Schools in the Gram Panchayet ?
Ans. SSK-15 Nos, MSK-01 Nos, FPS-16 Nos, H.S.-04 Nos, Jr. High- 6 Nos.

13. Total number of Anganwadi Centres in the Gram Panchayet ?
Ans. 61 nos.

14. How much waste is generated per head per day on an average ? (on the basis of discussion with the villagers & experience)
Ans. 200 g/d.

15. Is there any agency for selling fertilizer ? If so, how many ?
Ans. Yes, 10 Nos.

16. Is the fertilizer selling agency sales Bio-fertilizer ?
Ans. Yes.

17. If Bio-fertilizer is produced then what are the probable places for sale ?
Ans. Small cultivator.

18. Is there any arrangement for sale of re-usable waste ?
Ans. No.

19. What are the present system of waste disposal ?
Ans. Partly drainage system for liquid waste.

20. In GP area where there are possibilities of getting land for waste management and how much available? Position of available land – high / low/medium.
Ans. There is a one vested medium land plot of 46 satak (i.e. 2070 Sft) under Hemtabad GP.

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21. Number of functional Self Help Groups in the area ?
Ans. 468nos.

22. How many Registered NGO / SHG in the area are involved in Public Health programme ?
Ans. 03 nos NGO.

23. If SLWM unit is launched then how much fees can be charged per family per month in the Gram Panchayet ?
Ans. Rs. 15/Month.

24. How many Tri-Cycles will be required in the Gram Panchayet? (One Tri-Cycle for 300/350 households/ 03Nos E-Cycle/GP)
Ans. 6 Nos Tri-Cycle/ 03 Nos E-Cycle.

25. Initially, how many Sansads in the Gram Panchayet may be taken up for starting the work ?
Ans. 09 nos.

26. How many Sansads in the Gram Panchayet have metal road/ morrum road/ kuchha road ?
Ans. 21Nos Sansads having Metal, PCC & Earthen road .

27. How many Gram Sansads in the Gram Panchayet located more than 3-4 kms from the SLWM unit ?
Ans. 12 nos.

28. Whether any initiative was taken previously in the Gram Panchayet for Solid Waste Management ? If so,what is the present condition of that project ? Ans. No.

29. How many households in the Gram Panchayet showed interest for giving wastes ? Ans. 1807 Nos.

30. Is it necessary to prepare a map showing roads in the Gram Panchayet ?
Ans. Yes.

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Source of solid waste

Sansad No.	Name of Sansad	Total House Hold	Active House Hold
XII	Paschim+Madhya Kashimpur	643	335
IX	Purba Kashimpur	322	158
XIII	Sonabandh	262	137
X	Hemtabad Uttar	450	220
XI	Hemtabad Dakshin	472	278
VIII	Kantore Chhoto	350	175
VII	Kanotore Boro	258	132
III	Araji Kashimpur	384	119
XIV	Baraibari	631	253
Total		3772	1807

Sl.No.	Other Sources	Total Nos.
1	Shop in Hemtabad PS Market	200
2	High School	1
3	Jr. High School	3
4	Primary School	7
5	ICDS	21
6	SSK & MSK	3
7	Hut	2
8	Marriage hall	1

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Distance from S.W.M Unit to Active sansad area

Sansad No.	Name of Sansad	Total House Hold	Distance to S.W.M Unit
XII	Paschim+Madhya Kashimpur	643	1 Km
IX	Purba Kashimpur	322	0.5 Km
XIII	Sonabandh	262	1 Km
X	Hemtabad Uttar	450	1.5 km
XI	Hemtabad Dakshin	472	1.5 km
VIII	Kantore Chhoto	350	1.5 km
VII	Kanotore Boro	258	1.5 km
III	Araji Kashimpur	384	2 km
XIV	Baraibari	631	1.5 km

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METHOLODGY

Source segregated waste collected from all resident, shops and area cleaning (Organic and Inorganic) will be brought to their SWM sheds by the workers and inorganic waste is segregated (Recyclable, organic and Non-Recyclable) packed separately after segregation and recyclable can be sold locally.Organic waste is treated with Cattle dung for microbial decomposing process.

The Organic waste is to be laid on a composting bed in different layers. Each layer being treated with cattle dund for microbial inoculums and convert. This progress takes 45-60 days to complete. This cattle dung composting will increase the temperature and also reduce the volume at original to 1/3. After the end of the process the whole manure are sieved and can be used. Cattle eatable items can be fed to Cattle and through this process waste will be converted in to dung in less than 24 hours time and in future the same dung can be fed to Bio-gas plant to trap Methane gas and then the slurry can be used for composting tanks to get the best Organic manure. Through this process, aerobic composting duration will be reduced.

Waste water can be used for fodder cultivation / tree plantation around SWM centre / other greening works etc.

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SUMMARY AND CONCLUSION

The production of degradable organic waste and its safe disposal becomes the current global problem. Meanwhile the rejuvenation of degraded soils by protecting topsoil and sustainability of productive soils is a major concern at the international level. Provision of a sustainable environment in the soil by amending with good quality organic soil additives enhances the water holding capacity and nutrient supplying capacity of soil and also the development of resistance in plants to pests and diseases. By reducing the time of humification process and by evolving the methods to minimize the loss of nutrients during the course of decomposition, the fantasy becomes fact. Earthworms can serve as tools to facilitate these functions. They serve as "nature's plowman" and form nature's gift to produce good humus, which is the most precious material to fulfill the nutritional needs of crops. The utilization of vermicompost results in several benefits to farmers, industries, environment and overall national economy.

To farmers: • Less reliance on purchased inputs of nutrients leading to lower cost of production • Increased soil productivity through improved soil quality • Better quantity and quality of crops • For landless people provides additional source of income generation

To industries: • Cost-effective pollution abatement technology

To environment: • Wastes create no pollution, as they become valuable raw materials for enhancing soil fertility

To national economy: • Boost to rural economy • Savings in purchased inputs • Less wasteland formation.

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Design calculation

A. S.W Generation

Sansad Name : Paschim+Madhya Kashimpur , Sansad No : XII

Number of active house hold	=335
Number of Person in one family	= 5 nos
Total active population in Sansad	=1675 nos.

Per capita Solid waste generation	=240 gm/day
SW generation from single active household	=1.2kg/day
SW generation from all active house hold in sansad	=402kg/day

Sansad Name : Purbo Kashimpur, Sansad No : IX

Number of active house hold	=158
Number of Person in one family	= 5 nos
Total active population in Sansad	=790 nos.

Per capita Solid waste generation	=220 gm/day
SW generation from single active household	=1.1kg/day
SW generation from all active house hold in sansad	=173.80 kg/day

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Sansad Name : Sonabandh, Sansad No : XIII

Number of active house hold =137
Number of Person in one family = 5 nos
Total active population in Sansad =685 nos.

Per capita Solid waste generation =200 gm/day
SW generation from single active household =1.0kg/day
SW generation from all active house hold in sansad =137.0 kg/day

Sansad Name : Hemtabad Uttar, Sansad No : X

Number of active house hold =220
Number of Person in one family = 5 nos
Total active population in Sansad =1100 nos.

Per capita Solid waste generation =200 gm/day
SW generation from single active household =1.0kg/day
SW generation from all active house hold in sansad =220.0 kg/day

Sansad Name : Hemtabad Dakshin, Sansad No : XI

Number of active house hold =278
Number of Person in one family = 5 nos
Total active population in Sansad =1390 nos.

Per capita Solid waste generation =200 gm/day
SW generation from single active household =1.0kg/day
SW generation from all active house hold in sansad =278.0 kg/day

Sansad Name : Kantore Chhoto, Sansad No : VIII

Number of active house hold =175
Number of Person in one family = 5 nos
Total active population in Sansad =875 nos.

Per capita Solid waste generation =150 gm/day
SW generation from single active household =0.75kg/day
SW generation from all active house hold in sansad =131.25 kg/day

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Sansad Name : Kantore Boro, Sansad No : VII

Number active of house hold =132
Number of Person in one family = 5 nos
Total active population in Sansad =660 nos.

Per capita Solid waste generation =200 gm/day
SW generation from single active household =1.0kg/day
SW generation from all active house hold in sansad =132.0 kg/day

Sansad Name : Araji Kashimpur, Sansad No : III

Number of active house hold =119
Number of Person in one family = 5 nos
Total active population in Sansad =595 nos.

Per capita Solid waste generation =175 gm/day
SW generation from single active household =0.875kg/day
SW generation from all active house hold in sansad =104.125 kg/day

Sansad Name : Baraibari, Sansad No : XIV

Number of active house hold =253
Number of Person in one family = 5 nos
Total active population in Sansad =1265 nos.

Per capita Solid waste generation =175 gm/day
SW generation from single active household =0.875kg/day
SW generation from all active house hold in sansad =221.375 kg/day

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Total Number of active house hold in all sansad	= 1807
Total active Population in all sansad	=9035
Total SW in all sansad	= 1799.55 kg/day,
Solid waste generation from other sources	= 600.0 Kg/day
Total SW	= 2399.55 kg/ Day
Say,	=2400.00 kg/day

B. Waste Bin (Container) for every house hold

SW generation from single household =1kg/day
Volume needed for 1 kg SW=2L/day
Avg. Density of SW=(1/2)=0.5kg/L
SW volume of 2 days store=4 liter

C . Considering organic 60% & Inorganic 40%

volume of organic SW per house hold in 2 days =2.4 liter
keeping 50% empty space for easy handling =1.2 liter
Total volume = 3.6 liters

Volume of inorganic SW per household in 2 days =1.6 liter
Keeping 50% empty space for easy handling =0.8 liter
Total volume = 2.4 liter

**** Provide two plastic bins (red & green) with lid, each of 5 L capacity for inorganic and organic wastes to all active households in GP

**** For public or commercial establishments provide larger containers each of = 20 Litre

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D. Transportation:-

Pedal Tri-cycle (PTC) will be used for primary transportation.
Size of the container = L(1.2m) x B(0.75m) x H(0.75m)=0.675M^3
Keeping empty space (26%) for easy handling=0.175M^3
Space provide for SW=0.5M^3

Volume in PTC for SW =(0.5x1000)=500 L[1m^3 =1000 Liter]
Carrying capacity of single PTC=[500 x 0.5]
=250 kg.

Partition in PTC container
space of PTC container will be dividing in 2 compartments.
Collect Separately,
60% as organic =150 kg &
40% as inorganic =100 kg.

E. Partial decomposition

In a GP total waste generation =2400 kg/day
60% as organic =1440 kg/day
40 as inorganic =960 kg/day
Organic waste generate in one month =43200 kg/month

Land required for partial decomposition of organic solid waste

Partial decomposition (PD) heap:
One PD unite (5m X 1.5m X 1.5m)=11.25M^3 [1 M^3=1000L,
Density=0.5]
=5625 kg
Say=5500 kg.
Total nos. PD unit needed for organic waste generated in one month=43200/5500=7.85 nos.
say = 8 nos.

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F. Vermi Compost unit

Organic wastes generation (60%) in one month =43200 kg/month
Partially decomposed waste generation =21600 kg/month
Single vermi Bed (27m X 1m X 0.5m) =13.5 m3
=6750 kg.
Total Vermi bed needed =(21,600/6750)=3.20 nos
Say = 3 nos.

G. Total waste generation in GP having 1800 house hold =2400 kg
PTC required in GP =[2400/(250x2)]=4.80 nos.
Say = 5 nos.

Keeping PTC as stand by = 1.
Total PTC required in GP =(5+1)=6 nos.

H. Land area for 8 partial decomposition heaps.

Land area for one heap = L(5m) x B (1.5m) =7.5 m2
Land area for 8 heap = (7.5 x 8) =60 Sqm.
Equal area needed for turning up of 8 heap =60 m2

Free space between two column of heaps=[2m x (8 x 1.5)]=24m2

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Total area for partial decomposition = (60+60+24)=144 m2
=1549.44 Sq.ft. (1m2=10.76 sq.ft)
=2.152 katha

Area for segregation of organic wastes at SLWM unit
=(7.5m X 6m)=45m2
=484.20 Sq. ft.
= 0.673 katha

Total area required =(2.152 +0.673) =2.82 katha
Say, = 3.0 katha.

I. Total land area for vermi compost shed

Vermi bed area =L(27m) X B(1m) X nos(3)=81m2

Free space for movement/carrying =L(27m) x B(2.15m) =58.05 m2
Say, = 58 m2

Work space = (6.05 m x 5 m)=30 sqm

Total area for vermi composting = 169sqm=2.52 katha
Say, = 2.60 katha.

J. Recyclable material Segregation unit

In a GP total SW generation = 2400 kg/day
Organic wastes generated @ 60% = 1440 kg/day
Total inorganic waste generated @ 40% =960 kg/day

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Recyclable inorganic waste generated @ 15 % =360kg/day

Inorganic waste for land filling @ 25% =600 kg/day.

K. Area for sorting or segregation for 960 kg @ 5m2/100 kg
=48 Sqm.

Additional area (50%) required for storing=24m2

Total area for sorting & storing of recyclable wastes =72m2
=774.72 sq.ft.=1.07 katha

Cleaning, washing & drying of plastic, plastic bottle etc.
=(35ft X 35ft)=1050 ft^2
=1.46 katha

Total area for sorting, storing, cleaning, washing & drying
=(1.07+1.46) =2.53 katha
Say = 2.60 katha

Total land required=3 partial decomposition = 3.0 katha
Vermi compost shed = 2.60 katha
Sorting, storing & cleaning washing = 2.60 katha
= 8.20 katha
Say = 9 katha

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Particulars

1. The shed area (vermi composting bed for house hold, garden wastes etc) for 3 beds. [95ft X 20ft] = 1900 ft^2

2. Segregation with temporary shed [organic]
(254 ft x 20 ft) = 500 ft^2

3. Partial decomposition open space with brick soling
=[(L=5m) X (B=1.5m) for 8 heaps] &
Equal area for turning up (8 heaps)=1600 ft^2

4. Tri-Cycle parking space (with shed)
[Size 7 ft X 5 ft for 8 nos.] = 400 ft^2

5. Cleaning, washing & drying open space with net cementing
[35 ft X 30 ft] = 1050 ft^2

6. Recyclable packing & storing unit with shed = 775 ft^2

7. Toilet, urinals, bathrooms for 20 user. [10 X 12] = 120 ft^2

8. hand pump – water facilities for all activities
& other facilities [8 ft X 12 ft] = 100 ft^2

9. Office cum godown with shed for vermin accessories [40 ft X 20 ft]
= 800 ft^2

"A" total = 7245 ft^2

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B. 10% extra of total area = 725 ft^2
(For Plantation, path way etc.)

[A+B] grand total = 7970 ft^2

= 11 katha.

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HEMTABAD GRAM PANCHAYET
HEMTABAD DEVELOPMENT BLOCK, UTTAR DINAJPUR
COMMUNITY BASED SOLID WASTE MANAGEMENT UNIT

Analysis of Capital expenditure for HEMTABAD Gram Panchayat

Source of fund – NRLM- 5 lakh

Sl No	Particulars	Quantity	Amount(Rs.)
1	Training to waste collectors, Segregators & supervisor before starting the project. (@ Rs 3000/- each)	01 Nos	3000.00
2	Training & Meeting to waste collectors, Segregators & supervisor after starting the project in every month for 02 years . (@ Rs 2500/- each)	24 Nos	60000.00
3	Exposure visit of trainers to Kamlabari-1 GP regarding this project which is already ongoing . (@ Rs. 7000/- each)	01 Nos	7000.00
4	Meeting with GP members (02 times). (@ Rs 3000/- each)	02 Nos	6000.00
5	Meeting with waste collectors , Segregators & supervisor before starting the project. (@ Rs. 3000/- each, Two times)	02 Nos	6000.00
6	Meeting in 09 nos Sansad with household regarding awarness .(@ Rs. 6000/- each)	09 Nos	54000.00
7	Wall writing (45 Nos) in GP area 05 Nos each for 09 nos sansad (45 X 1500.00/ each)	45 Nos	81000.00
8	Writing on vats / Arresting buckets @ 15.00/ each)	2628 Nos	60000.00
9	Awerness through Leaflet Distribution.	GP Area	50000.00
10	Permanent Display Board with fixed RCC Pillar.	4 Nos	90000.00
11	Flex Banner/ Display(10 Nos) at Bazars & gathering with suport. (@ 5000/- each)	10 Nos	50000.00
12	Awarness through Micking (for 15 days) in GP area. @ Rs. 1000/- each)	15 Nos	15000.00
13	Awarness through Street Drama in 09 Nos. Sansad, Bazars & Gatherings. (9 times) @ 2000/- each)	09 Nos	18000.00
Total =			500000.00

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No.-4 Hemtabad G.P.
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Source of fund –MGNREGS-Rs 10 Lakh

Sl.No.	Particulars	Quantity	Amount(Rs)
1	Vermi Compost unit	1 Unit	Rs. 4,50,000/-
2	Segregation unit	1 Unit	Rs. 2,00,000/-
3	Tri cycle Shed	1 Unit	Rs. 1,02,000/-
4	Office Room & Store Room	1 Unit	2,00,000/-
5	Toilet, Bathrooms with running water	1 Unit	40,000/-
	Electricity	1 Unit	8000/-
Total			Rs. 10,00,000/-

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No.-4 Hemtabad G.P
P.O-Hemtabad, U/Dinajpur

Source of fund –MNB 20 lakh

Sl No	Particulars	Quantity	Amount
A-1	E-Rikshaw for door to door waste collection.(@ Rs. 1,50,000/- each)	3 Nos	450000.00
A-2	Broom sticks, aluminium baskets, spades, long handle steel forks, scrapers, pick axels, shovels, crowbarm, sieve, etc. (for 2 years)	As per requerment	13300.00
A-3	safety kits, aprons, caps, glaves, vaccination etc. (for 2 years)	As per requerment	10000.00
A-4	Maintenance of E-Rikshaw. (for 2 years)	As per requerment	56000.00
A-5	Cost of Vermi	As per requerment	40000.00
A-6	Buckets (@ Rs. 50.00/ each)	3814 Nos	190700.00
A-7	Vats (@ Rs.4000.00/each)	10 Nos	40000.00
Total =			800000.00

B-1	Daily waste collector(Parivesh Dyuts), (06 X 26 days X 24 months)	6 Nos	673920.00
B-2	Weekly waste collector(Parivesh Dyuts), (02 X 12 days X 24 months)	2 Nos	103680.00
B-3	Daily waste segregator, (02 X 26 days X 24 months)	2 Nos	224640.00
B-4	Supervisor, (01 X 26 days X 24 months)	1 Nos	168480.00
B-5	Office Accesories	LS	29280.00
Total =			1200000.00

TOTAL (A+B) = 2000000.00

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Monthly income

Sl.No.	Particulars	Quantity	Amount(Rs)
1	Minimum @ Rs 15/Month for both door to door waste collection fees.	1807 Nos.	Rs. 27,105/-
2	Minimum @ Rs 30/month from PS market Shops for waste collection fees.	200 nos.	Rs. 6,000/-
3	Minimum @ Rs 150/Month from Community marriage Hall for waste collection fees.	1 No	Rs. 150/-
4	Minimum @ Rs 100/Week from hut for waste collection fees	4 Weeks	Rs. 400/-
5	Minimum @ Rs 50/month from Govt. Institution for waste collection fee.	35 Nos.	Rs. 1750/-
6	Sale of Recyclable/ Reusable worth of 360 kg/day @ Rs. 1/kg.	30 Days	Rs. 10,800/-
7	Sale of vermi @ Rs. 6/Kg.	4000kg	Rs. 24,000/-
Total =			Rs.70,205/-

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Monthly Expenditure

Sl.No.	Particulars	Quantity	Amount(Rs)
1	Daily waste collector(Paribesh Dyuts), (6 X 26 X 1 X180)	6 Nos	Rs. 28,080/-
2	Weekly waste collector(Paribesh Dyuts, (2 X 12 X 1 X180)	2 Nos	Rs. 4320/-
3	Daily wage segregators, (2 X 26 X 1 X180)	2 Nos	Rs. 9360/-
4	Supervisor, (1 X 26 X 1 X270)	1 Nos.	Rs. 7,020/-
5	Hand gloves, mask, hand wash soap etc.	L.S.	Rs. 2100/-
6	Medical Expenditure @ Rs 150/Worker	11 Nos.	Rs. 1650/-
7	Monthly Miscellaneous like Bags, rope for packing etc.	LS	Rs. 10,000/-
Total			Rs. 62,530

Total gross income =[70,205-62,530)=Rs. 7675/-

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HEMTABAD GRAM PANCHAYET
HEMTABAD DEVELOPMENT BLOCK, UTTAR DINAJPUR
COMMUNITY BASED SOLID WASTE MANAGEMENT UNIT

SPACE REQUIREMENT FOR SLWM UNIT

Sl. No.	Particulars	Size (Sq. ft.)
1	Office Room, Security Room, Rest Room & Godown	800
2	Toilet, Urinal & Wash Room	120
3	Water facility (Drinking and all other activities)	100
4	PTC Parking Shed (10 nos)	450
5	Segregation of organic waste shed	500
6	Partial Decomposition open space(6 heaps)	2160
7	Vermi compost shed (4 beds)	2520
8	Sorting & Storing of Recyclable waste shed	850
9	Cleaning-Washin-drying of plastic Bottles etc Open Space.	750
10	Plantation, Beatification, Pathway, drain etc.(10% Total area)	825
Total		9075

Space requirement for SWM Unit=9075 sq.ft.=12.60 Katha, say 13.0 katha.

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HEMTABAD GRAM PANCHAYET
HEMTABAD DEVELOPMENT BLOCK, UTTAR DINAJPUR
COMMUNITY BASED SOLID WASTE MANAGEMENT UNIT

Land filling (for 30 years)

Land filling area required for 30 years
= 1:10{663kg/days X 30 years) X (1.00 -0.30)}/(500kg/m^3 X 6m)
= 1863.36 m^2
Additional area (30%) required for movement
=30/100 X 1863.36 m^2 =559.0m^2

Total area required:-
=1863.36m^2 + 559.0m^2 =2422.36m^2, Approx, 36.0 katha.

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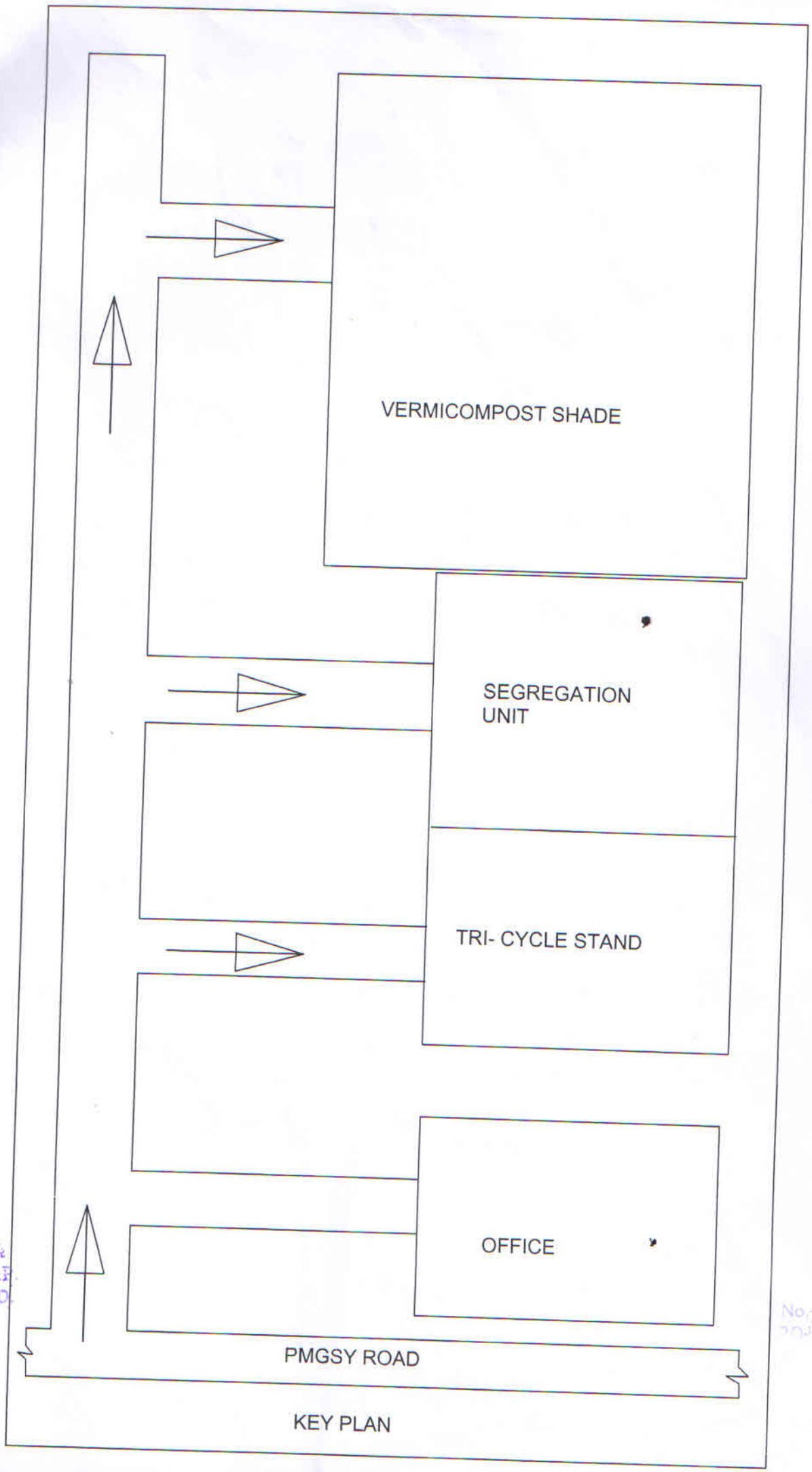

KEY PLAN

Nirman Sahayak
No. Hemtabad G.P.
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